

ASE Education Foundation
Electrical/Electronic Systems (A6)
2025 Correlation Chart

MLR- Maintenance & Light Repair

AST- Auto Service Technology (Includes MLR)

MAST- Master Auto Service Technology (Includes MLR and AST)

	Task	Priority	MLR	AST	MAST	Text Page #	Task Page #
A. General							
1.	Research vehicle service information such as fluid type, vehicle service history, service precautions, technical service bulletins, and recalls including xEV and vehicles equipped with advanced driver assistance systems (ADAS).	P-1	✓	✓	✓	1-7 220-221 392-403	
2.	Identify electrical/electronic system components and configurations.	P-1	✓	✓	✓	214-418	
3.	Retrieve and record DTCs, OBD monitor status, and freeze frame data; clear codes and data when directed.	P-1	✓	✓	✓	208-212 344;	
4.	Perform calibration/recalibration, initialization, or relearn procedure as required.	P-1			✓	400-401	
5.	Demonstrate knowledge of electrical/electronic series, parallel, and series-parallel circuits using principles of electricity (Ohm's Law).	P-1	✓	✓	✓	64-70	

6.	Demonstrate proper use of a digital multimeter (DMM) when measuring source voltage, voltage drop (including grounds), current flow and resistance.	P-1	✓	✓	✓	95-109	
	Task	Priority	MLR	AST	MAST	Text Page #	Task Page #
7.	Demonstrate knowledge of the causes and effects from shorts, grounds, opens, and resistance problems in electrical/electronic circuits.	P-1	✓	✓	✓	143-150	
8.	Describe precautions related to the use of test lights.	P-3	✓	✓	✓	94	
9.	Use fused jumper wires to check operation of electrical circuits per service information.	P-1	✓ (P-2)	✓	✓	93	
10.	Use wiring diagrams during the diagnosis of electrical/electronic circuit problems.	P-1	✓	✓	✓	134-145	
11.	Diagnose the cause(s) of excessive key-off battery drain (parasitic draw); determine needed action.	P-1	✓ (P-2) Measure only	✓	✓	231-233	
12.	Inspect and test fusible links, circuit breakers, and fuses; determine needed action.	P-2	✓ Inspect only	✓	✓	122-127	
13.	Inspect, test, repair, and/or replace components, connectors, terminals, harnesses, and wiring in electrical/electronic systems (including solder repairs); determine needed action.	P-1	✓ (P-2)	✓	✓	128-131	
14.	Test and measure circuit using an oscilloscope and/or graphing multimeter (GMM); interpret results; determine needed action.	P-1		✓ (P-2)	✓	111-117	
B. Batteries (Low Voltage)							
1.	Perform battery state-of-charge test; determine needed action.	P-1	✓	✓	✓	225-226	

2.	Confirm proper battery capacity for vehicle application; perform battery capacity and load test; determine needed action.	P-1	✓	✓	✓	226-228	
	Task	Priority	MLR	AST	MAST	Text Page #	Task Page #
3.	Maintain or restore electronic memory functions as recommended by manufacturer.	P-2	✓	✓	✓	233-235	
4.	Inspect and clean battery; check battery cables, connectors, clamps, and hold-downs.	P-1	✓	✓	✓	224-225	
5.	Perform battery charging according to manufacturer's recommendations.	P-1	✓	✓	✓	228-231	
6.	Jump-start vehicle using jumper cables and a booster battery or an auxiliary power supply.	P-1	✓	✓	✓	231	
7.	Identify electrical/electronic modules, security systems, radios, and other accessories that require reinitialization or code entry after reconnecting vehicle battery.	P-2	✓	✓	✓	233-235	
C. Starting System (Low Voltage)							
1.	Perform starter current draw tests; determine needed action.	P-1	✓	✓	✓	254-255	
2.	Perform starter circuit voltage drop tests; determine needed action.	P-1	✓	✓	✓	252-254	
3.	Inspect and test starter relays and solenoids; determine needed action.	P-2	✓	✓	✓	251-254	
4.	Remove and install starter in a vehicle.	P-1	✓ (P-3)	✓ (P-2)	✓	255; 257	
5.	Inspect and test switches, connectors, and wires of starter control circuits; determine needed action.	P-2	✓ (P-3)	✓	✓	254-257	
6.	Demonstrate knowledge of an automatic idle-stop/start-stop system.	P-1	✓ (P-2)	✓	✓	248-249	
7.	Differentiate between electrical and engine mechanical problems that cause a slow-crank or a no-crank condition.	P-1		✓ (P-2)	✓	251-252	

