

2022 ASE Correlation Chart

Electrical/Electronic (A6)

MLR- Maintenance & Light Repair

AST- Auto Service Technology

MAST- Master Auto Service Technology

	Task	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 vehicles equipped with advanced driver assistance systems (ADAS).	P-1	P-1	P-1	1-5	1, 2, 3, 4, 5, 6
2.	Identify electrical/electronic system components and configurations.	P-1	P-1	P-1	-	-
3.	Retrieve and record DTCs, OBD monitor status, and freeze frame data; clear codes and data when directed.	P-1	P-1	P-1	208-212	40
4.	Demonstrate knowledge of electrical/electronic series, parallel, and series-parallel circuits using principles of electricity (Ohm's Law).	P-1	P-1	P-1	53-88	6-24, 32
5.	Demonstrate proper use of a digital multimeter (DMM) when measuring source voltage, voltage drop (including grounds), current flow and resistance	P-1	P-1	P-1	95-109	25

	Task	MLR	AST	MAST	Text Page #	Task Page #
6.	Demonstrate knowledge of the causes and effects from shorts, grounds, opens, and resistance problems in electrical/electronic circuits.	P-1	P-1	P-1	64-70	25
7.	Describe types of test lights; use appropriate test light to check operation of electrical circuits as directed per service information.	P-2	P-1	P-1	94	26
8.	Use fused jumper wires to check operation of electrical circuits per service information.	P-2	P-1	P-1	93	27
9.	Use wiring diagrams during the diagnosis of electrical/electronic circuit problems.	P-1	P-1	P-1	134-150	34
10.	Measure and diagnose the cause(s) of excessive key-off battery drain (parasitic draw); determine needed action.	P-2	P-1	P-1	231-235	42
11.	Inspect and test fusible links, circuit breakers, and fuses; determine needed action.	P-1	P-1	P-1	122-127	29
12.	Inspect, test, repair, and/or replace components, connectors, terminals, harnesses, and wiring in electrical/electronic systems (including solder repairs)	P-2 Inspect and replace only	P-1	P-1	128-132	30, 31, 37
13.	Check electrical/electronic circuit waveforms; interpret readings and determine needed repairs.		P-2	P-1	111-117; 298	28
B. Batteries (Conventional 12-volt)						
1.	Perform battery state-of-charge test; determine needed action.	P-1	P-1	P-1	225-228	43
2.	Confirm proper battery capacity for vehicle application; perform battery capacity and load test; determine needed action.	P-1	P-1	P-1	226-228	44

	Task	MLR	AST	MAST	Text Page #	Task Page #
3.	Maintain or restore electronic memory functions as recommended by manufacturer.	P-2	P-2	P-2	233-235	45
4.	Inspect and clean battery; fill battery cells (if applicable); check battery cables, connectors, clamps, and hold-downs.	P-1	P-1	P-1	224-225	47
5.	Perform battery charging according to manufacturer's recommendations.	P-1	P-1	P-1	228-231	48
6.	Jump-start vehicle using jumper cables and a booster battery or an auxiliary power supply.	P-1	P-1	P-1	231	49
7.	Identify electrical/electronic modules, security systems, radios, and other accessories that require reinitialization or code entry after reconnecting vehicle battery.	P-2	P-2	P-2	233-235	46
C. Starting System						
1.	Perform starter current draw tests; determine needed action.	P-1	P-1	P-1	254-265	53
2.	Perform starter circuit voltage drop tests; determine needed action.	P-1	P-1	P-1	252-254	54
3.	Inspect and test starter relays and solenoids; determine needed action.	P-2	P-2	P-2	254	52
4.	Remove and install starter in a vehicle.	P-3	P-2	P-1	255; 257	55
5.	Inspect and test switches, connectors, and wires of starter control circuits; determine needed action.	P-2	P-1	P-1	254	52
6.	Demonstrate knowledge of automatic idle-stop/start-stop system.	P-2	P-1	P-1	248-249	51
7.	Differentiate between electrical and engine mechanical problems that cause a slow-crank or a no-crank condition.		P-2	P-1	255	53

	Task	MLR	AST	MAST	Text Page #	Task Page #
8.	Diagnose a no-crank condition using a wiring diagram and test equipment; determine needed action.		P-2	P-1	255	51, 52
D. Charging System						
1.	Perform charging system output test; determine needed action.	P-1	P-1	P-1	286	59
2.	Inspect, adjust, and/or replace generator (alternator) drive belts; check pulleys and tensioners for wear; check pulley and belt alignment	P-1	P-1	P-1	282-282	62
3.	Remove, inspect, and/or replace generator (alternator).	P-3	P-2	P-1	287; 291-292	62
4.	Perform charging circuit voltage drop tests; determine needed action.	P-2	P-1	P-1	285-286	61
5.	Diagnose charging system for causes of undercharge, no-charge, or overcharge conditions; determine needed action.		P-1	P-1	279-287	58, 60
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 Inspect and replace only	P-1	P-1	301-305	68
2.	Aim headlights.	P-2	P-2	P-2	314-315	70
3.	Diagnose (troubleshoot) the causes of brighter-than-normal, intermittent, dim, or no light operation; determine needed action.		P-1	P-1	308-311	68

	Task	MLR	AST	MAST	Text Page #	Task Page #
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	P-1	P-1	323	72, 74
2.	Inspect and test gauges and gauge sending units for causes of abnormal readings; determine needed action.		P-2	P-1	323-324; 328-331	72
3.	Diagnose (troubleshoot) the causes of incorrect operation of warning devices and other driver information systems; determine needed action.		P-2	P-1	321-331	73, 74, 75
G. Repair Body Electrical Systems						
1.	Demonstrate understanding and diagnose vehicle comfort, convenience, access, safety, and related systems operation; determine needed action.	P-3	P-2	P-2	314; 322; 372-386	9, 80, 81, 85, 86, 87
2.	Remove and reinstall door panel.	P-2	P-1	P-1	-	82
3.	Describe and 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 repairs.	P-3 Describe operation only	P-2	P-1	338-345; 386-389	76, 84
4.	Describe disabling and enabling procedures for supplemental restraint system (SRS); verify indicator lamp operation.	P-2	P-1	P-1	355	77
5.	Verify windshield wiper and washer operation; replace wiper blades.	P-1	P-1	P-1	365-369	9

	Task	MLR	AST	MAST	Text Page #	Task Page #
6.	Diagnose operation of entertainment and related circuits (such as: radio, DVD, remote CD changer, navigation, amplifiers, speakers, antennas, and voice-activated accessories); determine needed repairs.		P-2	P-2	404-417	36, 88
7.	Diagnose operation of safety systems and related circuits (such as: horn, airbags, seat belt pretensioners, occupancy classification, wipers, washers, speed control/collision avoidance, heads-up display, parking assist, and back-up camera); determine needed action.		P-2	P-1	324-324; 347-360; 362-370; 392-402	10, 81, 83, 85, 86, 87
8.	Diagnose body electronic systems circuits using a scan tool; check for module communication errors (data bus systems); determine needed action.		P-2	P-1	331	49, 83
9.	Describe the process for software transfer, software updates, or reprogramming of electronic modules		P-2	P-1	233	39