

## 2017 ASE Correlation Chart

**MLR-** Maintenance & Light Repair

**AST-** Auto Service Technology (Includes MLR)

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

### SUSPENSION AND STEERING (A4)

	Task	Priority	MLR	AST	MAST	Text Page #	Task Page #
<b>A. General: Suspension and Steering Systems</b>							
1.	Research vehicle service information including fluid type, vehicle service history, service precautions, and technical service bulletins.	P-1	✓	✓	✓	4	4
(3)	Identify suspension and steering system components and configurations	P-1	✓ MLR Only			158- 303	19, 20, 35
2.	Identify and interpret suspension and steering system concerns; determine needed action.	P-1			✓	160– 161	19; 34
<b>B. Steering Systems Diagnosis and Repair</b>							
1.	Disable and enable supplemental restraint system (SRS); verify indicator lamp operation.	P-1	✓	✓	✓	229– 230	30
2.	Remove and replace steering wheel; center/time supplemental restraint system (SRS) coil (clock spring).	P-1		✓	✓	402	30
3.	Diagnose steering column noises, looseness, and binding concerns (including tilt	P-2		✓	✓	230– 235	31

	mechanisms); determine needed action.						
4.	Diagnose power steering gear (non-rack and pinion) binding, uneven turning effort, looseness, hard steering, and noise concerns; determine needed action.	P-2		✓	✓	292– 296	38
5.	Diagnose power steering gear (rack and pinion) binding, uneven turning effort, looseness, hard steering, and noise concerns; determine needed action.	P-2		✓	✓	292– 293	32
6.	Inspect steering shaft universal-joint(s), flexible coupling(s), collapsible column, lock cylinder mechanism, and steering wheel; determine needed action.	P-2		✓	✓	230	31
7.	Remove and replace rack and pinion steering gear; inspect mounting bushings and brackets.	P-2		✓	✓	300– 302	36
8.	Inspect rack and pinion steering gear inner tie rod ends (sockets) and bellows boots; replace as needed.	P-1	✓ Inspect only (P-1)	✓	✓	266	35
9.	Inspect power steering fluid level and condition.	P-1	✓	✓	✓	294	39
10.	Flush, fill, and bleed power steering system; use proper fluid type per manufacturer specification.	P-2	✓	✓	✓	294– 295	39
11.	Inspect for power steering fluid leakage; determine needed action.	P-1	✓	✓	✓	293	40
12.	Remove, inspect, replace, and/or adjust power steering pump drive belt.	P-1	✓	✓	✓	292– 293	41
13.	Remove and reinstall power steering pump.	P-2		✓	✓	297	41
14.	Remove and reinstall press fit power steering pump pulley; check pulley and belt	P-2	✓ Check/ adjust PS belt)	✓	✓	297	41

	alignment.		(P-1)				
15.	Inspect, remove and/or replace power steering hoses and fittings.	P-2	✓	✓	✓	297	42
16.	Inspect, remove and/or replace pitman arm, relay (centerlink/intermediate) rod, idler arm and mountings, and steering linkage damper.	P-2	✓ (P-1)	✓	✓	260– 262	36
	<b>Task</b>	<b>Priority</b>	<b>MLR</b>	<b>AST</b>	<b>MAST</b>	<b>Text Page #</b>	<b>Task Page #</b>
17.	Inspect, replace, and/or adjust tie rod ends (sockets), tie rod sleeves, and clamps.	P-1	✓	✓	✓	263– 265	37
18.	Inspect, test and diagnose electrically assisted power steering systems (including using a scan tool); determine needed action.	P-2	✓ Inspect electric power steering only	✓	✓	287– 291	43
19.	Identify hybrid vehicle power steering system electrical circuits and safety precautions.	P-2	✓	✓	✓	35-36	6, 7
20.	Test power steering system pressure; determine needed action.	P-2			✓	295- 297	39, 40
<b>C. Suspension Systems Diagnosis and Repair</b>							
1.	Diagnose short and long arm suspension system noises, body sway, and uneven ride height concerns; determine needed action.	P-1		✓	✓	155; 159– 161	19; 20
2.	Diagnose strut suspension system noises, body sway, and uneven ride height concerns; determine needed action.	P-1		✓	✓	159	19; 20
3.	Inspect, remove and/or replace upper and lower control arms, bushings, shafts, and rebound bumpers.	P-3	✓ Inspect and replace rebound and jounce	✓	✓	174– 175	21

