

Unit/Standard Number	Competency by 9 weeks	ASE Task and Priority	Automobile/Automotive Mechanics Technology/Technician CIP 47.0604 Task Grid	Proficiency Level Achieved: (X) Indicates Competency Achieved to Industry Proficiency Level
High School Graduation Years 2022, 2023, 20				
Secondary Competency Task List				
100			ORIENTATION	
101	1.1		Explain and follow all lab rule	
102	1.1		Participate in basic shop management.	
103	1.1		Participate in parts ordering	
104	1.1		Demonstrate auto shop safety and hygiene	
105	1.1		Demonstrate the use of service information	
106	1.1		Demonstrate proper telephone courtesy	
107	1.1		Identify vehicle by: sight, V.I.N. and/or ID tag	
108	1.1		Identify career paths within the career and technical education program	
109	1.1		Complete work order to include customer information, vehicle identifying information, customer concern, related service history, cause, and correction	
110	1.1	1.A.1/P-1 2.A.1/P-1 3.A.1/P-1 4.A.1/P-1 5.A.1/P1 6.A.1/P1 7.A.1/P1 8.A.1/P1	Research applicable vehicle and service information, vehicle service history, service precautions, and technical service bulletins.	
111	1.1		Locate and interpret vehicle and major component identification numbers	
200			SAFETY	
201	1.1		Identify and follow all safety rules	
202	1.1		Demonstrate the ability to secure vehicles on jack stands and hydraulic	
203	1.1		Demonstrate the ability to safely set-up/shut-down oxygen acetylene welding equipment	
204	1.1		Identify chemical safety, "Right-To-Know Laws" and Safety Data Sheets (SDS).	
205	1.1		Identify and use of hand tools	
206	1.1		Identify and use of power tools	
207	1.1		Wear personal protective equipment (PPE)	
208	1.1		Follow guidelines for use of fire protection equipment	
209			RESERVED	
210	1.1		Follow EPA and OSHA Regulation	
300			TOOLS/FASTENERS	
301	1.1		Identify and use fasteners and bolts	
302	1.1		Drill and use re-threading tools	
303	1.1		Read and interpret precision automotive measuring tools	

304	1.1		Identify and use automotive tools	
305	1.1		Perform common fastener and thread repairs, to include: remove broken bolt, restore internal and external threads, and repair internal threads with a threaded insert	
400			CERTIFICATIONS	
401	3.4		Prepare to obtain PA Safety Inspection Certificate	
402	3.4	7.E.1/P	Prepare to obtain EPA 609 Refrigerant Recovery, Recycling Certificate	
403	3.4		Prepare to obtain Emission Inspection Certificate	
500			SUSPENSION AND STEERING	
501			RESERVED	
502	1.3	4.A.2/P-1	Identify and interpret suspension and steering system concerns; determine necessary repairs	
503			RESERVED	
504			RESERVED	
505			RESERVED	
506			RESERVED	
507	1.3		Inspect rack and pinion steering gear; inspect mounting bushings and brackets	
508	1.3	4.B.1/P-1	Inspect rack and pinion steering gear inner tie rod ends (sockets) and bellows boots	
509	1.3	4.B.2/P-2	Determine proper power steering fluid type; inspect fluid level and condition	
510	1.3	4.B.3/P-2	Flush, fill, and bleed power steering system	
511	1.3	4.B.4/P-2	Diagnose power steering fluid leakage; determine necessary repairs	
512			RESERVED	
513	1.3		Remove and reinstall power steering pump	
514	1.3		Remove and reinstall press fit power steering pump pulley; check pulley and belt alignment	
515	1.3	4.A.6/P-2	Inspect and replace power steering hoses and fittings	
516	1.3	4.A.7/P-2	Inspect and replace pitman arm, relay (centerlink/intermediate) rod, idler arm and mountings, and steering linkage damper.	
517	1.3	4.B.8/P-2	Inspect, replace, and adjust tie rod ends (sockets), tie rod sleeves, and clevis pins	
518			RESERVED	
519	1.3	4.C.1/P2 4.C.2/P	Inspect, and/or replace upper and lower control arms, bushings, shafts, and rebound bearings	
520	1.3	4.C.3/P2	Inspect, and/or replace strut rods and bushings	
521	1.3	4.C.4/P2	Inspect, and/or replace upper and/or lower ball joints	
522	1.3		Inspect, and/or replace steering knuckle assembly	
523	1.4	4.C.5/P2	Inspect, and/or replace short and long arm suspension system coil springs and spring insulators	
524	1.4	4.C.6/P2	Inspect, and/or replace, and adjust suspension system torsion bars; inspect mounting brackets	
525	1.4	4.C.7/P2	Inspect, and/or replace stabilizer bar bushings, brackets, and links.	