	Task	Priority	MLR	AST	MAST	Text Page #	Task Page #
8.	Diagnose a no-crank condition using a wiring diagram and test equipment; determine needed action.	P-1		✓ (P-2)	✓	251-252	
D. Charging System							
1.	Perform charging system output test; determine needed action.	P-1	✓	✓	✓	279-286	
2.	Inspect, adjust, and/or replace generator (alternator) drive belts; check pulleys and tensioners for wear; check pulley and belt alignment; determine needed action.	P-1	✓ All except determine needed action.	✓	✓	281-283	
3.	Remove, inspect, and/or replace generator (alternator); determine needed action.	P-1	✓ (P-3) R&R only	✓ (P-2)	✓	287; 291-292	
4.	Perform charging circuit voltage drop tests; determine needed action.	P-1	(P-2) Test only	✓	✓	285-	
5.	Diagnose charging system for causes of undercharge, no-charge, or overcharge conditions; determine needed action.	P-1		✓	✓	279-287	
E. Lighting Systems							
1.	Inspect interior and exterior lamps and sockets including headlights and auxiliary lights (fog lights/driving lights); determine needed action.	P-1	✓*	✓	✓	301-319	
2.	Aim headlights.	P-2	✓	✓	✓	314-315	
3.	Diagnose the causes of brighter-than-normal, intermittent, dim, or no light operation; determine needed action.	P-1		✓	✓	317-318	
F. Instrument Cluster and Driver Information Systems							
1.	Verify operation of instrument panel gauges and warning/indicator lights; reset maintenance indicators as required.	P-1	✓	✓	✓	321-331	

*Inspect and replace as needed.

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2.	Inspect and test gauges and gauge sending units for causes of abnormal readings; determine needed action.	P-1		✓ (P-2)	✓	330-331	
3.	Diagnose the causes of incorrect operation of warning devices and other driver information systems; determine needed action.	P-1		✓ (P-2)	✓	328-333	
G. Body Electrical Systems							
1.	Diagnose vehicle comfort, convenience, access, safety, and related systems operation; determine needed action.	P-2	✓ (P-3)	✓	✓	362-388	
2.	Remove and reinstall door panel.	P-1	✓ (P-2)	✓	✓	-	
3.	Diagnose operation of security/anti-theft systems and related circuits (such as: theft deterrent, door locks, remote keyless entry, remote start, and starter/fuel disable); determine needed action.	P-1	✓* (P-3)	✓ (P-2)	✓	338-345	
4.	Describe disabling and enabling procedures for supplemental restraint system (SRS); verify indicator lamp operation.	P-1	✓ (P-2)	✓	✓	347-360	
5.	Verify windshield wiper and washer operation; replace wiper blades.	P-1	✓	✓	✓	364-370	
6.	Diagnose operation of entertainment and related circuits (such as: radio, DVD, navigation, amplifiers, speakers, antennas, and voice-activated accessories); determine needed action.	P-2		✓	✓	404-417	

*Describe operation only.

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7.	Diagnose operation of safety systems and related circuits (such as: horn, airbags, seat belt pretensioners, occupancy classification, wipers, washers), determine needed action.	P-1		✓ (P-2)	✓	347-359 362-364;	
8.	Diagnose body electronic systems circuits using a scan tool; check for module communication errors (data communication bus systems); determine needed action.	P-1		✓ (P-2)	✓	197-212 343-345	
9.	Describe the process for software transfer, software updates, or reprogramming of electronic modules.	P-1		✓ (P-2)	✓	208-212	
10.	Demonstrate knowledge of advanced driver assistance systems (ADAS) and related circuits (such as: adaptive cruise control, lane keeping, collision avoidance, parking assist, and back-up camera).	P-2			✓	392-400	
11.	Recalibrate a vehicle's advanced driver assistance system (ADAS).	P-2			✓	400-402	