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	STANDARD: **FMVSS 105 & OSHA 29 CFR 1910.178**	AUDIT FREQUENCY: **Monthly Audit**

Hydraulic Brake Air System Audit Inspection Checklist

Operational Scope: This checklist establishes the mandatory operational audit protocol for combined hydraulic-over-air brake systems in heavy fleet vehicles. It mitigates catastrophic pressure loss, fluid contamination, and mechanical brake failure risks to ensure absolute regulatory compliance.

MANDATORY PPE:	Safety Glasses (ANSI Z87.1), Nitrile Chemical-Resistant Gloves, Steel-Toe Safety Boots (ASTM F2413), High-Visibility Safety Vest, Bump Cap or Hard Hat
PREREQUISITES:	Vehicle securely chocked on level grade with emergency parking brake fully engaged. | Engine off and pneumatic system fully exhausted or stabilized prior to mechanical component access. | Lockout/Tagout (LOTO) protocols established if servicing auxiliary hydraulic power units.

PNEUMATIC & AIR SUPPLY SYSTEM INSPECTION

#	COMPONENT / ITEM	VERIFICATION CRITERIA & ACCEPTANCE STANDARD	SEVERITY	STATUS
1	**Air Compressor & Drive Belts**	Inspect compressor mounting bolts, oil supply lines for leaks, and drive belt tension (maximum 3/4 inch deflection). No fraying or glazing allowed.	**Warning**	**[ ] PASS [ ] FAIL [ ] N/A**
2	**Air Reservoirs (Tanks) & Moisture Ejection**	Check manual/automatic drain valves for moisture and oil accumulation. Inspect tank welds, mounting straps, and corrosion levels. Must be free of excessive condensation.	**Critical (Immediate Out of Service)**	**[ ] PASS [ ] FAIL [ ] N/A**
3	**Governor & Air Pressure Build-Up Rate**	Verify governor cut-in (approx. 85-100 psi) and cut-out (approx. 120-130 psi) pressures. System pressure must build from 85 to 100 psi within 45 seconds at fast idle.	**Critical (Immediate Out of Service)**	**[ ] PASS [ ] FAIL [ ] N/A**
4	**Air System Leakage Test**	With fully charged system and brakes applied, pressure drop must not exceed 4 psi in 1 minute for combination vehicles (3 psi for single vehicles).	**Critical (Immediate Out of Service)**	**[ ] PASS [ ] FAIL [ ] N/A**

HYDRAULIC ACTUATION & SLAVE CYLINDER MECHANICS

#	COMPONENT / ITEM	VERIFICATION CRITERIA & ACCEPTANCE STANDARD	SEVERITY	STATUS
5	**Air-Over-Hydraulic Power Master Cylinder**	Inspect master cylinder and slave booster for external fluid leaks, damaged air diaphragms, and secure pushrod alignment. No weeping or pressure loss permitted.	**Critical (Immediate Out of Service)**	**[ ] PASS [ ] FAIL [ ] N/A**
6	**Hydraulic Fluid Reservoir & Level**	Check brake fluid level and condition against manufacturer specs. Fluid must be clean, free of moisture contamination, and at the designated fill line.	**Warning**	**[ ] PASS [ ] FAIL [ ] N/A**
7	**Brake Lines, Hoses, and Fittings**	Inspect flexible hydraulic hoses and steel lines for chafing, kinks, swelling under pressure, or corrosion. Verify all retention clips are secure.	**Critical (Immediate Out of Service)**	**[ ] PASS [ ] FAIL [ ] N/A**

VALVES, WARNINGS & FUNCTIONAL TESTING

#	COMPONENT / ITEM	VERIFICATION CRITERIA & ACCEPTANCE STANDARD	SEVERITY	STATUS
8	**Low Air Pressure Warning Indicator**	Reduce air pressure; visual/audible low-pressure warning signal must activate before pressure drops below 60 psi (or 55% of governor cut-out).	**Critical (Immediate Out of Service)**	**[ ] PASS [ ] FAIL [ ] N/A**
9	**Brake Pedal Response & Travel**	Depress pedal to test hydraulic firmness and air assist reaction time. Excessive spongy travel indicates air trapped in hydraulic lines or failing master seals.	**Warning**	**[ ] PASS [ ] FAIL [ ] N/A**

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

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