



**Automobile Mechanics Technology/Technician, Classification of Instructional Program (CIP) 47.0604
Units of Instruction and Task Grid Linked to Pennsylvania Core Standards**

Secondary Competency Task Grid with Unit and Task Numbers	Common Career Technical Core Standards	Pennsylvania Core Standards for Reading for Technical Subjects Standard 3.5	Pennsylvania Core Standards for Writing for Technical Subjects Standard 3.6	Pennsylvania Core Standards for Mathematics Standard 2.1
<p>100 ORIENTATION.</p> <p>101 Explain and follow all lab rules. 102 Participate in basic shop management. 103 Participate in parts ordering. 104 Demonstrate auto shop safety and hygiene. 105 Demonstrate the use of service information. 106 Demonstrate proper telephone courtesy. 107 Identify vehicle by: sight, V.I.N. and/or ID tag. 108 Identify career paths within the career and technical education program. 109 Complete work order to include customer information, vehicle identifying information, customer concern, related service history, cause, and correction. 110 Research applicable vehicle and service information, vehicle service history, service precautions, and technical service bulletins. 111 Locate and interpret vehicle and major component identification numbers.</p>	<p><u>CAREER CLUSTER:</u> Transportation, Distribution and Logistics (Choose Standards) 1-2-3-4-5-6</p> <p>PATHWAYS INCLUDE Facility and Mobile Equipment Maintenance Career Pathway (Choose Standards) 1-2</p> <p>NOTE: Refer to the Common Career Technical Core Standards Booklet if you wish to add more Pathways, for your local Occupational Area.</p>	<p>KEY IDEAS/DETAILS GRADES 9-10-11-12 Standard CC.3.5.9-10. A Standard CC.3.5.11-12 A Cite specific textual evidence, etc. Standard CC.3.5.9-10 B Standard CC.3.5.11-12. B Determine the central ideas or conclusions of a text; etc. Standard CC.3.5.9-10.C Standard CC.3.5.11-12.C Follow precisely a complex multistep procedure, etc.</p> <p>CRAFT & STRUCTURE GRADES 9-10-11-12 Standard CC.3.5.9-10. D Standard CC.3.5.11-12.D Determine the meaning of symbols, key terms, and other domain specific words. Standard CC.3.5.9-10.E Standard CC.3.5.11-12.E Analyze the structure of the relationships among concepts in a text, etc.</p>		

		<p>Standard CC.3.5.9-10.F Standard CC.3.5.11-12.F Analyze the author’s purpose in providing an explanation, describing a procedure...and Analyze the structure of the relationships among concepts in a text.</p> <p>INTEGRATE KNOWLEDGE & IDEAS GRADES 9-10 Standard CC.3.5.9-10.G Translate quantitative or technical information expressed in a text into visual form (e.g. a table or chart). Standard CC.3.5.9-10. H Assess the reasoning in a text to support the author’s claim for solving a technical problem. Standard CC.3.5.9-10. I Compare and contrast findings presented in a text to those from other sources, etc.</p> <p>INTEGRATE KNOWLEDGE & IDEAS GRADES 11-12 Standard CC.3.5.11-12. G Integrate and evaluate multiple sources of information presented in diverse formats...to solve a problem. Standard CC.3.5.11-12. H Evaluate the hypotheses, data, analysis, and conclusions in a technical text, verifying the data when possible. Standard CC.3.5.11-12. I Synthesize information from a range of sources into a coherent understanding.</p> <p>RANGE OF READING GRADES 9-10-11-12 Standard CC.3.5.9-10.J Standard CC.3.5.11-12.J</p>		
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		By the end of grades 9- 10, AND 11-12, read and comprehend technical texts independently and proficiently.		
200 SAFETY.				
<p>201 Identify and follow all safety rules.</p> <p>202 Demonstrate the ability to secure vehicles on jack stands and hydraulic lifts.</p> <p>203 Demonstrate the ability to safely set-up/shut-down oxygen acetylene welding equipment.</p> <p>204 Identify chemical safety, "Right-To-Know Laws" and Safety Data Sheets (SDS).</p> <p>205 Identify and demonstrate the safe use of hand tools.</p> <p>206 Identify and demonstrate the safe use of power tools.</p> <p>207 Identify and demonstrate the safe use of protective clothing and equipment.</p> <p>208 Identify and demonstrate the safe use of fire protection equipment.</p> <p>209 Identify and demonstrate the safe use of shop equipment.</p> <p>210 Explain EPA and OSHA Regulations.</p>	<p>CAREER CLUSTER: Transportation, Distribution and Logistics (Choose Standards) 1-2-3-4-5-6</p> <p>PATHWAYS INCLUDE Facility and Mobile Equipment Maintenance Career Pathway (Choose Standards) 1-2</p> <p>NOTE: Refer to the Common Career Technical Core Standards Booklet if you wish to add more Pathways, for your local Occupational Area.</p>	<p>KEY IDEAS/DETAILS GRADES 9-10-11-12 Standard CC.3.5.9-10. A Standard CC.3.5.11-12 A Cite specific textual evidence, etc. Standard CC.3.5.9-10 B Standard CC.3.5.11-12. B Determine the central ideas or conclusions of a text; etc. Standard CC.3.5.9-10.C Standard CC.3.5.11-12.C Follow precisely a complex multistep procedure, etc.</p> <p>CRAFT & STRUCTURE GRADES 9-10-11-12 Standard CC.3.5.9-10. D Standard CC.3.5.11-12.D Determine the meaning of symbols, key terms, and other domain-specific words. Standard CC.3.5.9-10.E Standard CC.3.5.11-12.E Analyze the structure of the relationships among concepts in a text, etc. Standard CC.3.5.9-10.F Standard CC.3.5.11-12.F Analyze the author's purpose in providing an explanation, describing a procedure...and Analyze the structure of the relationships among concepts in a text.</p> <p>INTEGRATE KNOWLEDGE & IDEAS GRADES 9-10 Standard CC.3.5.9-10.G</p>	<p>NUMBERS AND OPERATIONS Standard 2.1.HS.F.2 Apply properties of rational and irrational numbers to solve real world or mathematical problems. Standard 2.1.HS.F.4 Use units as a way to understand problems and to guide the solution of multistep problems. Standard 2.1.HS.F.5 Choose a level of accuracy appropriate to limitations on measurement when reporting quantities. Standard 2.1.HS.F.6 Extend the knowledge of arithmetic operations and apply to complex numbers.</p>	

		<p>Translate quantitative or technical information expressed in a text into visual form (e.g. a table or chart).</p> <p>Standard CC.3.5.9-10. H Assess the reasoning in a text to support the author’s claim for solving a technical problem.</p> <p>Standard CC.3.5.9-10. I Compare and contrast findings presented in a text to those from other sources, etc.</p> <p>INTEGRATE KNOWLEDGE & IDEAS GRADES 11-12 Standard CC.3.5.11-12. G Integrate and evaluate multiple sources of information presented in diverse formats...to solve a problem. Standard CC.3.5.11-12. H Evaluate the hypotheses, data, analysis, and conclusions in a technical text, verifying the data when possible. Standard CC.3.5.11-12. I Synthesize information from a range of sources into a coherent understanding.</p> <p>RANGE OF READING GRADES 9-10-11-12 Standard CC.3.5.9-10.J Standard CC.3.5.11-12.J By the end of grades 9- 10, AND 11-12, read and comprehend technical texts independently and proficiently.</p>		
300 TOOLS/FASTENERS.				
<p>301 Identify and use fasteners and bolts.</p> <p>302 Demonstrate the ability to correctly drill and use re-threading tools.</p> <p>303 Demonstrate the ability to correctly read and interpret precision automotive measuring tools.</p> <p>304 Demonstrate the ability to correctly use automotive tools.</p>	<p><u>CAREER CLUSTER:</u> Transportation, Distribution and Logistics (Choose Standards) 1-2-3-4-5-6</p>	<p>KEY IDEAS/DETAILS GRADES 9-10-11-12 Standard CC.3.5.9-10. A Standard CC.3.5.11-12 A Cite specific textual evidence, etc. Standard CC.3.5.9-10 B Standard CC.3.5.11-12. B</p>		<p>NUMBERS AND OPERATIONS Standard 2.1.HS.F.2 Apply properties of rational and irrational numbers to solve real world or mathematical problems.</p>

