

2021 ASE Correlation Chart

Brakes (A5)

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; 1144- 1148	289; 307
2.	Identify brake system components and configurations.	P-1	P-1	P-1	1099- 1102	289
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.	Describe procedure for performing a road test to check brake system operation, including an anti-lock brake system (ABS).	P-1	P-1	P-1	1321- 1322	312
5.	Install wheel and torque lug nuts.	P-1	P-1	P-1	1373- 1374	312

	Task	MLR	AST	MAST	Text Page #	Task Page #
6.	Identify and interpret brake system concerns; determine needed action.		P-1	P-1	1127-1129; 1156; 1197-1198; 1224-1225; 1298-1300; 1320-1322	288
B. Hydraulic System						
1.	Demonstrate understanding of hydraulic principals; diagnose pressure concerns in the brake system using hydraulic principles (Pascal's Law).	P-1 Under- standing only	P-1	P-1	1118-1122; 1127-1129	292
2.	Describe and measure brake pedal height, travel, and free play (as applicable); determine needed action.	P-1 Describe only	P-1	P-1	1128-1129	293
3.	Check master cylinder for internal/external leaks and proper operation; determine needed action.	P-1 Check only	P-1	P-1	1127-1129	294
4.	Inspect brake lines, flexible hoses, and fittings for leaks, dents, kinks, rust, cracks, bulging, wear; and loose fittings /supports; determine needed action.	P-1 Inspect only	P-1	P-1	1150-1155	299
5.	Select, handle, store, and fill brake fluids to proper level; use proper fluid type per manufacturer specification.	P-1	P-1	P-1	1144-1148	300
6.	Identify components of hydraulic brake warning light system.	P-3	P-2	P-1	1132-1134	297
7.	Bleed and/or flush brake system.	P-1	P-1	P-1	1156-1165	301

	Task	MLR	AST	MAST	Text Page #	Task Page #
8.	Test brake fluid for contamination.	P-2	P-2	P-2	1148	300
9.	Remove, bench bleed, and reinstall master cylinder.		P-1	P-1	1129-1131	294
10.	Diagnose poor stopping, pulling or dragging concerns caused by malfunctions in the hydraulic system; determine needed action.		P-2	P-1	1129; 1152-1155	295
11.	Replace brake lines, hoses, fittings, and supports.		P-2	P-2	1150-1155	299
12.	Fabricate brake lines using proper material and flaring procedures.		P-2	P-2	1150-1151	299
13.	Inspect, test, and/or replace components of brake warning light system.		P-3	P-3	1132-1134	297
C. Drum Brakes						
1.	Remove, clean, and inspect brake drum; measure brake drum diameter; determine serviceability.	P-2	P-2	P-2	1197-1198; 1258-1259	319
2.	Refinish brake drum and measure final drum diameter; compare with specifications.	P-3	P-2	P-2	1258-1260; 1273-1278	319
3.	Remove, clean, inspect, and/or replace brake shoes, springs, pins, clips, levers, adjusters/self-adjusters, other related brake hardware, and backing support plates; lubricate and reassemble.	P-3	P-2	P-2	1197-1205	309
4.	Inspect wheel cylinders for leaks and proper operation; remove and replace as needed.	P-3	P-2	P-2	1201-1203	309
5.	Pre-adjust brake shoes and parking brake; install brake drums or drum/hub assemblies and wheel bearings; perform final checks and adjustments.	P-3	P-2	P-2	1204	309

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6.	Diagnose poor stopping, noise, vibration, pulling, grabbing, dragging or pedal pulsation concerns; determine needed action.		P-2	P-2	1197; 1205- 1206	308
D. Disc Brakes						
1.	Remove and clean caliper assembly; inspect for leaks, damage, wear; determine needed action.	P-1 Remove and inspect only	P-1	P-1	1225- 1230	313
2.	Inspect caliper mounting and slides/pins for proper operation, wear, and damage; determine needed action.	P-1 Inspect only	P-1	P-1	1230- 1232	313
3.	Remove, inspect, and/or replace brake pads and retaining hardware; determine needed action.	P-1 Remove and inspect only	P-1	P-1	1232- 1233	313
4.	Lubricate and reinstall caliper, brake pads, and related hardware; seat brake pads, inspect for leaks.	P-1	P-1	P-1	1228- 1232	313
5.	Clean and inspect rotor and mounting surface; measure rotor thickness, thickness variation, and lateral runout; determine needed action.	P-1 Clean and inspect only	P-1	P-1	1262- 1264	320
6.	Remove and reinstall/replace rotor.	P-1	P-1	P-1	1225	320
7.	Refinish rotor on vehicle; measure final rotor thickness and compare with specifications.	P-3	P-2	P-1	1271- 1272; 1289- 1291	320
8.	Refinish rotor off vehicle; measure final rotor thickness and compare with specifications.	P-3	P-2	P-2	1266- 1271; 1279- 1286	320
9.	Retract and re-adjust caliper piston on an integrated parking brake system.	P-2	P-1	P-1	1232	316

