

Unit/Standard Number	 pennsylvania <small>DEPARTMENT OF EDUCATION</small> <p style="text-align: right;"><u>High School Graduation Years 2010, 2011 and 2012</u></p> <p style="text-align: center;">Autobody/Collision and Repair Technology/Technician CIP 47.0603 Task Grid</p>	Proficiency Level Achieved: (X) Indicates Competency Achieved to Industry Proficiency Level
Secondary Competency Task List		
100	ORIENTATION	
101	Identify opportunities in the auto body field.	
102	Identify basic auto body construction.	
103	Identify program rules and policies.	
104	Identify government agencies regulating the auto collision industry.	
200	SAFETY	
201	Establish general shop safety.	
202	Demonstrate proper use of personal safety devices and clothing.	
203	Locate and identify fire extinguishers.	
204	Locate and operate emergency switches.	
205	Explain fire and tornado drill procedures.	
206	Describe proper handling of vehicles in the shop.	
207	Demonstrate proper handling of hazardous materials.	
208	Identify proper chemical disposal techniques.	
209	Operate shop and spray area ventilation systems properly.	
210	List rules for care and safe use of hand tools.	
211	Demonstrate safe and proper use of power and hydraulic tools.	
212	Demonstrate safe and proper use of air powered tools.	
213	Demonstrate safe use and maintenance of electric, pneumatic and hydraulic equipment.	
214	Demonstrate the use of proper jacking and lifting points on a full frame vehicle.	
215	Demonstrate the use of proper jacking and lifting points on a uni-body vehicle.	
216	Identify the proper methods and options for safely moving vehicles in the shop area.	
217	Identify information on MSDS sheets.	
300	PRINCIPLES OF DESIGN AND CONSTRUCTION	

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301	List the differences between a unibody vehicle and a full frame vehicle.	
302	Describe major advantages of a unibody vehicle.	
303	Identify front body panels of a unibody vehicle.	
304	Identify underbody panels of a unibody vehicle.	
305	Identify side body panels of a unibody vehicle.	
306	Identify rear body panels of a unibody vehicle.	
307	Identify vehicles by V.I.N. number (vehicle identification number).	
308	Identify various substrates.	
400	NON-STRUCTURAL REPAIR - PREPARATION	
401	Use hand and power equipment.	
402	Prepare an estimate/repair sequence.	
403	Remove dirt, grease, wax, and corrosion protection.	
404	Protect panels and adjacent parts to the repair area.	
500	PANEL REPLACEMENT AND ALIGNMENT	
501	Use panel replacement and alignment tools.	
502	Select and repair fasteners.	
503	Install panels using various alignment methods (weld, bolt).	
504	Remove and install bumper, fascia, and header panels.	
505	Remove, reinstall, and align hoods, deck lids, and hatches.	
506	Remove, reinstall, and align fenders, doors, and tailgates.	
600	WORKING WITH TRIM AND HARDWARE	
601	Identify the types of Fasteners.	
602	Remove and replace belt molding and trim.	
603	Remove and replace adhesive-held molding and trim.	
604	Locate and drill holes for molding and trim.	
605	Identify interior components and trim.	

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606	Remove and replace seats.	
607	Remove and reinstall seat belt components.	
608	Remove and reinstall carpeting.	
609	Remove and reinstall dash assembly.	
610	Identify, inspect, and disarm supplemental restraint systems.	
611	Diagnose supplemental restraint systems.	
612	Replace supplemental restraint systems.	
613	Use trim removal tools.	
614	Remove and install interior door panel.	
615	Remove and install door lock and handle assembly.	
616	Remove and install decklid lock cylinders.	
617	Remove and install exterior trim and moldings.	
618	Remove and install pinstripes, decals, and emblems.	
700	METAL STRAIGHTENING	
701	Use metal straightening tools.	
702	Straighten damaged metal.	
703	Shrink stretched metal.	
704	Use weld-on nail gun to repair sheet metal.	
800	USING BODY FILLERS	
801	Select correct body filler and tools.	
802	Prepare surface for body filler.	
803	Prepare and apply body filler.	
804	Prepare and apply specialty fillers (fiberglass, aluminum, and polyester).	
805	Finish body fillers.	
806	Apply corrosion protection according to manufacturer's specifications.	
900	MOVEABLE GLASS AND HARDWARE	
901	Remove and replace a door regulator.	
902	Reinstall moveable door glass.	