526	1.4	4.C.8/P2	Inspect, and/or replace strut cartridge or assembly, strut coil spring, insulators (silencers), and upper strut bearing mount.	
527	1.4	4.D.1/P2	Inspect, remove, and replace shock absorbers	
528			RESERVED	
529	1.4		Lubricate suspension and steering system	
530	1.4	4.E.1/P2	Perform pre-alignment inspection and measure vehicle ride height; perform necessary adjustments	
531	1.4	4.E.2/P	Perform four wheel alignment	
532			RESERVED	
533			RESERVED	
534			RESERVED	
535	1.4		Check front and/or rear cradle (subframe) alignment	
536	1.4	4.F.1/P1	Inspect tire condition; identify tire wear patterns; check and adjust air pressure	
537	1.4		Diagnose wheel/tire vibration, shimmy, and noise	
538	1.4	4.F.2/P	Rotate tires according to manufacturer's recommendations	

539	1.4		Measure wheel, tire, axle flange, and hub run
540			RESERVED
541	1.4	4.F.3/P1 4.F.8/P3	Dismount, inspect, and remount tire on wheel; balance wheel and tire assembly (static and dynamic).
542	1.4	4.F.3/P1	Dismount, inspect, and remount tire on wheel equipped with tire pressure monitoring system sensor.
543			RESERVED
544	1.4	4.F.4/P1	Inspect tire and wheel assembly for air loss; perform necessary ac
545	1.4	4.F.5/P1	Repair tire using internal patch
546	1.4	4.F.6/P1	Identify indirect and direct tire pressure monitoring systems (TPMS) calibrate system; verify operation of instrument panel lamps
547	1.4	4.F.7/P1	Identify steps required to remove and replace sensors in a tire pressure monitoring system (TPMS) including relearn procedure
548	1.4		Identify the need for retest procedures POST wheel Alignn
600			BRAKES
601	1.2	5.B.8/P1	*Inspect and test Brake Fluid for Contaminati
602	1.2	5.A.2/P1	Identify and interpret brake system conc
603			RESERVED
604			RESERVED
605	1.2	5.B.2/P1 5.E.1/F	Measure brake pedal height, travel, and free play (as applica
606	1.2	5.B.3/P1	Check master cylinder for internal/external leaks and proper oper
607	1.2		Remove, bench bleed, and reinstall master cylin
608	1.2	5.B.4/P1	Inspect brake lines, flexible hoses, and fittings for leaks, dents, kinks, rust, cracks, bulging or wear; tighten loose fittings and supports; determine necessary activ
609	1.2		Replace brake lines, hoses, fittings, and suppo
610	1.2		Fabricate brake lines using proper material and flaring procedures (double flare and ISO ty)
611	1.2	5.B.5/P1	Select, handle, store, and fill brake fluids to proper le
612	1.2	5.B.6/P1	Inspect, test, and/or replace components of brake warning light sys
613	1.2	5.B.7/P1	Bleed and/or flush brake system.
614	1.2		Diagnose poor stopping, noise, vibration, pulling, grabbing, dragging or pedal pulsation conc
615	1.2	5.C.1/P1	Remove, clean, inspect, and measure brake drums; determine necessary ε
616	1.2	5.C.2/P1	Refinish brake drum; measure final drum diame
617	1.2	5.C.3/P3	Remove, clean, and inspect brake shoes, springs, pins, clips, levers, adjusters/self-adjusters, other related brake hardware, and backing support plates; lubricate and reassem
618	1.2	5.C.4/P1	Inspect and install wheel cylinde
619	1.2	5.C.5/P3	Pre-adjust brake shoes and parking brake; install brake drums or drum/hub assemblies and wheel bearings.
620	1.2	5.A.5/P1	Install wheel, torque lug nuts, and make final checks and adjustm
621			RESERVED
622	1.2	5.D.1/P1	Remove caliper assembly; inspect for leaks and damage to caliper ho
623	1.2	5.D.2/P1	Clean and inspect caliper mounting and slides/pins for operation, wear, and dai
624	1.2	5.D.3/P1 5.D.4/P1 5.D.10/P2	Reassemble, lubricate, and reinstall caliper, pads, and related hardware; seat pads, and inspect for leaks.
