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	STANDARD: **FMVSS 121 / OSHA 29 CFR 1910.178 / ISO 45001**	AUDIT FREQUENCY: **Monthly Audit**

Hydraulic Brake Air System Audit Safety Audit Checklist

Operational Scope: This audit specification governs the comprehensive inspection of commercial fleet hydraulic brake-assist and air-over-hydraulic systems to mitigate catastrophic braking failure risks. Mandatory compliance is enforced to satisfy federal motor vehicle safety standards and protect maintenance technicians against stored pneumatic or hydraulic energy hazards.

MANDATORY PPE:	Safety Glasses (ANSI Z87.1 Approved), Nitrile Chemical-Resistant Gloves, Steel-Toe Safety Boots (ASTM F2413), High-Visibility Safety Vest, Hearing Protection (NRR 25dB min)
PREREQUISITES:	Verify vehicle wheels are securely chocked and parking brakes are engaged. | Deplete stored pneumatic and hydraulic pressure or apply mechanical lockout/tagout (LOTO) per standard operating procedures. | Ensure audit area is well-lit, free of fluid spills, and clear of unauthorized personnel.

PNEUMATIC SUPPLY & AIR COMPRESSOR INSPECTION

#	COMPONENT / ITEM	VERIFICATION CRITERIA & ACCEPTANCE STANDARD	SEVERITY	STATUS
1	**Air Compressor & Drive Belts**	Compressor mounts are secure with no excessive belt wear, cracking, or slack exceeding 1/2 inch deflection.	Warning	[ ] PASS [ ] FAIL [ ] N/A
2	**Air Reservoirs & Tanks**	Tanks show zero signs of structural corrosion, denting, or compromised mounting brackets; drain valves operate freely without excessive oil blow-by.	Critical (Immediate Out of Service)	[ ] PASS [ ] FAIL [ ] N/A
3	**Governor & Air Pressure Build-Up**	Governor cuts in and out within specified pressure ranges (typically 85-100 psi cut-in, 120-135 psi cut-out); system builds pressure from 85 to 100 psi within 45 seconds at idle.	Critical (Immediate Out of Service)	[ ] PASS [ ] FAIL [ ] N/A

HYDRAULIC ACTUATION & BOOSTER COMPONENTS

#	COMPONENT / ITEM	VERIFICATION CRITERIA & ACCEPTANCE STANDARD	SEVERITY	STATUS
4	**Master Cylinder & Fluid Reservoir**	Fluid level is at the correct manufacturer specification; reservoir cap is tight and diaphragm is intact; zero external leakage around master cylinder bore.	Critical (Immediate Out of Service)	[ ] PASS [ ] FAIL [ ] N/A
5	**Hydraulic Booster / Hydro-Vac Unit**	Air-hydraulic actuator shows no external pneumatic or hydraulic fluid leaks, and pushrod travel aligns within acceptable tolerances during brake application.	Critical (Immediate Out of Service)	[ ] PASS [ ] FAIL [ ] N/A
6	**Brake Lines, Hoses, and Fittings**	Flexible brake hoses show no signs of blistering, cracking, chafing, or kinking; metal lines are securely clamped with zero rust corrosion.	Critical (Immediate Out of Service)	[ ] PASS [ ] FAIL [ ] N/A

OPERATIONAL TESTING & SAFETY WARNINGS

#	COMPONENT / ITEM	VERIFICATION CRITERIA & ACCEPTANCE STANDARD	SEVERITY	STATUS
7	**Low Air Pressure Warning Alarm & Switch**	Warning buzzer and dashboard light activate automatically before air pressure drops below 60 psi (or 55% of governor cut-out pressure).	Critical (Immediate Out of Service)	[ ] PASS [ ] FAIL [ ] N/A
8	**Static Air Leakage Rate Test**	With brakes applied and engine shut off, system pressure drop does not exceed 4 psi per minute for a single vehicle combination.	Warning	[ ] PASS [ ] FAIL [ ] N/A
9	**Parking Brake Mechanical Hold**	Spring brake or mechanical parking brake holds the fully loaded vehicle on a 20-percent grade without manual slippage.	Critical (Immediate Out of Service)	[ ] PASS [ ] FAIL [ ] N/A

Certified Inspector / Lead Fleet Technician Signature: _____	**Date / Time:** _____	**Badge / Cert #:** _____
Site Safety Supervisor / Fleet Maintenance Manager Sign-off: _____	**Review Date:** _____	**Audit Status:** [ ] Approved [ ] Rectify

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