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1000	STRUCTURAL REPAIR - DAMAGE ANALYSIS	
1001	Classify the various types and extent of damage a vehicle sustains from an accident.	
1002	Select and interpret body dimension specification sheets and/or manuals.	
1003	Set up and use tram gauge to diagnose vehicle length and width damage.	
1004	Diagnose centerline misalignment using centering gauges.	
1005	Explain how to diagnose vehicle height damage with datum line gauges.	
1006	Identify aspects of universal measuring system.	
1007	Identify aspects of dedicated measuring system.	
1100	STRAIGHTENING STRUCTURAL PARTS	
1101	Demonstrate knowledge to mount and anchor vehicle to a pulling system.	
1102	Demonstrate knowledge of working with High Strength Steel (HSS).	
1103	Demonstrate knowledge of cold and hot stress relief methods.	
1104	Remove and reinstall mechanical components.	
1200	FULL OR PARTIAL PANEL REPLACEMENT	
1201	Identify the principles of full or partial panel replacement.	
1202	Select and understand the use of various types of joints used in sectioning.	
1203	Weld and adhesively bond panel replacement.	
1204	Replace Bonded door panels.	
1205	Remove and replace bumpers, steel and aluminum.	
1206	Remove and replace energy absorbers.	
1207	Remove and replace fascia covers.	
1208	Apply corrosion protection.	
1300	STATIONARY GLASS REPLACEMENT	
1301	Identify and select different types of automotive glass.	
1302	Operate stationary glass removal tools.	
1303	Remove stationary glass.	
1304	Identify the properties and characteristics of adhesives and sealants.	

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1305	Install stationary glass.	
1400	RESTORING CORROSION PROTECTION	
1401	Identify corrosion principles and factory corrosion protection.	
1402	Identify repair methods and materials for corrosion protection.	
1403	Protecting enclosed interior surfaces.	
1404	Protecting weld areas and exposed seams.	
1405	Protecting exposed interior surfaces.	
1406	Protecting exposed exterior surfaces, trim, and accessories.	
1500	WELDING AND CUTTING - MIG (GMAW) WELDING	
1501	Explain the differences between welding, soldering, and brazing.	
1502	Demonstrate personal safety practices and vehicle protection measures.	
1503	Set up the Mig welder.	
1504	Make a weld and tune the welder.	
1505	Complete a butt joint with backing in various welding positions.	
1506	Complete a fillet weld lap joint.	
1507	Complete a plug weld in various positions.	
1508	Perform destructive tests.	
1509	Demonstrate welding of high strength steel.	
1600	CUTTING AND HEATING PROCESSES	
1601	Identify cutting processes.	
1602	Demonstrate sheet metal cutting processes.	
1603	Set up and use plasma arc cutters.	
1700	REFINISHING - SAFETY AND ENVIRONMENTAL PRACTICES	
1701	Explain various environmental regulations and other items regulated in an automotive refinishing department.	
1702	Locate hazardous warning information.	
1703	Select and inspect personal safety equipment and clothing needed for protection during refinishing operations.	
1704	Demonstrate safe painting practices and use of protective clothing equipment.	

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1705	Identify personal health and safety hazards according to OSHA guideline.	
1800	UNDERSTANDING AUTOMOTIVE FINISHES	
1801	Describe the difference between paint systems and why the materials are applied by the manufacturer.	
1802	Describe paint defects - causes and cures.	
1803	Identify and demonstrate use of refinishing equipment.	
1804	Identify topcoats and demonstrate application procedures.	
1900	PREPARING THE SURFACE FOR REFINISHING	
1901	Demonstrate proper steps to pre-wash entire vehicle.	
1902	Chemically and mechanically remove paint finish when necessary.	
1903	Dry sand and featheredge areas.	
1904	Wet sand and featheredge areas.	
1905	Apply suitable metal treatments.	
1906	Identify the color of paint on vehicle with use of paint catalogs.	
1907	Apply undercoats.	
1908	Use a block sander.	
1909	Prepare panels for blending.	
1910	Apply caulking and seam sealers.	
1911	Apply chip-resistant coating.	
1912	Mask a vehicle.	
2000	PREPARING THE EQUIPMENT, PAINT AREA, AND REFINISH MATERIALS	
2001	Prepare the painting environment.	
2002	Prepare and use the paint mixing area.	
2003	Set up, test and adjust spray guns.	
2004	Clean spray gun.	
2100	TINTING	
2101	Tint and blend color coat.	