<p>305 Perform common fastener and thread repairs, to include: remove broken bolt, restore internal and external threads, and repair internal threads with a threaded insert.</p>	<p>PATHWAYS INCLUDE Facility and Mobile Equipment Maintenance Career Pathway (Choose Standards) 1-2</p> <p>NOTE: Refer to the Common Career Technical Core Standards Booklet if you wish to add more Pathways, for your local Occupational Area.</p>	<p>Determine the central ideas or conclusions of a text; etc. Standard CC.3.5.9-10.C Standard CC.3.5.11-12.C Follow precisely a complex multistep procedure, etc.</p> <p>CRAFT & STRUCTURE GRADES 9-10-11-12 Standard CC.3.5.9-10. D Standard CC.3.5.11-12.D Determine the meaning of symbols, key terms, and other domain-specific words. Standard CC.3.5.9-10.E Standard CC.3.5.11-12.E Analyze the structure of the relationships among concepts in a text, etc. Standard CC.3.5.9-10.F Standard CC.3.5.11-12.F Analyze the author’s purpose in providing an explanation, describing a procedure...and Analyze the structure of the relationships among concepts in a text.</p> <p>INTEGRATE KNOWLEDGE & IDEAS GRADES 9-10 Standard CC.3.5.9-10.G Translate quantitative or technical information expressed in a text into visual form (e.g. a table or chart). Standard CC.3.5.9-10. H Assess the reasoning in a text to support the author’s claim for solving a technical problem. Standard CC.3.5.9-10. I Compare and contrast findings presented in a text to those from other sources, etc.</p>		<p>Standard 2.1.HS.F.4 Use units as a way to understand problems and to guide the solution of multistep problems. Standard 2.1.HS.F.5 Choose a level of accuracy appropriate to limitations on measurement when reporting quantities. Standard 2.1.HS.F.6 Extend the knowledge of arithmetic operations and apply to complex numbers.</p>
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400 CERTIFICATIONS.				
401 Prepare to obtain PA Safety Inspection Certification. 402 Prepare to obtain EPA 609 Refrigerant Recovery, Recycling Certification. 403 Prepare to obtain Emission Inspection Certification.	<p><u>CAREER CLUSTER:</u> Transportation, Distribution and Logistics (Choose Standards) 1-2-3-4-5-6</p> <p>PATHWAYS INCLUDE Facility and Mobile Equipment Maintenance Career Pathway (Choose Standards) 1-2</p> <p>NOTE: Refer to the Common Career Technical Core Standards Booklet if you</p>	<p>KEY IDEAS/DETAILS GRADES 9-10-11-12 Standard CC.3.5.9-10. A Standard CC.3.5.11-12 A Cite specific textual evidence, etc. Standard CC.3.5.9-10 B Standard CC.3.5.11-12. B Determine the central ideas or conclusions of a text; etc. Standard CC.3.5.9-10.C Standard CC.3.5.11-12.C Follow precisely a complex multistep procedure, etc.</p> <p>CRAFT & STRUCTURE GRADES 9-10-11-12 Standard CC.3.5.9-10. D Standard CC.3.5.11-12.D</p>	<p>TEXT TYPES AND PURPOSE GRADES 9-10-11-12 Standard CC.3.6.9-10.A Standard CC.3.6.11-12.A Write arguments focused on discipline specific content. Standard CC.3.6.9-10.B Standard CC.3.6.11-12.B Write informative or explanatory texts, including the narration of technical processes, etc.</p> <p>PRODUCTION & DISTRIBUTION OF WRITING GRADES 9-10-11-12 Standard CC.3.6.9-10.C Standard CC.3.6.11-12 C</p>	<p>NUMBERS AND OPERATIONS Standard 2.1.HS.F.2 Apply properties of rational and irrational numbers to solve real world or mathematical problems. Standard 2.1.HS.F.4 Use units as a way to understand problems and to guide the solution of multistep problems. Standard 2.1.HS.F.5 Choose a level of accuracy appropriate to limitations on measurement when reporting quantities. Standard 2.1.HS.F.6</p>

	<p>wish to add more Pathways, for your local Occupational Area.</p>	<p>Determine the meaning of symbols, key terms, and other domain-specific words.</p> <p>Standard CC.3.5.9-10.E Standard CC.3.5.11-12.E Analyze the structure of the relationships among concepts in a text, etc.</p> <p>Standard CC.3.5.9-10.F Standard CC.3.5.11-12.F Analyze the author’s purpose in providing an explanation, describing a procedure...and Analyze the structure of the relationships among concepts in a text.</p> <p>INTEGRATE KNOWLEDGE & IDEAS GRADES 9-10</p> <p>Standard CC.3.5.9-10.G Translate quantitative or technical information expressed in a text into visual form (e.g. a table or chart).</p> <p>Standard CC.3.5.9-10. H Assess the reasoning in a text to support the author’s claim for solving a technical problem.</p> <p>Standard CC.3.5.9-10. I Compare and contrast findings presented in a text to those from other sources, etc.</p> <p>INTEGRATE KNOWLEDGE & IDEAS GRADES 11-12</p> <p>Standard CC.3.5.11-12. G Integrate and evaluate multiple sources of information presented in diverse formats...to solve a problem.</p> <p>Standard CC.3.5.11-12. H Evaluate the hypotheses, data, analysis, and conclusions in a technical text, verifying the data when possible.</p>	<p>Produce clear and coherent writing...appropriate to task, purpose, and audience.</p> <p>Standard CC.3.6.9-10 D Standard CC.3.6.11-12.D Develop and strengthen writing as needed by planning, revising, editing, rewriting, or trying a new approach, focusing on addressing what is most significant for a specific purpose and audience.</p> <p>Standard CC.3.6.9-10.E Standard CC.3.6.11-12.E. Use technology, including the internet, to produce, publish, and update individual or shared writing products.</p> <p>RESEARCH GRADES 9-10-11-12</p> <p>Standard CC.3.6.9-10.F Standard CC.3.6.11-12.F Conduct short and more sustained research to answer a question or solve a problem.</p> <p>Standard CC.3.6.9-10.G. Standard CC.3.6.11-12.G Gather relevant information from multiple authoritative print and digital sources, following a standard format for citation.</p> <p>Standard CC.3.6.9-10.H. Standard CC.3.6.11-12.H. Draw evidence from informational texts to support analysis, reflection, and research.</p> <p>RANGE OF WRITING GRADES 9-10-11-12</p> <p>Standard CC.3.5.9-10.I & Standard CC.3.5.11-12.I.</p>	<p>Extend the knowledge of arithmetic operations and apply to complex numbers.</p> <p>GEOMETRY Standard 2.3.HS.A.7 Apply trigonometric ratios to solve problems involving right triangles.</p> <p>Standard 2.3.HS.A.3 Verify and apply geometric theorems as they relate to geometric figures.</p> <p>Standard 2.3.HS.A.13 Analyze relationships between two dimensional and three dimensional objects.</p>
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500 SUSPENSION AND STEERING.				
<p>501 RESERVED</p> <p>502 Identify and interpret suspension and steering system concerns; determine necessary action.</p> <p>503 RESERVED</p> <p>504 RESERVED</p> <p>505 RESERVED</p> <p>506 RESERVED</p> <p>507 Inspect rack and pinion steering gear; inspect mounting bushings and brackets.</p> <p>508 Inspect rack and pinion steering gear inner tie rod ends (sockets) and bellows boots.</p> <p>509 Determine proper power steering fluid type; inspect fluid level and condition.</p> <p>510 Flush, fill, and bleed power steering system.</p> <p>511 Diagnose power steering fluid leakage; determine necessary action.</p> <p>512 RESERVED</p> <p>513 Remove and reinstall power steering pump.</p> <p>514 Remove and reinstall press fit power steering pump pulley; check pulley and belt alignment.</p> <p>515 Inspect and replace power steering hoses and fittings.</p> <p>516 Inspect and replace pitman arm, relay (centerlink/intermediate) rod, idler arm and mountings, and steering linkage damper.</p> <p>517 Inspect, replace, and adjust tie rod ends (sockets), tie rod sleeves, and clamps.</p> <p>518 RESERVED</p> <p>519 Inspect, and/or replace upper and lower control arms, bushings, shafts, and rebound bumpers.</p> <p>520 Inspect, and/or replace strut rods and bushings.</p> <p>521 Inspect, and/or replace upper and/or lower ball joints.</p>	<p>CAREER CLUSTER: Transportation, Distribution and Logistics (Choose Standards) 1-2-3-4-5-6</p> <p>PATHWAYS INCLUDE Facility and Mobile Equipment Maintenance Career Pathway (Choose Standards) 1-2</p> <p>NOTE: Refer to the Common Career Technical Core Standards Booklet if you wish to add more Pathways, for your local Occupational Area.</p>	<p>KEY IDEAS/DETAILS GRADES 9-10-11-12 Standard CC.3.5.9-10. A Standard CC.3.5.11-12 A Cite specific textual evidence, etc. Standard CC.3.5.9-10 B Standard CC.3.5.11-12. B Determine the central ideas or conclusions of a text; etc. Standard CC.3.5.9-10.C Standard CC.3.5.11-12.C Follow precisely a complex multistep procedure, etc.</p> <p>CRAFT & STRUCTURE GRADES 9-10-11-12 Standard CC.3.5.9-10. D Standard CC.3.5.11-12.D Determine the meaning of symbols, key terms, and other domain-specific words. Standard CC.3.5.9-10.E Standard CC.3.5.11-12.E Analyze the structure of the relationships among concepts in a text, etc. Standard CC.3.5.9-10.F Standard CC.3.5.11-12.F Analyze the author’s purpose in providing an explanation, describing a procedure...and</p>	<p>TEXT TYPES AND PURPOSE GRADES 9-10-11-12 Standard CC.3.6.9-10.A Standard CC.3.6.11-12.A Write arguments focused on discipline specific content. Standard CC.3.6.9-10.B Standard CC.3.6.11-12.B Write informative or explanatory texts, including the narration of technical processes, etc.</p> <p>PRODUCTION & DISTRIBUTION OF WRITING GRADES 9-10-11-12 Standard CC.3.6.9-10.C Standard CC.3.6.11-12 C Produce clear and coherent writing...appropriate to task, purpose, and audience. Standard CC.3.6.9-10 D Standard CC.3.6.11-12.D Develop and strengthen writing as needed by planning, revising, editing, rewriting, or trying a new approach, focusing on addressing what is most</p>	<p>NUMBERS AND OPERATIONS Standard 2.1.HS.F.2 Apply properties of rational and irrational numbers to solve real world or mathematical problems. Standard 2.1.HS.F.4 Use units as a way to understand problems and to guide the solution of multistep problems. Standard 2.1.HS.F.5 Choose a level of accuracy appropriate to limitations on measurement when reporting quantities. Standard 2.1.HS.F.6 Extend the knowledge of arithmetic operations and apply to complex numbers.</p> <p>GEOMETRY Standard 2.3.HS.A.13 Analyze relationships between two dimensional and three dimensional objects.</p>

