

South King County Tech Prep Consortium
AUTO BODY COMPETENCIES
 Green River Community College

COMPETENCIES FOR AUTO BODY 106 = 5 cr	
	For every task in Mechanical and Electrical Components the following safety requirement must be strictly enforced:
	Comply with personal environment safety practices associated with clothing; eye protection; hand tools; power equipment; proper ventilation and the handling, storage, and disposal of chemicals in accordance with local, state, and federal safety and environmental regulations.
Grade	Suspension and Steering
	HP-G 1. Identify suspension system fasteners which should not be reused.
	HP-G 2. Inspect alignment, adjust tension, and replace power steering pump belts.
	HP-G 3. Remove and replace power steering pump; inspect pump mounts.
	HP-G 4. Inspect and replace power steering hoses and fittings.
	HP-G 5. Inspect and replace pitman arm.
	HP-G 6. Inspect and replace relay (center link/ intermediate) rod.
	HP-G 7. Remove and replace idler arm and mountings.
	HP-G 8. Remove and replace upper and lower ball joints.
	HP-G 9. Remove and replace front suspension system coil springs and spring insulators (silencers).
	HP-G 10. Inspect and replace stabilizer bar bushings, brackets and links.
	HP-G 11. Remove and replace rear suspension system coil springs and spring insulators (silencers).
	HP-G 12. Inspect remove and replace rear suspension system leaf spring(s), leaf insulator (silencer), shackles, brackets, bushings and mounts.
	HP-G 13. Inspect and replace shock absorbers.
	HP-G 14. Inspect and replace air shock absorbers, load-leveling devices, air springs, and associated lines and fittings.
	HP-I 15. Inspect replace steering shaft U-joint(s), flexible coupling(s), collapsible columns, and steering wheels.
	HP-G 16. Diagnose manual and power steering gear (nonrack and pinion type) noises, binding, uneven turning effort, looseness, hard steering, and fluid leakage problems; determine needed repairs.
Electrical	
	HP-I 1. Check voltage in electrical wiring circuits with a DVOM (digital volt odometer).
	HP-I 2. Check continuity and resistance in electrical wiring circuits and components with a DVOM (digital volt odometer).
	HP-I 3. Using a DVOM (digital volt odometer), repair electrical circuits, wiring, and connectors according to manufacturer's specifications.
	HP-I 4. Inspect, test, and replace fusible links, circuit breakers, and fuses.
	HP-I 5. Perform battery state-of-charge test; determine needed service.
	HP-I 6. Inspect, clean, and replace battery.
	HP-I 7. Perform slow/fast battery charge in accordance with manufacturer's recommendations.
	HP-I 8. Inspect, clean, and repair or replace battery cables, connectors, and clamps.
	HP-I 9. Inspect alignment, adjust, and replace generator (alternator) driver belts, pulleys, and fans.
	HP-I 10. Remove and replace generator (alternator).
	HP-I 11. Remove and replace head lamp/light, parking/tail, lamp/light, stop lamp/light, flashers, turn signals, and backup lamp/light; check operation.
	HP-G 12. Inspect, test, and repair or replace switches, relays bulbs, sockets, connectors and wires of all light circuits including four-wire tail lamp/light systems.
	HP-G 13. Remove and replace horn(s); check operation.
	HP-I 14. Check operation of windshield wiper/ washer system.
	HP-G 15. Remove and replace components of power antenna circuits; check operation.
	HP-G 16. Demonstrate the proper self-grounding procedures for handling electrical components.
Brakes	
	HP-G 1. Inspect brake lines and fittings for leaks, dents, kinks, rust, cracks or wear; tighten loose fittings and supports; replace brake lines (double flared and ISO types), hoses, fittings, and supports.
	HP-G 2. Inspect flexible brake hoses for leaks, kinks, cracks, bulging or wear; remove and replace hoses; tighten loose fittings and supports.

