

2021 ASE Correlation Chart

Suspension and Steering (A4)

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	127-133	26; 343
2.	Identify suspension and steering system components and configurations.	P-1	P-1	P-1	1391-1412	342
3.	Retrieve and record DTCs, OBD monitor status, and freeze frame data; clear codes and data when directed.	P-1	P-1	P-1	1034-1035	275
4.	Disable and enable supplemental restraint system (SRS); verify indicator lamp operation.	P-2	P-1	P-1	721-723; 1466	355
5.	Identify and interpret suspension and steering system concerns; determine needed action.		P-1	P-1	1419-1421	344; 358
B. Steering Systems						
1.	Inspect rack and pinion steering gear inner tie rod ends (sockets) and bellows boots; repair or replace as needed.	P-1 Inspect only	P-1	P-1	1490-1492	359

	Task	MLR	AST	MAST	Text Page #	Task Page #
2.	Inspect power steering fluid level and condition.	P-2	P-2	P-2	1507-1509	363
3.	Drain and replace power steering system fluid; use proper fluid type per manufacturer specification.	P-2	P-2	P-2	1508-1509	363
4.	Inspect for power steering fluid leakage; determine needed action.	P-2 Inspect only	P-2	P-2	1508-1509	364
5.	Remove, inspect, replace, and/or adjust power steering pump drive belt.	P-2	P-2	P-2	1507-1508	365
6.	Inspect, remove and/or replace power steering hoses and fittings.	P-2	P-2	P-2	1507	367
7.	Inspect, remove and/or replace pitman arm, relay (centerlink/intermediate) rod, idler arm and mountings, and steering linkage damper.	P-2 Inspect only	P-2	P-2	1489-1490	360
8.	Inspect, replace, and/or adjust tie rod ends (sockets), tie rod sleeves, and clamps (non-rack and pinion).	P-2 Inspect only	P-2	P-2	1489-1492	361
9.	Inspect and test electric power steering system; determine needed action.	P2 Inspect only	P-2	P-2	1518-1520	369
10.	Remove and replace steering wheel; center/time supplemental restraint system (SRS) coil (clock spring).		P-1	P-1	722-723	355
11.	Diagnose steering column noises, looseness, and binding concerns (including tilt/telescoping mechanisms); determine needed action.		P-2	P-2	1468-1470	356
12.	Diagnose power steering gear (non-rack and pinion) binding, uneven turning effort, looseness, hard steering, and noise concerns; determine needed action.		P-3	P-3	1507-1511	362

	Task	MLR	AST	MAST	Text Page #	Task Page #
13.	Diagnose power steering gear (rack and pinion) binding, uneven turning effort, looseness, hard steering, and noise concerns; determine needed action.		P-2	P-1	1478; 1507- 1511	362
14.	Inspect steering shaft universal-joint(s), flexible coupling(s), collapsible column, lock cylinder mechanism, and steering wheel; perform needed action.		P-2	P-2	1468- 1471	356
15.	Remove and replace rack and pinion steering gear; inspect mounting bushings and brackets.		P-2	P-2	1513- 1515	357
16.	Remove and reinstall power steering pump.		P-2	P-2	1511	366
17.	Remove and reinstall press fit power steering pump pulley; check pulley and belt alignment.		P-2	P-2	1511- 1512	366
18.	Test power steering system pressure; determine needed action.			P-3	1509- 1511	368
C. Suspension Systems						
1.	Inspect, remove, and/or replace upper and/or lower control arms, bushings, and shafts.	P-2 Inspect only	P-2	P-2	1434- 1435	346
2.	Inspect and replace rebound/jounce bumpers.	P-2 Inspect only			1434- 1435	346
3.	Inspect, remove, and/or replace track bar, strut rods/radius arms, and related mounts and bushings.	P-2	P-2	P-2	1430- 1431	346
4.	Inspect, remove, and/or replace upper and/or lower ball joints (with or without wear indicators).	P-2 Inspect only	P-3	P-2	1421- 1426	346