<p>522 Inspect, and/or replace steering knuckle assemblies.</p> <p>523 Inspect, and/or replace short and long arm suspension system coil springs and spring insulators.</p> <p>524 Inspect, and/or replace, and adjust suspension system torsion bars; inspect mounts.</p> <p>525 Inspect, and/or replace stabilizer bar bushings, brackets, and links.</p> <p>526 Inspect, and/or replace strut cartridge or assembly, strut coil spring, insulators (silencers), and upper strut bearing mount.</p> <p>527 Inspect, remove, and replace shock absorbers.</p> <p>528 RESERVED</p> <p>529 Lubricate suspension and steering systems.</p> <p>530 Perform pre-alignment inspection and measure vehicle ride height; perform necessary action.</p> <p>531 Prepare vehicle for wheel alignment on the alignment machine; describe alignment angles and perform four-wheel alignment by checking and adjusting front and rear wheel caster, camber; and toe as required; center steering wheel.</p> <p>532 RESERVED</p> <p>533 RESERVED</p> <p>534 RESERVED</p> <p>535 Check front and/or rear cradle (subframe) alignment; determine necessary action.</p> <p>536 Inspect tire condition; identify tire wear patterns; check and adjust air pressure; determine necessary action.</p> <p>537 Diagnose wheel/tire vibration, shimmy, and noise; determine necessary action.</p> <p>538 Rotate tires according to manufacturer's recommendations.</p> <p>539 Measure wheel, tire, axle flange, and hub runout; determine necessary action.</p> <p>540 Diagnose tire pull problems; determine necessary action.</p> <p>541 Dismount, inspect, and remount tire on wheel; balance wheel and tire assembly (static and dynamic).</p> <p>542 Dismount, inspect, and remount tire on wheel equipped with tire pressure monitoring system sensor.</p> <p>543 RESERVED</p> <p>544 Inspect tire and wheel assembly for air loss; perform necessary action.</p> <p>545 Repair tire using internal patch.</p>		<p>Analyze the structure of the relationships among concepts in a text.</p> <p>INTEGRATE KNOWLEDGE & IDEAS GRADES 9-10 Standard CC.3.5.9-10.G Translate quantitative or technical information expressed in a text into visual form (e.g. a table or chart). Standard CC.3.5.9-10. H Assess the reasoning in a text to support the author's claim for solving a technical problem. Standard CC.3.5.9-10. I Compare and contrast findings presented in a text to those from other sources, etc.</p> <p>INTEGRATE KNOWLEDGE & IDEAS GRADES 11-12 Standard CC.3.5.11-12. G Integrate and evaluate multiple sources of information presented in diverse formats...to solve a problem. Standard CC.3.5.11-12. H Evaluate the hypotheses, data, analysis, and conclusions in a technical text, verifying the data when possible. Standard CC.3.5.11-12. I Synthesize information from a range of sources into a coherent understanding.</p> <p>RANGE OF READING GRADES 9-10-11-12 Standard CC.3.5.9-10.J Standard CC.3.5.11-12.J By the end of grades 9- 10, AND 11- 12, read and comprehend technical texts independently and proficiently.</p>	<p>significant for a specific purpose and audience. Standard CC.3.6.9-10.E Standard CC.3.6.11-12.E. Use technology, including the internet, to produce, publish, and update individual or shared writing products.</p> <p>RESEARCH GRADES 9-10-11-12 Standard CC.3.6.9-10.F Standard CC.3.6.11-12.F Conduct short and more sustained research to answer a question or solve a problem. Standard CC.3.6.9-10.G. Standard CC.3.6.11-12.G Gather relevant information from multiple authoritative print and digital sources, following a standard format for citation. Standard CC.3.6.9-10.H. Standard CC.3.6.11-12.H. Draw evidence from informational texts to support analysis, reflection, and research.</p> <p>RANGE OF WRITING GRADES 9-10-11-12 Standard CC.3.5.9-10.I & Standard CC.3.5.11-12.I. Write routinely over extended time frames and shorter time frames for a range of tasks, purposes and audiences...etc.</p>	
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546	Identify indirect and direct tire pressure monitoring systems (TPMS) calibrate system; verify operation of instrument panel lamps.			
547	Identify steps required to remove and replace sensors in a tire pressure monitoring system (TPMS) including relearn procedure.			