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	HP-I 3.	Bleed (manual, pressure, vacuum or surge) and/or flush hydraulic brake systems in accordance with manufacturer's procedures.
	HP-I 4.	Pressure Test brake system; determine needed repairs.
	HP-G 5.	Adjust brake shoes; remove and reinstall brake drums or drum/hub assemblies and wheel bearings.
	HP-I 6.	Reinstall wheel and torque lug nuts according to manufacturer's specifications.
	HP-I 7.	Remove and reinstall caliper assembly.
	HP-G 8.	Clean and inspect caliper mountings for wear and damage.
	HP-I 9.	Check parking brake system operation.
	HP-G 10.	Identify the proper procedures for handling brake dust.
	HP-G 11.	Check for bent or damaged brake system components.
		Heating and Air Conditioning
	HP-G 1.	Identify and comply with environmental concerns relating to refrigerants and coolants.
	HP-G 2.	Maintain and verify correct operation of certified refrigerants recovery and recharging equipment.
	HP-G 3.	Locate and identify A/C system service ports.
	HP-G 4.	Identify and recover refrigerant from A/C system.
	HP-G 5.	Recycle refrigerant in accordance with EPA regulations.
	HP-G 6.	Label and store refrigerant.
	HP-G 7.	Test recycle refrigerant for non-condensable gases.
	HP-G 8.	Evacuate A/C system; check for leaks.
	HP-G 9.	Recharge A/C system with refrigerant; perform leak test.
	HP-G 10.	Identify oil type and maintain correct amount in A/C system according to manufacturer's specifications.
	HP-G 11.	Inspect, adjust, and replace A/C compressor drive belts; check pulley alignment.
	HP-G 12.	Remove and replace A/C compressor; inspect, repair or replace A/C compressor mountings.
	HP-G 13.	Inspect, repair or replace A/C system mufflers, hoses, lines, fittings, and seals.
	HP-G 14.	Inspect A/C condenser for air flow restriction; clean and straighten fins.
	HP-G 15.	Inspect and replace receiver/drier or accumulator/drier.
	HP-G 16.	Inspect and repair evaporator housing water drain.
	HP-G 17.	Inspect, test, repair or replace heating, ventilation, and A/C vacuum components.
	HP-G 18.	Inspect and repair A/C component wiring.
	HP-G 19.	Inspect, test, repair heating, ventilating and A/C ducts, doors, hoses, and outlets.
		Cooling Systems
	HP-G 1.	Inspect and replace engine cooling and heater system hoses and belts.
	HP-G 2.	Inspect, remove, and replace radiator, pressure cap, coolant recovery system, and water pump.
	HP-G 3.	Remove and replace thermostat, by-pass, and housing.
	HP-G 4.	Recover, refill, and bleed system with proper coolant and check level of protection; leak test system and dispose of materials in accordance with EPA specifications.
	HP-G 5.	Remove and replace fan (both electrical and mechanical), Fan pulley, fan clutch, and fan shroud.
	HP-G 6.	Inspect, remove, and replace auxiliary oil coolers; check oil levels.
	HP-G 7.	Inspect, remove, and replace electric fan sensors; check operation.
		Drive Train
	HP-G 1.	Remove, replace, and adjust shift or clutch linkage as required.
	HP-G 2.	Remove, replace, and adjust cables or linkage for throttle valve (TV), kickdown, and accelerator pedal.
	HP-G 3.	Remove and replace electronic sensors, wires, and connectors.
		Fuel, Intake and Exhaust Systems
	HP-G 1.	Remove, inspect, and replace exhaust pipes, mufflers, converters, resonators, tail pipes, and heat shields.
	HP-G 2.	Remove, inspect, and replace fuel tank, fuel tank filter, fuel cap, fuel filler hose, quarter to body seal, and inertia switch; inspect and replace fuel line and hoses; check fuel for contaminants.
	HP-G 3.	Remove, inspect, and replace components of air injection systems.
	HP-G 4.	Remove, inspect, and replace canister, filter, vent, and purge lines of fuel vapor control systems.
Approved 9/29/09		