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## Goodheart-Willcox Publisher Correlation of *Modern Automotive Technology* ©2017 to Tennessee Department of Education Standards Course: Maintenance and Light Repair I (5879)

STANDARD		CORRELATING PAGES			
Standard 1.0 Students will perform safety examinations and maintain safety records					
1.1	Use and inspect personal protective	79. 81–83 (Warnings are presented throughout			
	equipment and demonstrate appropriate	text to alert students to potential dangers)			
	related safety procedures.				
1.2	Inspect, maintain, and employ safe	76–77, 83–84 (Warnings are presented			
	operating procedures with tools and	throughout text to alert students to potential			
	equipment, such as hand and power tools,	dangers)			
	ladders, scaffolding, and lifting equipment.				
1.3	Demonstrate continuous awareness of	78, 84 (Warnings are presented throughout text			
	potential hazards to self and others and	to alert students to potential dangers)			
	respond appropriately.				
1.4	Assume responsibilities under HazCom	84–85			
	(Hazard Communication) regulations.				
1.5	Adhere to responsibilities, regulations, and	78, 84 (Warnings are presented throughout text			
	Occupational Safety & Health Administration	to alert students to potential dangers)			
	(OSHA) policies to protect coworkers and				
	bystanders from hazards; report accidents				
	and observed hazards; and comply with				
	emergency response procedures.				
1.6	Pass with 100% accuracy a written	78–85, 140, 144, 147			
	examination relating to safety issues relating				
	specifically to Maintenance and Light Repair.				
1.7	Pass with 100% accuracy a performance	78–85, 140, 144, 147			
	examination relating to safety issues relating				
1.0	specifically to Maintenance and Light Repair.				
1.8	Maintain a portfolio record of written safety	56 (Activity 2), 73 (Activity 2), and 86 (Activities			
	examinations and equipment examination	1-3)			
	for which the student has passed an				
Stor	derd 2.0 Students will demonstrate loadership	sitizanship, and teamwork skills required for			
Stan	success in the school comm	unity and workplace			
2.1	Cultivate positive leadership skills. Take part	25 (Activity 3) 158 485 (Activity 4) 782 (Activity			
2.1	in opportunities to practice and	3) 982 (Activity 1) 1000 (Activity 2) 1323			
	demonstrate personal leadership skills. For	(Activity 2) 1510 (Activities 1 and 3)			
	example, taking advantage of opportunities	( <i>netwice</i> ) 1910 ( <i>netwice</i> ) 1 and 3)			
	provided by a career and technical student				
	organization (CTSO), such as SkillsUSA.				
2.2	Assess situations, apply problem-solving	988, 1001 (Activity 1), 1003–1004			
	techniques and decision-making skills within	, , ,			
	the school, community, and workplace.				



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2.3	Participate as a team member in a learning	158, 1000 (Activity 2)
	environment.	
2.4	Respect the opinions, customs, and	158, 160
	individual differences of others.	
2.5	Build personal career development by	27–33, 38 (Workplace Skills)
	identifying career interests, strengths, and	
	opportunities.	
	Standard 3.0 Students will demonst	rate shop and personal safety.
3.1	Identify and demonstrate knowledge of how	78-81
	to utilize marked safety areas and	
	equipment, such as location and use of eye	
	wash stations; types of fire extinguishers	
	and other fire safety equipment; posted	
	evacuation routes; and proper ventilation	
	procedures for working within the lab/shop	
	area.	
3.2	Comply with the required use of safety	79, 81, 83
	glasses, ear protection, gloves, appropriate	
	clothing, and shoes during lab/shop	
	activities; demonstrate knowledge of	
	procedures for securing hair and jewelry for	
	lab/shop activities.	
3.3	Demonstrate awareness of the safety	454–458, 482, 1565, 1742–1744, 1746
	aspects of supplemental restraint systems	
	(SRS), electronic brake control systems, and	
	hybrid vehicle high voltage circuits.	
3.4	Locate and demonstrate knowledge of	84
	material safety data sheets (MSDS).	
Stand	dard 4.0 Students will identify and properly use	, maintain, and store automotive service hand
	tools, power tools, and	shop equipment.
4.1	Identify tools and their usage in automotive	41–55, 59–72
	applications.	
4.2	Identify standard and metric designation.	89–98
4.3	Demonstrate safe handling and use of	42, 54, 56 (Activity 2), 60, 62, 66, 67, 68, 69, 70
	appropriate tools.	
4.4	Demonstrate proper cleaning, storage, and	41–42, 51, 60
	maintenance of tools and equipment.	
4.5	Demonstrate proper use of precision	90–100
	measuring tools (i.e. micrometer, dial-	
	indicator, dial-caliper).	
	Standard 5.0 Students will prep	pare a vehicle for service.
5.1	Identify information needed and the service	114
	requested on a repair order.	
5.2	Identify purpose and demonstrate proper	71
	use of fender covers, mats.	
5.3	Demonstrate use of the three C's: concern,	153, 428, 508, 768, 1020, 1339–1340
	cause, and correction.	
5.4	Review vehicle service history.	