600 BRAKES.				
601 RESERVED	<p><u>CAREER CLUSTER:</u> Transportation, Distribution and Logistics (Choose Standards) 1-2-3-4-5-6</p> <p>PATHWAYS INCLUDE Facility and Mobile Equipment Maintenance Career Pathway (Choose Standards) 1-2</p> <p>NOTE: Refer to the Common Career Technical Core Standards Booklet if you wish to add more Pathways, for your local Occupational Area.</p>	<p>KEY IDEAS/DETAILS GRADES 9-10-11-12 Standard CC.3.5.9-10. A Standard CC.3.5.11-12 A Cite specific textual evidence, etc. Standard CC.3.5.9-10 B Standard CC.3.5.11-12. B Determine the central ideas or conclusions of a text; etc. Standard CC.3.5.9-10.C Standard CC.3.5.11-12.C Follow precisely a complex multistep procedure, etc. CRAFT & STRUCTURE GRADES 9-10-11-12 Standard CC.3.5.9-10. D Standard CC.3.5.11-12.D Determine the meaning of symbols, key terms, and other domain-specific words. Standard CC.3.5.9-10.E Standard CC.3.5.11-12.E Analyze the structure of the relationships among concepts in a text, etc. Standard CC.3.5.9-10.F Standard CC.3.5.11-12.F Analyze the author’s purpose in providing an explanation, describing a procedure...and Analyze the structure of the relationships among concepts in a text.</p> <p>INTEGRATE KNOWLEDGE & IDEAS</p>	<p>TEXT TYPES AND PURPOSE GRADES 9-10-11-12 Standard CC.3.6.9-10.A Standard CC.3.6.11-12.A Write arguments focused on discipline specific content. Standard CC.3.6.9-10.B Standard CC.3.6.11-12.B Write informative or explanatory texts, including the narration of technical processes, etc. PRODUCTION & DISTRIBUTION OF WRITING GRADES 9-10-11-12 Standard CC.3.6.9-10.C Standard CC.3.6.11-12 C Produce clear and coherent writing...appropriate to task, purpose, and audience. Standard CC.3.6.9-10 D Standard CC.3.6.11-12.D Develop and strengthen writing as needed by planning, revising, editing, rewriting, or trying a new approach, focusing on addressing what is most significant for a specific purpose and audience. Standard CC.3.6.9-10.E Standard CC.3.6.11-12.E. Use technology, including the internet, to produce, publish, and update</p>	<p>NUMBERS AND OPERATIONS Standard 2.1.HS.F.2 Apply properties of rational and irrational numbers to solve real world or mathematical problems. Standard 2.1.HS.F.4 Use units as a way to understand problems and to guide the solution of multistep problems. Standard 2.1.HS.F.5 Choose a level of accuracy appropriate to limitations on measurement when reporting quantities. Standard 2.1.HS.F.6 Extend the knowledge of arithmetic operations and apply to complex numbers.</p> <p>GEOMETRY Standard 2.3.HS.A.13 Analyze relationships between two dimensional and three dimensional objects.</p>
602 Identify and interpret brake system concern; determine necessary action.				
603 RESERVED				
604 RESERVED				
605 Measure brake pedal height, travel, and free play (as applicable); determine necessary action.				
606 Check master cylinder for internal/external leaks and proper operation; determine necessary action.				
607 Remove, bench bleed, and reinstall master cylinder.				
608 Inspect brake lines, flexible hoses, and fittings for leaks, dents, kinks, rust, cracks, bulging or wear; tighten loose fittings and supports; determine necessary action.				
609 Replace brake lines, hoses, fittings, and supports.				
610 Fabricate brake lines using proper material and flaring procedures (double flare and ISO types).				
611 Select, handle, store, and fill brake fluids to proper level.				
612 Inspect, test, and/or replace components of brake warning light system.				
613 Bleed and/or flush brake system.				
614 Diagnose poor stopping, noise, vibration, pulling, grabbing, dragging or pedal pulsation concerns; determine necessary action.				
615 Remove, clean, inspect, and measure brake drums; determine necessary action.				
616 Refinish brake drum; measure final drum diameter.				
617 Remove, clean, and inspect brake shoes, springs, pins, clips, levers, adjusters/self-adjusters, other related				

<p>brake hardware, and backing support plates; lubricate and reassemble.</p> <p>618 Inspect and install wheel cylinders.</p> <p>619 Pre-adjust brake shoes and parking brake; install brake drums or drum/hub assemblies and wheel bearings.</p> <p>620 Install wheel, torque lug nuts, and make final checks and adjustments.</p> <p>621 RESERVED</p> <p>622 Remove caliper assembly; inspect for leaks and damage to caliper housing; determine necessary action.</p> <p>623 Clean and inspect caliper mounting and slides/pins for operation, wear, and damage; determine necessary action.</p> <p>624 Reassemble, lubricate, and reinstall caliper, pads, and related hardware; seat pads, and inspect for leaks.</p> <p>625 Clean, inspect, and measure rotor thickness, lateral runout, and thickness variation; determine necessary action.</p> <p>626 Remove and reinstall rotor.</p> <p>627 Refinish rotor on vehicle; measure final rotor thickness.</p> <p>628 Refinish rotor off vehicle; measure final rotor thickness.</p> <p>629 RESERVED</p> <p>630 Check brake pad wear indicator system operation; determine necessary action.</p> <p>631 RESERVED</p> <p>632 Check vacuum supply to vacuum-type power booster and check power assist operation.</p> <p>633 Remove, clean, inspect, repack, and install wheel bearings, RACES and replace seals; install hub and adjust bearings.</p> <p>634 Check parking brake cables and components including integral parking brake system for wear, binding, and corrosion; clean, lubricate, adjust or replace as needed.</p>		<p>GRADES 9-10 Standard CC.3.5.9-10.G Translate quantitative or technical information expressed in a text into visual form (e.g. a table or chart). Standard CC.3.5.9-10. H Assess the reasoning in a text to support the author’s claim for solving a technical problem. Standard CC.3.5.9-10. I Compare and contrast findings presented in a text to those from other sources, etc.</p> <p>INTEGRATE KNOWLEDGE & IDEAS GRADES 11-12 Standard CC.3.5.11-12. G Integrate and evaluate multiple sources of information presented in diverse formats...to solve a problem. Standard CC.3.5.11-12. H Evaluate the hypotheses, data, analysis, and conclusions in a technical text, verifying the data when possible. Standard CC.3.5.11-12. I Synthesize information from a range of sources into a coherent understanding.</p> <p>RANGE OF READING GRADES 9-10-11-12 Standard CC.3.5.9-10.J Standard CC.3.5.11-12.J By the end of grades 9- 10, AND 11-12, read and comprehend technical texts independently and proficiently.</p>	<p>individual or shared writing products.</p> <p>RESEARCH GRADES 9-10-11-12 Standard CC.3.6.9-10.F Standard CC.3.6.11-12.F Conduct short and more sustained research to answer a question or solve a problem. Standard CC.3.6.9-10.G. Standard CC.3.6.11-12.G Gather relevant information from multiple authoritative print and digital sources, following a standard format for citation. Standard CC.3.6.9-10.H. Standard CC.3.6.11-12.H. Draw evidence from informational texts to support analysis, reflection, and research.</p> <p>RANGE OF WRITING GRADES 9-10-11-12 Standard CC.3.5.9-10.I & Standard CC.3.5.11-12.I. Write routinely over extended time frames and shorter time frames for a range of tasks, purposes and audiences...etc.</p>	
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635	Check parking brake and indicator light system operation; determine necessary action.			
636	Check operation of brake stop light system; determine necessary action.			
637	RESERVED			
638	Inspect and replace wheel studs.			
639	Remove and reinstall sealed wheel bearing assembly.			
640	Identify and inspect electronic brake control system components; determine necessary action.			
641	Diagnose electronic brake control system electronic control(s) and components by retrieving diagnostic trouble codes, and/or using recommended test equipment; determine necessary action.			
642	RESERVED			
643	Bleed the electronic brake control system hydraulic circuits.			
644	Identify traction control/vehicle stability control system components.			
645	Describe the operation of a regenerative braking system.			