625	1.2	5.D.5/P1	Clean, inspect, and measure rotor thickness, lateral runout, and thickness var
626	1.2	5.D.6/P1	Remove and reinstall roto
627	1.2	5.D.7/P1	Refinish rotor on vehicle; measure final rotor thickne
628	1.2	5.D.8/P1	Refinish rotor off vehicle; measure final rotor thickne
629			RESERVED
630	1.2		Check brake pad wear indicator system opera

631			RESERVED	
632	1.2	5.E.2/P2	Check vacuum supply to vacuum-type power booster and check power assist op	
633	1.3	4.D.2/P1 5.F.1/P3	Remove, clean, inspect, repack, and install wheel bearings, RACES and replace seals; install hub and adjust bearings.	
634	1.3	5.F.2/P2	Check parking brake cables and components including integral parking brake system for wear, binding, and corrosion lubricate, adjust or replace as needed	
635	1.3	5.F.3/P2	Check parking brake and indicator light system opera	
636	1.3	5.F.4/P1	Check operation of brake stop light system; determine necessary a	
637			RESERVED	
638	1.3	3.E.2.1/P-2 5.F.5/F	Inspect and replace wheel stud	
639	1.3		Remove and reinstall sealed wheel bearing assem	
640	1.3	5.G.1/P2	Identify and inspect electronic brake control system compor	
641	1.3	5.A.3/P1	Diagnose electronic brake control system electronic control(s) and components by retrieving diagnostic trouble codes and/or using recommended test equipme	
642			RESERVED	
643	1.3		Bleed the electronic brake control system hydraulic circi	
644	1.3		Identify traction control/vehicle stability control system compone	
645	1.3	5.G.2/P2	Describe the operation of a regenerative braking syst	
700			ELECTRICAL/ELECTRONIC SYSTEMS	
701			RESERVED	
702	2.2	6.A.2/P1	Identify and interpret electrical/electronic system conc	
703			RESERVED	
704			RESERVED	
705	2.2	6.A.9/P1	Use wiring diagrams during diagnosis of electrical circuit problem	
706	2.2	6.A.7/P2	Check electrical circuits with a test ligh	
707	2.2	6.A.8/P2	Check electrical circuits using fused jumper wir	
708	2.2	6.A.6/P1	Locate shorts, grounds, opens, and resistance problems in electrical/electronic cir	
709	2.2	6.A.10/P2	Measure and diagnose the cause(s) of excessive parasitic d	
710	2.2	6.A.11/P1	Inspect and test fusible links, circuit breakers, and fu	
711	2.2		Inspect and test switches, connectors, relays, solenoid solid state devices, and wires of electrical/electronic circuits	
712	2.2	6.A.12/P2	Remove and replace terminal end from connector; replace connectors and terminal	
713	2.2	6.A.12/P2	Repair wiring harness and solder repa	
714			RESERVED	
715	2.2		Identify location of hybrid vehicle high voltage circuit disconnect (service plug) location and safety procedures.	
716	2.2	6.B.1/P1	Perform battery state-of-charge te	
717	2.2	6.B.2/P1	Perform battery capacity test; confirm proper battery capacity for vehicle appli	
718	2.2	6.B.3/P2	Maintain or restore electronic memory functio	
719	2.2	6.B.4/P1	Inspect, clean, fill, and/or replace battery, battery cables, connectors, clamps, and hold-c	
720	2.2	6.B.5/P1	Perform battery charg	
721	2.2	6.B.6/P1	Start a vehicle using jumper cables or an auxiliary power su	
722	2.2	6.B.7/P2	Identify electronic modules, security systems, radios, and other accessories that require reinitialization or code entry following battery disconnec	
723	2.3	6.C.1/P1	Perform starter current draw tes	
724	2.3	6.C.2/P1	Perform starter circuit voltage drop tes	
725	2.3	6.C.3/P2	Inspect and test starter relays and soleno	
726	2.3	6.C.4/P2	Remove and install starter in a vehic	

727	2.3	6.C.5/P2	Inspect and test switches, connectors, and wires of starter control circuits; perform necessary action.	
728	2.3		Differentiate between electrical and engine mechanical problems that cause a slow-crank or no-crank condition.	
729	2.3	6.D.1/P1	Perform charging system output test to determine necessary action.	
