

2021 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	130-132	25-27; 153
2.	Identify electrical/electronic system components and configurations.	P-1	P-1	P-1	453-460; 515-523	118; 119
3.	Retrieve and record DTCs, OBD monitor status, and freeze frame data; clear codes and data when directed.	P-1	P-1	P-1	1035-1036	275
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	462-466	120-128
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	481-493	129

	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	523-528	138; 139
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	479-480	130
8.	Use fused jumper wires to check operation of electrical circuits per service information.	P-2	P-1	P-1	479	131
9.	Use wiring diagrams during the diagnosis of electrical/electronic circuit problems.	P-1	P-1	P-1	515-523	137
10.	Measure and diagnose the cause(s) of excessive key-off battery drain (parasitic draw); determine needed action.	P-2	P-1	P-1	593-594	145
11.	Inspect and test fusible links, circuit breakers, and fuses; determine needed action.	P-1	P-1	P-1	505-509	133
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	509-513	134; 136; 141
13.	Check electrical/electronic circuit waveforms; interpret readings and determine needed repairs.		P-2	P-1	495-501	132
B. Batteries (Conventional 12-volt)						
1.	Perform battery state-of-charge test; determine needed action.	P-1	P-1	P-1	587-591	146
2.	Confirm proper battery capacity for vehicle application; perform battery capacity and load test; determine needed action.	P-1	P-1	P-1	589-591	144; 146

	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	594-595	147
4.	Inspect and clean battery; fill battery cells (if applicable); check battery cables, connectors, clamps, and hold-downs.	P-1	P-1	P-1	586-587	148
5.	Perform battery charging according to manufacturer's recommendations.	P-1	P-1	P-1	591-592	149
6.	Jump-start vehicle using jumper cables and a booster battery or an auxiliary power supply.	P-1	P-1	P-1	592-593	150
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	595	151
C. Starting System						
1.	Perform starter current draw tests; determine needed action.	P-1	P-1	P-1	612-613	156
2.	Perform starter circuit voltage drop tests; determine needed action.	P-1	P-1	P-1	610-611	156
3.	Inspect and test starter relays and solenoids; determine needed action.	P-2	P-2	P-2	613	156
4.	Remove and install starter in a vehicle.	P-3	P-2	P-1	613-615	158
5.	Inspect and test switches, connectors, and wires of starter control circuits; determine needed action.	P-2	P-1	P-1	612-613	157
6.	Demonstrate knowledge of automatic idle-stop/start-stop system.	P-2	P-1	P-1	606-608	155
7.	Differentiate between electrical and engine mechanical problems that cause a slow-crank or a no-crank condition		P-2	P-1	612-613	156

	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	612-613	138; 156
D. Charging System						
1.	Perform charging system output test; determine needed action.	P-1	P-1	P-1	638	164
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	634-635	166; 167
3.	Remove, inspect, and/or replace generator (alternator).	P-3	P-2	P-1	639-640; 643	167
4.	Perform charging circuit voltage drop tests; determine needed action.	P-2	P-1	P-1	637-638	165
5.	Diagnose charging system for causes of undercharge, no-charge, or overcharge conditions; determine needed action.		P-1	P-1	633-638	168
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	651-662	169
2.	Aim headlights.	P-2	P-2	P-2	662-663	171
3.	Diagnose (troubleshoot) the causes of brighter-than-normal, intermittent, dim, or no light operation; determine needed action.		P-1	P-1	655; 664-666	169

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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	219-220	174
2.	Inspect and test gauges and gauge sending units for causes of abnormal readings; determine needed action.		P-2	P-1	676-677	172
3.	Diagnose (troubleshoot) the causes of incorrect operation of warning devices and other driver information systems; determine needed action.		P-2	P-1	669-670;673-675	173
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	683-706	175-180
2.	Remove and reinstall door panel.	P-2	P-1	P-1		178
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	706; 708-714	181
4.	Describe disabling and enabling procedures for supplemental restraint system (SRS); verify indicator lamp operation.	P-2	P-1	P-1	722	183
5.	Verify windshield wiper and washer operation; replace wiper blades.	P-1	P-1	P-1	686-689	176

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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	737-749	140; 186
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	715-726	175; 176; 177; 182; 183; 184
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	664; 676; 680; 690; 734	179
9.	Describe the process for software transfer, software updates, or reprogramming of electronic modules		P-2	P-1	1039-1041	179