700	ELECTRICAL/ELECTRONIC SYSTEMS.				
701	RESERVED	CAREER CLUSTER: Transportation, Distribution and Logistics (Choose Standards) 1-2-3-4-5-6 PATHWAYS INCLUDE Facility and Mobile Equipment Maintenance Career Pathway (Choose Standards) 1-2 NOTE: Refer to the Common Career Technical Core	KEY IDEAS/DETAILS GRADES 9-10-11-12 Standard CC.3.5.9-10. A Standard CC.3.5.11-12 A Cite specific textual evidence, etc. Standard CC.3.5.9-10 B Standard CC.3.5.11-12. B Determine the central ideas or conclusions of a text; etc. Standard CC.3.5.9-10.C Standard CC.3.5.11-12.C Follow precisely a complex multistep procedure, etc. CRAFT & STRUCTURE GRADES 9-10-11-12 Standard CC.3.5.9-10. D Standard CC.3.5.11-12.D	TEXT TYPES AND PURPOSE GRADES 9-10-11-12 Standard CC.3.6.9-10.A Standard CC.3.6.11-12.A Write arguments focused on discipline specific content. Standard CC.3.6.9-10.B Standard CC.3.6.11-12.B Write informative or explanatory texts, including the narration of technical processes, etc. PRODUCTION & DISTRIBUTION OF WRITING GRADES 9-10-11-12 Standard CC.3.6.9-10.C	NUMBERS AND OPERATIONS Standard 2.1.HS.F.2 Apply properties of rational and irrational numbers to solve real world or mathematical problems. Standard 2.1.HS.F.4 Use units as a way to understand problems and to guide the solution of multistep problems. Standard 2.1.HS.F.5 Choose a level of accuracy appropriate to limitations on measurement when reporting quantities.
702	Identify and interpret electrical/electronic system concern; determine necessary action.				
703	RESERVED				
704	RESERVED				
705	Use wiring diagrams during diagnosis of electrical circuit problems.				
706	Check electrical circuits with a test light; determine necessary action.				
707	Check electrical circuits using fused jumper wires; determine necessary action.				
708	Locate shorts, grounds, opens, and resistance problems in electrical/electronic circuits; determine necessary action.				

<p>709 Measure and diagnose the cause(s) of excessive parasitic draw; determine necessary action.</p> <p>710 Inspect and test fusible links, circuit breakers, and fuses; determine necessary action.</p> <p>711 Inspect and test switches, connectors, relays, solenoid solid state devices, and wires of electrical/electronic circuits; perform necessary action.</p> <p>712 Remove and replace terminal end from connector; replace connectors and terminal ends.</p> <p>713 Repair wiring harness and/or solder (including CAN/BUS systems) repair</p> <p>714 RESERVED</p> <p>715 Identify location of hybrid vehicle high voltage circuit disconnect (service plug) location and safety procedures.</p> <p>716 Perform battery state-of-charge test; determine necessary action.</p> <p>717 Perform battery capacity test; confirm proper battery capacity for vehicle application; determine necessary action.</p> <p>718 Maintain or restore electronic memory functions.</p> <p>719 Inspect, clean, fill, and/or replace battery, battery cables, connectors, clamps, and hold-downs.</p> <p>720 Perform battery charge.</p> <p>721 Start a vehicle using jumper cables or an auxiliary power supply.</p> <p>722 Identify electronic modules, security systems, radios, and other accessories that require reinitialization or code entry following battery disconnect.</p> <p>723 Perform starter current draw tests; determine necessary action.</p> <p>724 Perform starter circuit voltage drop tests; determine necessary action.</p> <p>725 Inspect and test starter relays and solenoids; determine necessary action.</p> <p>726 Remove and install starter in a vehicle.</p>	<p>Standards Booklet if you wish to add more Pathways, for your local Occupational Area.</p>	<p>Determine the meaning of symbols, key terms, and other domain-specific words.</p> <p>Standard CC.3.5.9-10.E Standard CC.3.5.11-12.E Analyze the structure of the relationships among concepts in a text, etc.</p> <p>Standard CC.3.5.9-10.F Standard CC.3.5.11-12.F Analyze the author’s purpose in providing an explanation, describing a procedure...and Analyze the structure of the relationships among concepts in a text.</p> <p>INTEGRATE KNOWLEDGE & IDEAS GRADES 9-10 Standard CC.3.5.9-10.G Translate quantitative or technical information expressed in a text into visual form (e.g. a table or chart). Standard CC.3.5.9-10. H Assess the reasoning in a text to support the author’s claim for solving a technical problem. Standard CC.3.5.9-10. I Compare and contrast findings presented in a text to those from other sources, etc.</p> <p>INTEGRATE KNOWLEDGE & IDEAS GRADES 11-12 Standard CC.3.5.11-12. G Integrate and evaluate multiple sources of information presented in diverse formats...to solve a problem. Standard CC.3.5.11-12. H Evaluate the hypotheses, data, analysis, and conclusions in a technical text, verifying the data when possible.</p>	<p>Standard CC.3.6.11-12 C Produce clear and coherent writing...appropriate to task, purpose, and audience. Standard CC.3.6.9-10 D Standard CC.3.6.11-12.D Develop and strengthen writing as needed by planning, revising, editing, rewriting, or trying a new approach, focusing on addressing what is most significant for a specific purpose and audience. Standard CC.3.6.9-10.E Standard CC.3.6.11-12.E. Use technology, including the internet, to produce, publish, and update individual or shared writing products.</p> <p>RESEARCH GRADES 9-10-11-12 Standard CC.3.6.9-10.F Standard CC.3.6.11-12.F Conduct short and more sustained research to answer a question or solve a problem. Standard CC.3.6.9-10.G. Standard CC.3.6.11-12.G Gather relevant information from multiple authoritative print and digital sources, following a standard format for citation. Standard CC.3.6.9-10.H. Standard CC.3.6.11-12.H. Draw evidence from informational texts to support analysis, reflection, and research.</p> <p>RANGE OF WRITING GRADES 9-10-11-12 Standard CC.3.5.9-10.I &</p>	<p>Standard 2.1.HS.F.6 Extend the knowledge of arithmetic operations and apply to complex numbers.</p>
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727	Inspect and test switches, connectors, and wires of starter control circuits; perform necessary action.		Standard CC.3.5.11-12. I Synthesize information from a range of sources into a coherent understanding.	Standard CC.3.5.11-12.I. Write routinely over extended time frames and shorter time frames for a range of tasks, purposes and audiences...etc.	
728	Differentiate between electrical and engine mechanical problems that cause a slow-crank or no-crank condition.				
729	Perform charging system output test; determine necessary action.				
730	Diagnose charging system for the cause of undercharge, no-charge, and overcharge conditions.				
731	RESERVED				
732	Remove, inspect, and install generator (alternator).				
733	RESERVED				
734	RESERVED				
735	Inspect, replace, and aim headlights and bulbs.				
736	RESERVED				
737	RESERVED				
738	RESERVED				
739	Diagnose the cause of incorrect operation of warning devices and other driver information systems.				
740	Diagnose incorrect horn operation; perform necessary action.				
741	Diagnose incorrect wiper operation; diagnose wiper speed control and park problems; perform necessary action.				
742	Diagnose incorrect washer operation; perform necessary action.				
743	Diagnose incorrect operation of motor-driven accessory circuits; determine necessary action.				
745	RESERVED				
746	Remove and reinstall door panel.				
747	Use a digital multimeter (DMM).				

800	ENGINE PERFORMANCE.				
801	RESERVED	<u>CAREER CLUSTER:</u> Transportation, Distribution and Logistics	KEY IDEAS/DETAILS GRADES 9-10-11-12 Standard CC.3.5.9-10. A Standard CC.3.5.11-12 A Cite specific textual evidence, etc.	TEXT TYPES AND PURPOSE GRADES 9-10-11-12 Standard CC.3.6.9-10.A Standard CC.3.6.11-12.A	NUMBERS AND OPERATIONS Standard 2.1.HS.F.2
802	Identify and interpret engine performance concern; determine necessary action.				
803	RESERVED				