730	2.3		Diagnose charging system for the cause of undercharge, no-charge, and overcharge condition.	
731			RESERVED	
732	2.3	6.D.3/P1	Remove, inspect, and install generator (alternator).	
733			RESERVED	
734			RESERVED	
735	2.3	6.E.2/P1	Inspect, replace, and aim headlights and bulbs.	
736			RESERVED	
737			RESERVED	
738			RESERVED	
739	2.3	6.F.1/P1	Diagnose the cause of incorrect operation of warning devices and other driver information systems.	
740	2.3		Diagnose incorrect horn operation.	
741	2.3	6.G.5/P1	Diagnose incorrect wiper operation; diagnose wiper speed control and park problems; perform necessary action.	
742	2.3		Diagnose incorrect washer operation.	
743	2.3		Diagnose incorrect operation of motor-driven accessory circuits.	
745			RESERVED	
746	2.3	6.G.2/P1	Remove and reinstall door panel.	
747	2.3	6.A.5/P1	Use a digital multimeter (DMM).	
748	3.3	6.C.6/P1	Demonstrate knowledge of an automatic idle start/stop system.	
800			ENGINE PERFORMANCE	
801			RESERVED	
802	3.1		Identify and interpret engine performance concerns.	
803			RESERVED	
804			RESERVED	
805	3.1	1.A.4/P-1	Identify components and inspect engine assembly for fuel, oil, coolant, and other leaks, determine necessary action.	
806	3.1		Diagnose abnormal engine noise or vibration concerns.	
807	3.1		Diagnose abnormal exhaust color, odor, and soot.	
808	3.1		Perform engine absolute (vacuum/boost) manifold pressure test.	
809	3.1		Perform cylinder power balance test.	
810	3.1		Perform cylinder cranking and running compression test.	
811	3.1		Perform cylinder leakage test; determine necessary action.	
812	3.1		Diagnose engine mechanical, electrical, electronic, fuel, and ignition concerns.	
813	3.1	1.D.4/P-2 8.A.3/P	Verify engine operating temperature.	
814	3.1		RESERVED	
815			RESERVED	
816	3.1	1.A.2/P-1 2.A.3/P-1 3.A.3/P-1 4.A.3/P-1 5.A.3/P1 6.A.3/P1 7.A.3/P1 8.A.2/P1	Retrieve and record diagnostic trouble codes, OBD monitor status, and freeze frame data; clear codes when applicable.	
817	3.1		Diagnose the causes of emissions or drivability concerns with stored or active diagnostic trouble codes; obtain, graph, and interpret scan tool data.	
818	3.1		Access and use service information to perform step-by-step diagnosis.	
819	3.1		Perform active tests of actuators using a scan tool.	

820	3.1		Describe the importance of running all OBDII monitors for repair verificat	
821			RESERVED	
822	3.1	8.C.1/P1	Inspect and test ignition primary and secondary circuit wiring and solid state components; test ignition coil(s)	
823	3.1		Inspect and test crankshaft and camshaft position sensc	
824	3.1		Inspect, test, and/or replace ignition control module, powertrain/engine control module; reprogram as necessary.	
825	3.2		Diagnose hot or cold no-starting, hard starting, poor drivability, incorrect idle speed, poor idle, flooding, hesitation, surging, engine misfire, power loss, stalling, poor mileage, dieseling, and emissions problems	
826	3.2		Inspect and test fuel pumps and pump control systems for pressure, regulation, and \	
827	3.2	8.D.2/P2	Replace fuel filters	
828	3.2	8.D.1/P1 8.D.3/P1	Inspect throttle body, air induction system, intake manifold and gaskets for vacuum leaks and/or unmetered air.	