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10.	Describe importance of operating vehicle to burnish/break-in replacement brake pads according to manufacturer's recommendations.	P-2	P-2	P-2	1232	315
11.	Diagnose poor stopping, noise, vibration, pulling, grabbing, dragging, or pulsation concerns; determine needed action.		P-1	P-1	1224; 1234- 1236	313
E. Power-Assist Units						
1.	Check brake pedal travel with, and without, engine running to verify proper power booster operation.	P-2	P-2	P-2	1298- 1300	321
2.	Identify components of the brake power assist system (vacuum/ hydraulic/electric).	P-2	P-2	P-2	1293- 1298	322
3.	Inspect vacuum-type power booster unit for leaks; inspect the check-valve for proper operation; check vacuum supply (manifold or auxiliary pump) to vacuum-type power booster; determine needed action.		P-2	P-2	1299	323
4.	Inspect and test hydraulically assisted power brake system for leaks and proper operation; determine needed action.		P-2	P-2	1302- 1305	324
5.	Inspect electric power booster unit; determine needed action.			P-3		
F. Related (i.e., Wheel Bearings, Parking Brakes, Electrical)						
1.	Remove, clean, inspect, repack, and install wheel bearings; replace seals; install hub and adjust bearings.	P-3	P-2	P-2	1171- 1174	303
2.	Check parking system and components for wear, binding, and corrosion; clean, lubricate, adjust and/or replace as needed.	P-2	P-2	P-2	1249- 1251	317

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3.	Check parking brake operation (including electric parking brakes); check parking brake indicator light system operation; determine needed action.	P-2 Check only	P-2	P-2	1242-1243	318
4.	Check operation of brake stop light system.	P-1	P-1	P-1	1142-1143	298
5.	Inspect and replace wheel studs.	P-2	P-2	P-2	1272	305
6.	Remove, reinstall, and /or replace sealed wheel bearing assembly.		P-2	P-1	1174-1175	306
7.	Diagnose wheel bearing noises, wheel shimmy, and vibration concerns; determine needed action.		P-2	P-1	1170-1172; 1178-1179	302
G. Electronic Brake Control Systems: Antilock Brake (ABS), Traction Control (TCS), and Electronic Stability Control Systems (ESC)						
1.	Identify and inspect electronic brake control system components (ABS, TCS, ESC); determine needed action.	P-2	P-1	P-1	1320-1323	326; 327; 333
2.	Describe the operation of a regenerative braking system.	P-3	P-2	P-2	1050	281
3.	Bleed the electronic brake control system hydraulic circuits.		P-2	P-1	1163-1164; 1328	330
4.	Diagnose poor stopping, wheel lock-up, abnormal pedal feel, unwanted application, and noise concerns associated with the electronic brake control system; determine needed action.			P-2	1320-1327	328

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5.	Diagnose electronic brake control system electronic control(s) and components by retrieving diagnostic trouble codes, and/or using recommended test equipment; determine needed action.			P-2	1322-1324	328
6.	Depressurize high-pressure components of an electronic brake control system.			P-2	1328	329
7.	Test, diagnose, and service electronic brake control system speed sensors (digital and analog), toothed ring (tone wheel), and circuits using a graphing multimeter (GMM)/digital storage oscilloscope (DSO) (includes output signal, resistance, shorts to voltage/ground, and frequency data).			P-2	1324-1327	331
8.	Diagnose electronic brake control system braking concerns caused by vehicle modifications (tire size, curb height, final drive ratio, etc.).			P-2	1323-1328	332