<p>804 RESERVED</p> <p>805 Identify components and inspect engine assembly for fuel, oil, coolant, and other leaks, determine necessary action.</p> <p>806 Diagnose abnormal engine noise or vibration concerns; determine necessary action.</p> <p>807 Diagnose abnormal exhaust color, odor, and sound; determine necessary action.</p> <p>808 Perform engine absolute (vacuum/boost) manifold pressure tests; determine necessary action.</p> <p>809 Perform cylinder power balance test; determine necessary action.</p> <p>810 Perform cylinder cranking and running compression tests; determine necessary action.</p> <p>811 Perform cylinder leakage test; determine necessary action.</p> <p>812 Diagnose engine mechanical, electrical, electronic, fuel, and ignition concerns; determine necessary action.</p> <p>813 Verify engine operating temperature; determine necessary action.</p> <p>814 Perform cooling system pressure tests; check coolant condition; inspect and test radiator, pressure cap, coolant recovery tank, and hoses; perform necessary action.</p> <p>815 RESERVED</p> <p>816 Retrieve and record diagnostic trouble codes, OBD monitor status, and freeze frame data; clear codes when applicable.</p> <p>817 Diagnose the causes of emissions or drivability concerns with stored or active diagnostic trouble codes; obtain, graph, and interpret scan tool data.</p> <p>818 Access and use service information to perform step-by-step diagnosis.</p> <p>819 Perform active tests of actuators using a scan tool; determine necessary action.</p>	<p>(Choose Standards) 1-2-3-4-5-6</p> <p>PATHWAYS INCLUDE Facility and Mobile Equipment Maintenance Career Pathway (Choose Standards) 1-2</p> <p>NOTE: Refer to the Common Career Technical Core Standards Booklet if you wish to add more Pathways, for your local Occupational Area.</p>	<p>Standard CC.3.5.9-10 B Standard CC.3.5.11-12. B Determine the central ideas or conclusions of a text; etc. Standard CC.3.5.9-10.C Standard CC.3.5.11-12.C Follow precisely a complex multistep procedure, etc.</p> <p>CRAFT & STRUCTURE GRADES 9-10-11-12 Standard CC.3.5.9-10. D Standard CC.3.5.11-12.D Determine the meaning of symbols, key terms, and other domain-specific words. Standard CC.3.5.9-10.E Standard CC.3.5.11-12.E Analyze the structure of the relationships among concepts in a text, etc. Standard CC.3.5.9-10.F Standard CC.3.5.11-12.F Analyze the author’s purpose in providing an explanation, describing a procedure...and Analyze the structure of the relationships among concepts in a text.</p> <p>INTEGRATE KNOWLEDGE & IDEAS GRADES 9-10 Standard CC.3.5.9-10.G Translate quantitative or technical information expressed in a text into visual form (e.g. a table or chart). Standard CC.3.5.9-10. H Assess the reasoning in a text to support the author’s claim for solving a technical problem. Standard CC.3.5.9-10. I</p>	<p>Write arguments focused on discipline specific content. Standard CC.3.6.9-10.B Standard CC.3.6.11-12.B Write informative or explanatory texts, including the narration of technical processes, etc.</p> <p>PRODUCTION & DISTRIBUTION OF WRITING GRADES 9-10-11-12 Standard CC.3.6.9-10.C Standard CC.3.6.11-12 C Produce clear and coherent writing...appropriate to task, purpose, and audience. Standard CC.3.6.9-10 D Standard CC.3.6.11-12.D Develop and strengthen writing as needed by planning, revising, editing, rewriting, or trying a new approach, focusing on addressing what is most significant for a specific purpose and audience. Standard CC.3.6.9-10.E Standard CC.3.6.11-12.E. Use technology, including the internet, to produce, publish, and update individual or shared writing products.</p> <p>RESEARCH GRADES 9-10-11-12 Standard CC.3.6.9-10.F Standard CC.3.6.11-12.F Conduct short and more sustained research to answer a question or solve a problem. Standard CC.3.6.9-10.G. Standard CC.3.6.11-12.G</p>	<p>Apply properties of rational and irrational numbers to solve real world or mathematical problems. Standard 2.1.HS.F.4 Use units as a way to understand problems and to guide the solution of multistep problems. Standard 2.1.HS.F.5 Choose a level of accuracy appropriate to limitations on measurement when reporting quantities. Standard 2.1.HS.F.6 Extend the knowledge of arithmetic operations and apply to complex numbers.</p> <p>GEOMETRY Standard 2.3.HS.A.13 Analyze relationships between two dimensional and three dimensional objects.</p>
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<p>820 Describe the importance of running all OBDII monitors for repair verification.</p> <p>821 RESERVED</p> <p>822 Inspect and test ignition primary and secondary circuit wiring and solid-state components; test ignition coil(s); perform necessary action.</p> <p>823 Inspect and test crankshaft and camshaft position sensor(s); perform necessary action.</p> <p>824 Inspect, test, and/or replace ignition control module, powertrain/engine control module; reprogram as necessary.</p> <p>825 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; determine necessary action.</p> <p>826 Inspect and test fuel pumps and pump control systems for pressure, regulation, and volume; perform necessary action.</p> <p>827 Replace fuel filters.</p> <p>828 Inspect throttle body, air induction system, intake manifold and gaskets for vacuum leaks and/or unmetered air.</p> <p>829 Inspect and test fuel injectors.</p> <p>830 Verify idle control operation.</p> <p>831 Inspect the integrity of the exhaust manifold, exhaust pipes, muffler(s), catalytic converter(s), resonator(s), tail pipe(s), and heat shield(s); perform necessary action.</p> <p>832 RESERVED</p> <p>833 Inspect, test and service positive crankcase ventilation (PCV) filter/breather cap, valve, tubes, orifices, and hoses; perform necessary action.</p> <p>834 RESERVED</p> <p>835 Inspect, test, service and replace components of the EGR system, including electrical/electronic sensors, controls, and wiring, EGR tubing, exhaust passages,</p>		<p>Compare and contrast findings presented in a text to those from other sources, etc.</p> <p>INTEGRATE KNOWLEDGE & IDEAS GRADES 11-12 Standard CC.3.5.11-12. G Integrate and evaluate multiple sources of information presented in diverse formats...to solve a problem. Standard CC.3.5.11-12. H Evaluate the hypotheses, data, analysis, and conclusions in a technical text, verifying the data when possible. Standard CC.3.5.11-12. I Synthesize information from a range of sources into a coherent understanding.</p> <p>RANGE OF READING GRADES 9-10-11-12 Standard CC.3.5.9-10.J Standard CC.3.5.11-12.J By the end of grades 9- 10, AND 11-12, read and comprehend technical texts independently and proficiently.</p>	<p>Gather relevant information from multiple authoritative print and digital sources, following a standard format for citation. Standard CC.3.6.9-10.H. Standard CC.3.6.11-12.H. Draw evidence from informational texts to support analysis, reflection, and research.</p> <p>RANGE OF WRITING GRADES 9-10-11-12 Standard CC.3.5.9-10.I & Standard CC.3.5.11-12.I. Write routinely over extended time frames and shorter time frames for a range of tasks, purposes and audiences...etc.</p>	
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<p>vacuum/pressure controls, filters and hoses; perform necessary action.</p> <p>836 RESERVED</p> <p>837 Inspect and test mechanical components of secondary air injection systems; perform necessary action.</p> <p>838 Inspect and test electrical/electronically-operated components and circuits of air injection systems; perform necessary action.</p> <p>839 Inspect and test catalytic converter efficiency.</p> <p>840 RESERVED</p> <p>841 Inspect and test components and hoses of the evaporative emissions control system; perform necessary action.</p> <p>842 Interpret diagnostic trouble codes (DTCs) and scan tool data related to the emissions control systems; determine necessary action.</p> <p>843 Remove and replace timing belt; verify correct camshaft timing.</p> <p>844 Remove and replace thermostat and gasket/seal.</p> <p>845 Inspect and test mechanical/electrical fans, fan clutch, fan shroud/ducting, air dams, and fan control devices; perform necessary action.</p> <p>846 Perform engine oil and filter change.</p>				
<p>900 ENGINE REPAIR.</p>				
<p>901 RESERVED</p> <p>902 Verify operation of the instrument panel engine warning indicators.</p> <p>903 Install engine covers using gaskets, seals, and sealers as required.</p> <p>904 RESERVED</p> <p>905 Adjust valves (mechanical or hydraulic lifters).</p> <p>906 Inspect, replace, and adjust drive belts, tensioners, and pulleys; check pulley and belt alignment.</p> <p>907 Inspect and test coolant; drain and recover coolant; flush and refill cooling system with recommended coolant; bleed air as required.</p>	<p><u>CAREER CLUSTER:</u> Transportation, Distribution and Logistics (Choose Standards) 1-2-3-4-5-6</p> <p>PATHWAYS INCLUDE Facility and Mobile Equipment Maintenance Career Pathway (Choose Standards) 1-2</p>	<p>KEY IDEAS/DETAILS GRADES 9-10-11-12 Standard CC.3.5.9-10. A Standard CC.3.5.11-12 A Cite specific textual evidence, etc. Standard CC.3.5.9-10 B Standard CC.3.5.11-12. B Determine the central ideas or conclusions of a text; etc. Standard CC.3.5.9-10.C Standard CC.3.5.11-12.C Follow precisely a complex multistep procedure, etc.</p> <p>CRAFT & STRUCTURE GRADES 9-10-11-12</p>	<p>TEXT TYPES AND PURPOSE GRADES 9-10-11-12 Standard CC.3.6.9-10.A Standard CC.3.6.11-12.A Write arguments focused on discipline specific content. Standard CC.3.6.9-10.B Standard CC.3.6.11-12.B Write informative or explanatory texts, including the narration of technical processes, etc.</p> <p>PRODUCTION & DISTRIBUTION OF WRITING</p>	<p>NUMBERS AND OPERATIONS Standard 2.1.HS.F.2 Apply properties of rational and irrational numbers to solve real world or mathematical problems. Standard 2.1.HS.F.4 Use units as a way to understand problems and to guide the solution of multistep problems. Standard 2.1.HS.F.5 Choose a level of accuracy appropriate to limitations on</p>