829	3.2		Inspect and test fuel injector	
830	3.2		Verify idle control operator	
831	3.2	8.D.4/P1 8.D.5/P1 8.D.1/P1	Inspect the integrity of the exhaust manifold, exhaust pipes, muffler(s), catalytic converter(s), resonator(s), tail pipe(s) and heat shield(s)	
832			RESERVED	
833	3.2	8.E.2/P2	Inspect, test and service positive crankcase ventilation (PCV) filter/breather cap, valve, tubes, orifices, and hoses	
834			RESERVED	
835	3.2		Inspect, test, service and replace components of the EGR system, including electrical/electronic sensors, controls, and wiring, EGR tubing, exhaust passages, vacuum/pressure controls, filters and hoses	
836			RESERVED	
837	3.2		Inspect and test mechanical components of secondary air injection systems	
838	3.2		Inspect and test electrical/electronically-operated components and circuits of air injection systems	
839	3.2		Inspect and test catalytic converter efficier	
840			RESERVED	
841	3.2		Inspect and test components and hoses of the evaporative emissions control s	
842	3.2		Interpret diagnostic trouble codes (DTCs) and scan tool data related to the emissions control systems	
843			RESERVED	
844			RESERVED	
845			RESERVED	
846			RESERVED	
900			ENGINE REPAIF	
901			RESERVED	
902	2.1	1.A.3/P1 6.F.1/P	Verify operation of the instrument panel engine warning indicat	
903	2.1	1.A.5/P-2	Install engine covers using gaskets, seals, and sealers as required.	
904			RESERVED	
905	2.1	1.B.1/P-1	Adjust valves (mechanical or hydraulic lifter	
906	2.1	1.D.5/P-1 4.B.5/P-2 6.D.2/P1 7.B.1/P	Inspect, replace, and adjust drive belts, tensioners, and pulleys; check pulley and belt alignment.	
907	2.1	1.D.1/P-1 1.D.6/P-1	Inspect and test coolant; drain and recover coolant; flush and refill cooling system with recommended coolant; bleed air as required.	

908	2.1	1.D.3/P-1	Perform coolant system pressure tests; check coolant condition; inspect and test radiator; pressure cap; coolant recovery tank, and hose
909	2.1		Identify components and inspect engine assembly for fuel, oil, coolant, and other
910	2.1	1.A.6/P-2	Remove and replace timing belt and verify correct camshaft timing
911	2.1	1.D.8/P-1	Remove and replace thermostat and gasket/s
912	2.1	1.D.4/P-2	Inspect and test mechanical/electrical fans; fan clutch; fan shroud/ducting; air dams; and fan controls
913	2.1	1.D.2/P-1	Perform engine oil and filter change
1000			AUTOMATIC TRANSMISSION AND TRANSAXLE
1001			RESERVED
1002	2.4	2.A.4/P-1	Check fluid level and fluid condition in a transmission or a transaxle equipped with a dipstick
1003	2.4	2.A.5/P-1	Check fluid level and fluid condition in a transmission or a transaxle not equipped with a dipstick
1004	2.4	2.B.2/P-1	Drain and replace fluid and filter/s
1005	2.4	2.A.2/P-1	Identify drivetrain components and configurations
1006	2.4	2.B.1/P-1	Inspect, adjust, and/or replace external manual valve shift linkage, transmission range sensor/switch, and/or park/neutral switch
1007	2.4	2.A.4/P-1 2.A.5/P-1	Inspect for leakage at external seals, gaskets and bushings.
1008	2.4	1.A.7/P-2 2.B.4/P-	Inspect, replace and/or align powertrain mounts
1100			MANUAL DRIVE TRAIN AND AXLE:
1101			RESERVED
1102	2.4	3.A.5/P-1	Drain and refill manual transmission/transaxle and final drive oil
1103	2.4	3.B.1/P-3	Check and adjust clutch master cylinder fluid level
1104	2.4	3.A.4/P-1 3.D.3/P-2 3.E.1.1/P	Check for system leak
1105	2.4	3.E.1.2/P-	Check and adjust differential housing fluid level
1106	2.4	3.E.1.3/P-	Drain and refill differential housing
1107	2.4	3.A.2/P-1	Identify and inspect and/or replace manual drivetrain and axle components and configurations
1200			HEATING AND AIR CONDITIONING
1201			RESERVED
1202			RESERVED
1203	3.3	7.A.7/P1 7.B.2/P	Inspect air conditioning (A/C) condenser for airflow restriction
1204	3.3	7.A.2/P1 7.C.1/P	Inspect engine cooling and heater systems hoses
1205	3.3	7.A.7/P1 7.B.3/P1 7.D.1/f	Inspect A/C-heater ducts, doors, hoses, cabin filters, and outlets
1206	3.3	7.A.6/P-	Check for A/C leak
			Signature CTE Instructor: _____ Date: _____
			Student Signature _____ Date: _____
		Totals:	Auto mech Totals
		P1= 97	P1= 88 90.7% Goal: 90%
		P2= 62	P2= 46 74.2% Goal: 75%
		P3= 26	P3=17 65% Goal: 50%
		Grand Total= 18!	Total 15'