			bumper only (P-1)				
4.	Inspect, remove and/or replace strut rods and bushings.	P-3	✓	✓	✓	174	24
5.	Inspect, remove, and/or replace upper and/or lower ball joints (with or without wear indicators).	P-2	✓ Inspect only (P-1)	✓	✓	162–167	21
6.	Inspect, remove and/or replace steering knuckle assemblies.	P-3		✓	✓	177	21
7.	Inspect, remove and/or replace short and long arm suspension system coil springs and spring insulators.	P-3	✓ Inspect only (P-1)	✓	✓	174–176	21
	<b>Task</b>	<b>Priority</b>	<b>MLR</b>	<b>AST</b>	<b>MAST</b>	<b>Text Page #</b>	<b>Task Page #</b>
8.	Inspect, remove and/or replace torsion bars and mounts.	P-3	✓ Inspect only (P-1)	✓	✓	177	23
9.	Inspect, remove and/or replace front/rear stabilizer bar (sway bar) bushings, brackets, and links.	P-3	✓ Inspect only (P-1)	✓	✓	173	22
10.	Inspect, remove and/or replace strut cartridge or assembly, strut coil spring, insulators (silencers), and upper strut bearing mount.	P-3	✓ Inspect only (P-1)	✓	✓	170–172	24
11.	Inspect, remove and/or replace track bar, strut rods/radius arms, and related mounts and bushings.	P-3	✓ Inspect only (P-1)	✓	✓	192	21
12.	Inspect rear suspension system leaf spring(s), spring insulators (silencers), shackles, brackets, bushings, center pins/bolts, and mounts.	P-1		✓	✓	194	26
<b>D. Related Suspension and Steering Service</b>							
1.	Inspect, remove, and/or replace shock absorbers; inspect mounts and bushings.	P-1	✓	✓	✓	170; 193	25
2.	Remove, inspect, service and/or replace front and rear wheel bearings.	P-1		✓	✓	311–316	46

3.	Describe the function of suspension and steering control systems and components, (i.e. active suspension, and stability control).	P-3	✓	✓	✓	284–285	38
<b>E. Wheel Alignment Diagnosis, Adjustment, and Repair</b>							
1.	Diagnose vehicle wander, drift, pull, hard steering, bump steer, memory steer, torque steer, and steering return concerns; determine needed action.	P-1		✓	✓	357; 377–381	49
2.	Perform pre-alignment inspection, measure vehicle ride height; determine needed action.	P-1	✓	✓	✓	378	51
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3.	Prepare vehicle for wheel alignment on alignment machine; perform four-wheel alignment by checking and adjusting front and rear wheel caster, camber; and toe as required; center steering wheel.	P-1		✓	✓	384	52; 53
4.	Check toe-out-on-turns (turning radius); determine needed action.	P-2		✓	✓	385	54
5.	Check steering axis inclination (SAI) and included angle; determine needed action.	P-2		✓	✓	385	54
6.	Check rear wheel thrust angle; determine needed action.	P-1		✓	✓	388	53
7.	Check for front wheel setback; determine needed action.	P-2		✓	✓	372	52
8.	Check front and/or rear cradle (subframe) alignment; determine needed action.	P-3		✓	✓	388	55
9.	Reset steering angle sensor	P-2			✓	388	55
<b>F. Wheels and Tires Diagnosis and Repair</b>							
1.	Inspect tire condition; identify tire wear patterns; check for correct tire size, application (load and speed ratings) and air pressure as listed on the tire information placard/label.	P-1		✓	✓	64–65; 99	9; 11

2.	Diagnose wheel/tire vibration, shimmy, and noise; determine needed action.	P-2		✓	✓	106–111	12
3.	Rotate tires according to manufacturer's recommendations including vehicles equipped with tire pressure monitoring systems (TPMS).	P-1	✓	✓	✓	104–105	13
4.	Measure wheel, tire, axle flange, and hub runout; determine needed action.	P-2		✓	✓	106–109	14
5.	Diagnose tire pull problems; determine needed action.	P-1		✓	✓	379	12
	<b>Task</b>	<b>Priority</b>	<b>MLR</b>	<b>AST</b>	<b>MAST</b>	<b>Text Page #</b>	<b>Task Page #</b>
6.	Dismount, inspect, and remount tire on wheel; balance wheel and tire assembly.	P-1	✓	✓	✓	101–102; 116–118	16
7.	Dismount, inspect, and remount tire on wheel equipped with tire pressure monitoring system sensor.	P-1	✓	✓	✓	101	10
8.	Inspect tire and wheel assembly for air loss; perform needed action.	P-1	✓	✓	✓	99	11
9.	Repair tire following vehicle manufacturer approved procedure.	P-1	✓	✓	✓	113–115; 119–120	17
10.	Identify indirect and direct and test tire pressure monitoring system (TPMS); calibrate system; verify operation of instrument panel lamps.	P-1	✓	✓	✓	90–94	10
11.	Demonstrate knowledge of steps required to remove and replace sensors in a tire pressure monitoring system (TPMS) including relearn procedure.	P-1	✓ (P-2)	✓	✓	89–95	10