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1000 AUTOMATIC TRANSMISSION AND TRANSAXLE.				
<p>1001 RESERVED</p> <p>1002 Check fluid level and fluid condition in a transmission or a transaxle equipped with a dip-stick.</p> <p>1003 Check fluid level and fluid condition in a transmission or a transaxle not equipped with a dip-stick.</p> <p>1004 Drain and replace fluid and filter(s).</p> <p>1005 Identify drivetrain components and configuration.</p> <p>1006 Inspect, adjust, and/or replace external manual valve shift linkage, transmission range sensor/switch, and/or park/neutral switch.</p> <p>1007 Inspect for leakage at external seals, gaskets and bushings.</p> <p>1008 Inspect, replace and/or align powertrain mounts.</p>	<p><u>CAREER CLUSTER:</u> Transportation, Distribution and Logistics (Choose Standards) 1-2-3-4-5-6</p> <p>PATHWAYS INCLUDE Facility and Mobile Equipment Maintenance Career Pathway (Choose Standards) 1-2</p> <p>NOTE: Refer to the Common Career Technical Core Standards Booklet if you wish to add more Pathways, for your local Occupational Area.</p>	<p>KEY IDEAS/DETAILS GRADES 9-10-11-12 Standard CC.3.5.9-10. A Standard CC.3.5.11-12 A Cite specific textual evidence, etc. Standard CC.3.5.9-10 B Standard CC.3.5.11-12. B Determine the central ideas or conclusions of a text; etc. Standard CC.3.5.9-10.C Standard CC.3.5.11-12.C Follow precisely a complex multistep procedure, etc.</p> <p>CRAFT & STRUCTURE GRADES 9-10-11-12 Standard CC.3.5.9-10. D Standard CC.3.5.11-12.D Determine the meaning of symbols, key terms, and other domain-specific words. Standard CC.3.5.9-10.E Standard CC.3.5.11-12.E Analyze the structure of the relationships among concepts in a text, etc. Standard CC.3.5.9-10.F Standard CC.3.5.11-12.F</p>	<p>TEXT TYPES AND PURPOSE GRADES 9-10-11-12 Standard CC.3.6.9-10.A Standard CC.3.6.11-12.A Write arguments focused on discipline specific content. Standard CC.3.6.9-10.B Standard CC.3.6.11-12.B Write informative or explanatory texts, including the narration of technical processes, etc.</p> <p>PRODUCTION & DISTRIBUTION OF WRITING GRADES 9-10-11-12 Standard CC.3.6.9-10.C Standard CC.3.6.11-12 C Produce clear and coherent writing...appropriate to task, purpose, and audience. Standard CC.3.6.9-10 D Standard CC.3.6.11-12.D Develop and strengthen writing as needed by planning, revising, editing, rewriting, or trying a new approach, focusing on</p>	<p>NUMBERS AND OPERATIONS Standard 2.1.HS.F.2 Apply properties of rational and irrational numbers to solve real world or mathematical problems. Standard 2.1.HS.F.4 Use units as a way to understand problems and to guide the solution of multistep problems. Standard 2.1.HS.F.5 Choose a level of accuracy appropriate to limitations on measurement when reporting quantities. Standard 2.1.HS.F.6 Extend the knowledge of arithmetic operations and apply to complex numbers.</p> <p>GEOMETRY Standard 2.3.HS.A.13 Analyze relationships between two dimensional</p>

		<p>Analyze the author’s purpose in providing an explanation, describing a procedure...and Analyze the structure of the relationships among concepts in a text.</p> <p>INTEGRATE KNOWLEDGE & IDEAS GRADES 9-10 Standard CC.3.5.9-10.G Translate quantitative or technical information expressed in a text into visual form (e.g. a table or chart). Standard CC.3.5.9-10. H Assess the reasoning in a text to support the author’s claim for solving a technical problem. Standard CC.3.5.9-10. I Compare and contrast findings presented in a text to those from other sources, etc.</p> <p>INTEGRATE KNOWLEDGE & IDEAS GRADES 11-12 Standard CC.3.5.11-12. G Integrate and evaluate multiple sources of information presented in diverse formats...to solve a problem. Standard CC.3.5.11-12. H Evaluate the hypotheses, data, analysis, and conclusions in a technical text, verifying the data when possible. Standard CC.3.5.11-12. I Synthesize information from a range of sources into a coherent understanding.</p> <p>RANGE OF READING GRADES 9-10-11-12 Standard CC.3.5.9-10.J Standard CC.3.5.11-12.J</p>	<p>addressing what is most significant for a specific purpose and audience. Standard CC.3.6.9-10.E Standard CC.3.6.11-12.E. Use technology, including the internet, to produce, publish, and update individual or shared writing products.</p> <p>RESEARCH GRADES 9-10-11-12 Standard CC.3.6.9-10.F Standard CC.3.6.11-12.F Conduct short and more sustained research to answer a question or solve a problem. Standard CC.3.6.9-10.G. Standard CC.3.6.11-12.G Gather relevant information from multiple authoritative print and digital sources, following a standard format for citation. Standard CC.3.6.9-10.H. Standard CC.3.6.11-12.H. Draw evidence from informational texts to support analysis, reflection, and research.</p> <p>RANGE OF WRITING GRADES 9-10-11-12 Standard CC.3.5.9-10.I & Standard CC.3.5.11-12.I. Write routinely over extended time frames and shorter time frames for a range of tasks, purposes and audiences...etc.</p>	<p>and three dimensional objects.</p>
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		By the end of grades 9- 10, AND 11-12, read and comprehend technical texts independently and proficiently.		
1100 MANUAL DRIVE TRAIN AND AXLES.				
1101 RESERVED 1102 Drain and refill manual transmission/transaxle and final drive unit. 1103 Check and adjust clutch master cylinder fluid level. 1104 Check for system leaks. 1105 Check and adjust differential housing fluid level. 1106 Drain and refill differential housing. 1107 Identify and inspect and/or replace manual drivetrain and axle components and configuration.	<p><u>CAREER CLUSTER:</u> Transportation, Distribution and Logistics (Choose Standards) 1-2-3-4-5-6</p> <p>PATHWAYS INCLUDE Facility and Mobile Equipment Maintenance Career Pathway (Choose Standards) 1-2</p> <p>NOTE: Refer to the Common Career Technical Core Standards Booklet if you wish to add more Pathways, for your local Occupational Area.</p>	<p>KEY IDEAS/DETAILS GRADES 9-10-11-12 Standard CC.3.5.9-10. A Standard CC.3.5.11-12 A Cite specific textual evidence, etc. Standard CC.3.5.9-10 B Standard CC.3.5.11-12. B Determine the central ideas or conclusions of a text; etc. Standard CC.3.5.9-10.C Standard CC.3.5.11-12.C Follow precisely a complex multistep procedure, etc.</p> <p>CRAFT & STRUCTURE GRADES 9-10-11-12 Standard CC.3.5.9-10. D Standard CC.3.5.11-12.D Determine the meaning of symbols, key terms, and other domain-specific words. Standard CC.3.5.9-10.E Standard CC.3.5.11-12.E Analyze the structure of the relationships among concepts in a text, etc. Standard CC.3.5.9-10.F Standard CC.3.5.11-12.F Analyze the author’s purpose in providing an explanation, describing a procedure...and Analyze the structure of the relationships among concepts in a text.</p> <p>INTEGRATE KNOWLEDGE & IDEAS GRADES 9-10 Standard CC.3.5.9-10.G</p>	<p>TEXT TYPES AND PURPOSE GRADES 9-10-11-12 Standard CC.3.6.9-10.A Standard CC.3.6.11-12.A Write arguments focused on discipline specific content. Standard CC.3.6.9-10.B Standard CC.3.6.11-12.B Write informative or explanatory texts, including the narration of technical processes, etc.</p> <p>PRODUCTION & DISTRIBUTION OF WRITING GRADES 9-10-11-12 Standard CC.3.6.9-10.C Standard CC.3.6.11-12 C Produce clear and coherent writing...appropriate to task, purpose, and audience. Standard CC.3.6.9-10 D Standard CC.3.6.11-12.D Develop and strengthen writing as needed by planning, revising, editing, rewriting, or trying a new approach, focusing on addressing what is most significant for a specific purpose and audience. Standard CC.3.6.9-10.E Standard CC.3.6.11-12.E. Use technology, including the internet, to produce, publish, and update individual or shared writing products.</p> <p>RESEARCH</p>	<p>NUMBERS AND OPERATIONS Standard 2.1.HS.F.2 Apply properties of rational and irrational numbers to solve real world or mathematical problems. Standard 2.1.HS.F.4 Use units as a way to understand problems and to guide the solution of multistep problems. Standard 2.1.HS.F.5 Choose a level of accuracy appropriate to limitations on measurement when reporting quantities. Standard 2.1.HS.F.6 Extend the knowledge of arithmetic operations and apply to complex numbers.</p> <p>GEOMETRY Standard 2.3.HS.A.13 Analyze relationships between two dimensional and three dimensional objects.</p>