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2200	APPLYING THE FINISH	
2201	Prepare surface for topcoat system.	
2202	Apply primer-sealer.	
2203	Apply single-stage finish.	
2204	Apply basecoat/clearcoat finish.	
2205	Apply tri-coat finish.	
2206	Apply stone chip-resistant coating to lower body areas.	
2300	BLENDING	
2301	Prepare an area for blending of the finish.	
2302	Blend basecoat/clearcoat finish.	
2400	SOLVING PAINT APPLICATION PROBLEMS	
2401	Identify contaminants in the paint finish.	
2500	FINISH DEFECTS: CAUSES AND CURES	
2501	Identify paint film defects, causes and cures.	
2502	Identify surface defects in finish.	
2600	DETAILING	
2601	Remove overspray/perform final finishing.	
2602	Clean exterior of vehicle.	
2603	Clean interior of vehicle.	
2604	Apply decals and stripes.	
2605	Demonstrate wet sand and polishing techniques.	
2606	Clean body openings.	
2607	Clean exterior and interior glass surfaces.	
2700	ESTIMATING - ANALYZING DAMAGE	
2701	Demonstrate usage of collision estimating guides.	
2702	Identify vehicles using the vehicle identification number (V.I.N.).	

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2703	Identify different types of vehicle damage.	
2704	Identify mechanical damage.	
2705	Indicate repair and replace decisions.	
2800	CREATING A DAMAGE REPORT MANUALLY	
2801	Demonstrate proper use of a collision estimating guide.	
2802	Estimate parts and labor amounts.	
2803	Create a damage report manually.	
2900	PLASTIC REPAIR - IDENTIFICATION AND REPAIR DECISIONS	
2901	Identify plastic and perform tests to make repair decisions.	
3000	ADHESIVE REPAIR, PLASTIC	
3001	Demonstrate proper use of adhesive repair methods, tools, and materials.	
3002	Prepare plastic surfaces for adhesive repair.	
3003	Repair interior and exterior plastics with two-part adhesives, with and without reinforcement.	
3004	Repair rigid plastic parts with urethane or epoxy adhesives.	
3005	Repair flexible plastic parts with urethane or epoxy adhesives.	
3006	Repair rigid plastic parts with urethane or epoxy adhesives and fiberglass reinforcements.	
3007	Repair flexible plastic parts with urethane or epoxy adhesives and fiberglass reinforcements.	
3100	WELDING REPAIRS, PLASTIC	
3101	Select and understand how to use plastic welding methods, tools, and materials.	
3200	MECHANICAL AND ELECTRICAL REPAIR - STEERING AND SUSPENSION	
3201	Replace wheels/tires.	
3202	Identify steering and suspension system.	
3203	Identify rear suspension system.	
3204	Identify wheel alignment angles and measurements.	
3205	Remove and reinstall suspension systems.	
3206	Inspect, diagnose, and repair causes of tire wear patterns.	

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3207	Perform four-wheel alignment.	
3300	ELECTRICAL AND ELECTRONIC SYSTEMS	
3301	Inspect and service batteries and battery cables.	
3302	Inspect, test and replace fusible links, circuit breakers and fuses.	
3303	Aim headlights using mechanical aiming equipment.	
3400	BRAKE SYSTEMS	
3401	Identify brake components.	
3500	HEATING and AIR CONDITIONING	
3501	Identify parts of air conditioning systems.	
3600	DRIVE TRAINS	
3601	Identify major drive train components.	
3700	FUEL, INTAKE AND EXHAUST SYSTEMS	
3701	Identify fuel intake and exhaust systems.	
3800	RESTRAINT SYSTEMS	
3801	Identify, inspect, and disarm supplemental restraint systems.	