	Task	MLR	AST	MAST	Text Page #	Task Page #
5.	Inspect, remove, and/or replace suspension system coil springs and spring insulators.	P-2 Inspect only	P-2	P-2	1420-1421; 1431-1433	346
6.	Inspect, remove and/or replace torsion bars and mounts.	P-3 Inspect only	P-3	P-3	1434	347
7.	Inspect, remove and/or replace front/rear stabilizer bar (sway bar) bushings, brackets, and links.	P-2 Inspect only	P-2	P-2	1430	348
8.	Inspect, remove, and/or replace strut assembly, strut coil spring, insulators, and upper strut bearing mount.	P-2 Inspect only	P-2	P-2	1428-1430	349; 351
9.	Inspect, remove, and/or replace components of suspension systems (Coil, Leaf, and Torsion).	P-1 Inspect only	P-1	P-1	1418-1426; 1430-1433; 1447-1448	346; 347; 348; 349; 350
10.	Inspect, remove, and/or replace components of electronically controlled suspension systems.	P-2 Inspect only	P-2	P-1	1450-1464	354
11.	Inspect, remove and/or replace steering knuckle assemblies.		P-2	P-1	1434	346; 360
12.	Diagnose suspension system noises, body sway, and uneven ride height concerns; determine needed action.		P-1	P-1	1421-1426	345
D. Related Suspension and Steering Service						
1.	Inspect, remove, and/or replace shock absorbers; inspect mounts and bushings.	P-2	P-2	P-2	1427-1428; 1446-1447	350
2.	Inspect, service, and/or replace front and rear wheel bearings.	P-1 Inspect only	P-1	P-1	1171-1181	304

	Task	MLR	AST	MAST	Text Page #	Task Page #
3.	Describe the function of electronically controlled suspension and steering systems and components, (i.e., active suspension and stability control).	P-2	P-2	P-2	1450-1464	354
E. Wheel Alignment						
1.	Perform pre-alignment inspection, measure vehicle ride height; determine needed action.	P-2 Inspect only	P-1	P-1	1538-1540	371; 372
2.	Describe four-wheel alignment angles (camber, caster, and toe) and effects on vehicle handling\tire wear.	P-1	P-1	P-1	1538-1542	374; 376
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	P-1	1544-1556	374
4.	Check toe-out-on-turns (turning radius); determine needed action.		P-2	P-2	1545	375
5.	Check steering axis inclination (SAI) and included angle; determine needed action.		P-2	P-2	1544	375
6.	Check rear wheel thrust angle; determine needed action.		P-1	P-1	1547	376
7.	Check for front wheel setback; determine needed action.		P-2	P-2	1534-1535	377
8.	Identify front and/or rear cradle (subframe) misalignment; determine needed action.		P-2	P-2	1546-1547	377
9.	Reset steering angle sensor		P-1	P-1	1559	376
10.	Diagnose vehicle wander, drift, pull, hard steering, bump steer, memory steer, torque steer, and steering return concerns; determine needed action.		P-1	P-1	1538-1542	373

	Task	MLR	AST	MAST	Text Page #	Task Page #
F. Wheels and Tires						
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	P-1	P-1	1370-1373	336
2.	Rotate tires according to manufacturer's recommendations including vehicles equipped with tire pressure monitoring systems (TPMS).	P-1	P-1	P-1	1375	338
3.	Dismount, inspect, and remount tire on wheel (with/without TPMS); balance wheel and tire assembly.	P-1	P-1	P-1	1378; 1385-1387	335
4.	Inspect tire and wheel assembly for air loss; perform needed action.	P-1	P-1	P-1	1370-1371	336
5.	Repair tire following vehicle manufacturer approved procedure.	P-1	P-1	P-1	1384; 1388-1389	341
6.	Identify indirect and direct tire pressure monitoring systems (TPMS); calibrate/relearn system; verify operation of instrument panel lamps.	P-1	P-1	P-1	1364-1368	335
7.	Demonstrate knowledge of steps required to remove and replace sensors (per OEM/sensor manufacturer) in a tire pressure monitoring system (TPMS).	P-1	P-1	P-1	1365-1367	335
8.	Perform Road Force balance/match mounting.	P-3	P-2	P-1	1382	
9.	Diagnose wheel/tire vibration, shimmy, and noise; determine needed action.		P-1	P-1	1381-1382	337

	Task	MLR	AST	MAST	Text Page #	Task Page #
10.	Measure wheel, tire, axle flange, and hub runout; determine needed action.		P-2	P-2	1375-1377	340
11.	Diagnose tire pull problems; determine needed action.		P-1	P-1	1540	337