		<p>Translate quantitative or technical information expressed in a text into visual form (e.g. a table or chart). Standard CC.3.5.9-10. H Assess the reasoning in a text to support the author’s claim for solving a technical problem. Standard CC.3.5.9-10. I Compare and contrast findings presented in a text to those from other sources, etc.</p> <p>INTEGRATE KNOWLEDGE & IDEAS GRADES 11-12 Standard CC.3.5.11-12. G Integrate and evaluate multiple sources of information presented in diverse formats...to solve a problem. Standard CC.3.5.11-12. H Evaluate the hypotheses, data, analysis, and conclusions in a technical text, verifying the data when possible. Standard CC.3.5.11-12. I Synthesize information from a range of sources into a coherent understanding.</p> <p>RANGE OF READING GRADES 9-10-11-12 Standard CC.3.5.9-10.J Standard CC.3.5.11-12.J By the end of grades 9- 10, AND 11-12, read and comprehend technical texts independently and proficiently.</p>	<p>GRADES 9-10-11-12 Standard CC.3.6.9-10.F Standard CC.3.6.11-12.F Conduct short and more sustained research to answer a question or solve a problem. Standard CC.3.6.9-10.G. Standard CC.3.6.11-12.G Gather relevant information from multiple authoritative print and digital sources, following a standard format for citation. Standard CC.3.6.9-10.H. Standard CC.3.6.11-12.H. Draw evidence from informational texts to support analysis, reflection, and research.</p> <p>RANGE OF WRITING GRADES 9-10-11-12 Standard CC.3.5.9-10.I & Standard CC.3.5.11-12.I. Write routinely over extended time frames and shorter time frames for a range of tasks, purposes and audiences...etc.</p>	
1200 HEATING AND AIR CONDITIONING.				
1201 RESERVED 1202 RESERVED 1203 Inspect A/C condenser for airflow restrictions. 1204 Inspect engine cooling and heater systems hoses. 1205 Inspect A/C-heater ducts, doors, hoses, cabin filters, and outlets.	<u>CAREER CLUSTER:</u> Transportation, Distribution and Logistics (Choose Standards) 1-2-3-4-5-6	KEY IDEAS/DETAILS GRADES 9-10-11-12 Standard CC.3.5.9-10. A Standard CC.3.5.11-12 A Cite specific textual evidence, etc. Standard CC.3.5.9-10 B Standard CC.3.5.11-12. B	TEXT TYPES AND PURPOSE GRADES 9-10-11-12 Standard CC.3.6.9-10.A Standard CC.3.6.11-12.A Write arguments focused on discipline specific content. Standard CC.3.6.9-10.B	NUMBERS AND OPERATIONS Standard 2.1.HS.F.2 Apply properties of rational and irrational numbers to solve real world or mathematical problems.

	<p>PATHWAYS INCLUDE Facility and Mobile Equipment Maintenance Career Pathway (Choose Standards) 1-2</p> <p>NOTE: Refer to the Common Career Technical Core Standards Booklet if you wish to add more Pathways, for your local Occupational Area.</p>	<p>Determine the central ideas or conclusions of a text; etc. Standard CC.3.5.9-10.C Standard CC.3.5.11-12.C Follow precisely a complex multistep procedure, etc.</p> <p>CRAFT & STRUCTURE GRADES 9-10-11-12 Standard CC.3.5.9-10. D Standard CC.3.5.11-12.D Determine the meaning of symbols, key terms, and other domain-specific words. Standard CC.3.5.9-10.E Standard CC.3.5.11-12.E Analyze the structure of the relationships among concepts in a text, etc. Standard CC.3.5.9-10.F Standard CC.3.5.11-12.F Analyze the author’s purpose in providing an explanation, describing a procedure...and Analyze the structure of the relationships among concepts in a text.</p> <p>INTEGRATE KNOWLEDGE & IDEAS GRADES 9-10 Standard CC.3.5.9-10.G Translate quantitative or technical information expressed in a text into visual form (e.g. a table or chart). Standard CC.3.5.9-10. H Assess the reasoning in a text to support the author’s claim for solving a technical problem. Standard CC.3.5.9-10. I Compare and contrast findings presented in a text to those from other sources, etc.</p>	<p>Standard CC.3.6.11-12.B Write informative or explanatory texts, including the narration of technical processes, etc.</p> <p>PRODUCTION & DISTRIBUTION OF WRITING GRADES 9-10-11-12 Standard CC.3.6.9-10.C Standard CC.3.6.11-12 C Produce clear and coherent writing...appropriate to task, purpose, and audience. Standard CC.3.6.9-10 D Standard CC.3.6.11-12.D Develop and strengthen writing as needed by planning, revising, editing, rewriting, or trying a new approach, focusing on addressing what is most significant for a specific purpose and audience. Standard CC.3.6.9-10.E Standard CC.3.6.11-12.E. Use technology, including the internet, to produce, publish, and update individual or shared writing products.</p> <p>RESEARCH GRADES 9-10-11-12 Standard CC.3.6.9-10.F Standard CC.3.6.11-12.F Conduct short and more sustained research to answer a question or solve a problem. Standard CC.3.6.9-10.G. Standard CC.3.6.11-12.G Gather relevant information from multiple authoritative print and digital sources,</p>	<p>Standard 2.1.HS.F.4 Use units as a way to understand problems and to guide the solution of multistep problems. Standard 2.1.HS.F.5 Choose a level of accuracy appropriate to limitations on measurement when reporting quantities. Standard 2.1.HS.F.6 Extend the knowledge of arithmetic operations and apply to complex numbers.</p> <p>GEOMETRY Standard 2.3.HS.A.13 Analyze relationships between two dimensional and three dimensional objects.</p>
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