



## NATEF Task List - Medium/Heavy Duty Truck Brakes

Name: \_\_\_\_\_

Date: \_\_\_\_\_

For every task in *Brakes* the following safety requirements must be strictly enforced: Comply with personal and environmental safety practices associated with clothing and the use of gloves; respiratory protection; eye protection; hand tools; power equipment; proper ventilation; and the handling, storage, and disposal of chemicals/materials in accordance with local, state, and federal safety and environmental regulations.

**The first task in Brakes is to listen to and verify the operator's concern, review past maintenance and repair documents, and determine necessary action.**

III. BRAKES		Week											
		1	2	3	4	5	6	7	8	9	10	11	12
<b>A. Air Brakes</b>													
<b>1. Air Supply and Service Systems</b>													
P-1	1. Identify poor stopping, air leaks, premature wear, pulling, grabbing, dragging, or balance problems caused by supply and service system malfunctions; determine needed action.												
P-1	2. Check air system build-up time; determine needed action.												
P-1	3. Drain air reservoir/tanks; check for oil, water, and foreign material; determine needed action.												
P-3	4. Inspect air compressor drive gear, belts and coupling; adjust or replace as needed.												
P-1	5. Inspect air compressor inlet;; inspect oil supply and coolant lines, fittings, and mounting brackets; repair or replace as needed.												
P-1	6. Inspect and test air system pressure controls: governor, unloader assembly valves, filters, lines, hoses, and fittings; adjust or replace as needed.												
P-1	7. Inspect air system lines, hoses, fittings, and couplings; repair or replace as needed.												
P-1	8. Inspect and test air tank relief (safety) valves, one-way (single) check valves, two-way (double) check valves, manual and automatic drain valves; replace as needed.												



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III. BRAKES A. Air Brakes 1. Air Supply and Service Systems (continued)		Week											
		1	2	3	4	5	6	7	8	9	10	11	12
P-1	9. Inspect and clean air drier systems, filters, valves, heaters, wiring, and connectors; repair or replace as needed.												
P-1	10. Inspect and test brake application (foot/treadle) valve, fittings, and mounts; check pedal operation; replace as needed.												
P-1	11. Inspect and test stop light circuit switches, wiring, and connectors; repair or replace as needed.												
P-1	12. Inspect and test hand brake (trailer) control valve, lines, fittings, and mountings; repair or replace as needed.												
P-1	13. Inspect and test brake relay valves; replace as needed.												
P-1	14. Inspect and test quick release valves; replace as needed.												
P-1	15. Inspect and test tractor protection valve; replace as needed.												
P-1	16. Inspect and test emergency (spring) brake control/modulator valve(s); replace as needed.												
P-1	17. Inspect and test low pressure warning devices, wiring, and connectors; repair or replace as needed.												
P-2	18. Inspect and test air pressure gauges, lines, and fittings; replace as needed.												



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III. BRAKES		Week												
		1	2	3	4	5	6	7	8	9	10	11	12	
<b>A. Air Brakes</b> <b>2. Mechanical/Foundation Brakes</b>														
P-1	1. Identify poor stopping, brake noise, premature wear, pulling, grabbing, or dragging problems caused by the foundation brake, slack adjuster, and brake chamber problems; determine needed action.													
P-1	2. Inspect and test service brake chambers, diaphragm, clamp, spring, pushrod, clevis, and mounting brackets; repair or replace as needed.													
P-1	3. Identify type, inspect and service slack adjusters; perform needed													
P-1	4. Inspect camshafts, tubes, rollers, bushings, seals, spacers, retainers, brake spiders, shields, anchor pins, and springs; replace as needed.													
P-2	5. Inspect, clean, and adjust air disc brake caliper assemblies; determine needed repairs.													
P-1	6. Inspect and measure brake shoes or pads; perform needed action.													
P-1	7. Inspect and measure brake drums or rotors; perform needed action.													