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5.5	Complete work order to include customer	114			
	information, vehicle identifying information,				
	customer concern, related service history,				
	cause, and correction.				
Standard 6.0 Students will perform basic vehicle engine service and maintenance.					
6.1	Research applicable vehicle and service	109–114			
	information, vehicle service history, service				
	precautions, and technical service bulletins.				
6.2	Verify operation of the instrument panel	620–623, 919			
	engine warning indicators.				
6.3	Inspect engine assembly for fuel, oil,	150–151, 862, 913–914			
	coolant, and other leaks; and determine				
	necessary action.				
6.4	Install engine covers using gaskets, seals,	128–133, 921–922, 1179–1182, 1188–1189,			
	and sealers as required.	1195–1196, 1211			
6.5	Remove and replace timing belt; verify	1185–1189			
	correct camshaft timing.				
6.6	Perform common fastener and thread	126–128			
	repair, to include: remove broken bolt,				
	restore internal and external threads, and				
	repair internal threads with thread insert.				
6.7	Identify hybrid vehicle internal combustion	81-82, 454-458			
	engine service precautions.	0.54, 0.55			
6.8	Perform cooling system pressure and dye	864-866			
	condition and lovely inspect and test				
	radiator, prossure can coolant recovery				
	tank and baster core: determine perserv				
	action				
6.9	Inspect replace and adjust drive helts	878-879			
0.5	tensioners and nulleys: check nulley and				
	helt alignment				
6.10	Remove inspect and replace thermostat	870-872			
	and gasket/seal.				
6.11	Inspect and test coolant; drain and recover	144, 879–882, 883–884			
	coolant; flush and refill cooling system with				
	recommended coolant; bleed air as				
	required.				
6.12	Perform engine oil and filter change.	140–141, 917–919			
	Standard 7.0 Students will properly insp	pect and service tires and wheels.			
7.1	Inspect tire condition; identify tire wear	150, 1467–1469, 1471–1472, 1451–1453			
	patterns; check for correct size and				
	application (load and speed ratings) and				
	adjust air pressure; determine necessary				
	action.				
7.2	Rotate tires according to manufacturer's	1472–1473			
	recommendations.				



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7.3	Dismount, inspect, and remount tire on wheel; balance wheel and tire assembly (static and dynamic).	1476–1478, 174–1476
7.4	Dismount, inspect, and remount tire on wheel equipped with tire pressure monitoring system sensor.	1476–1478, 1479
7.5	Inspect tire and wheel assembly for air loss; perform necessary action.	1471–1472
7.6	Repair tire using internal patch.	1478
7.7	Identify and test tire pressure monitoring systems (indirect and direct) for operation; verify operation of instrument panel lamps.	1479–1488
7.8	Demonstrate knowledge of steps required to remove and replace sensors in a tire pressure monitoring system.	1479