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A. Air Brakes		Week											
		1	2	3	4	5	6	7	8	9	10	11	12
<b>3. Parking Brakes</b>													
P-1	1. Inspect and test parking (spring) brake chamber diaphragm and seals; replace parking (spring) brake chamber; dispose of removed chambers in accordance with local regulations.												
P-1	2. Inspect and test parking (spring) brake check valves, lines, hoses, and fittings; replace as needed.												
P-1	3. Inspect and test parking (spring) brake application and release												
P-1	4. Manually release (cage) and reset (uncage) parking (spring) brakes in accordance with manufacturers' recommendations.												
P-1	5. Identify and test anti compounding brake function.												
<b>B. Hydraulic Brakes</b>		<b>Week</b>											
<b>1. Hydraulic System</b>		1	2	3	4	5	6	7	8	9	10	11	12
P-2	1. Identify poor stopping, premature wear, pulling, dragging, balance, or pedal feel problems caused by the hydraulic system; determine needed action.												
P-1	2. Inspect and test master cylinder for internal/external leaks and damage; replace as needed.												
P-1	3. Inspect hydraulic system brake lines, flexible hoses, and fittings for leaks and damage; replace as needed.												
P-3	4. Inspect and test metering (hold-off), load sensing/proportioning, proportioning, and combination valves; replace as needed.												



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B. Hydraulic Brakes 1. Hydraulic System (continued)		Week											
		1	2	3	4	5	6	7	8	9	10	11	12
P-2	5. Inspect and test brake pressure differential valve and warning light circuit switch, bulbs/LEDs, wiring, and connectors; repair or replace as needed.												
P-1	6. Inspect disc brake caliper assemblies; replace as needed.												
P-1	7. Inspect/test brake fluid; bleed and/or flush system; determine proper fluid type.												

B. Hydraulic Brakes 2. Mechanical/Foundation Brakes		Week											
		1	2	3	4	5	6	7	8	9	10	11	12
P-2	1. Identify poor stopping, brake noise, premature wear, pulling, grabbing, dragging, or pedal feel problems caused by mechanical components; determine needed action.												
P-1	2. Inspect and measure rotors; perform needed action.												
P-1	3. Inspect and measure disc brake pads; inspect mounting hardware; perform needed action.												
P-2	4. Check parking brake operation; inspect parking brake application and holding devices; adjust and replace as needed.												



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<b>B. Hydraulic Brakes</b>		<b>Week</b>											
<b>3. Power Assist Units</b>		1	2	3	4	5	6	7	8	9	10	11	12
P-3	1. Identify stopping problems caused by the brake assist (booster) system; determine needed action.												
P-3	2. Inspect, test, repair, or replace hydraulic brake assist (booster), hoses, and control valves; determine proper fluid type.												
P-3	3. Check emergency (back-up, reserve) brake assist system.												
<b>C. Air and Hydraulic Antilock Brake Systems (ABS) and Automatic Traction Control (ATC)</b>		<b>Week</b>											
		1	2	3	4	5	6	7	8	9	10	11	12
P-1	1. Observe antilock brake system (ABS) warning light operation (includes trailer and dash mounted trailer ABS warning light); determine needed action.												
P-1	2. Diagnose antilock brake system (ABS) electronic control(s) and components using self-diagnosis and/or electronic service tool(s); determine needed action.												
P-1	3. Identify poor stopping and wheel lock-up problems caused by failure of the antilock brake system (ABS); determine needed action.												
P-1	4. Test and check operation of antilock brake system (ABS) air, hydraulic, electrical, and mechanical components; perform needed action.												
P-1	5. Test antilock brake system (ABS) wheel speed sensors and circuits ; adjust or replace as needed.												
P-2	6. Bleed the ABS hydraulic circuits.												



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<b>C. Air and Hydraulic Antilock Brake Systems (ABS) and Automatic Traction Control (ATC) (continued)</b>		<b>Week</b>											
		1	2	3	4	5	6	7	8	9	10	11	12
P-3	7. Observe automatic traction control (ATC) warning light operation; determine needed action.												
P-3	8. Diagnose automatic traction control (ATC) electronic control(s) and components using self-diagnosis and/or specified test equipment (scan tool, PC computer); determine needed action.												
P-2	9. Verify power line carrier (PLC) operations.												
<b>D. Wheel Bearings</b>		<b>Week</b>											
		1	2	3	4	5	6	7	8	9	10	11	12
P-1	1. Clean, inspect, lubricate and replace wheel bearings and races/cups; replace seals and wear rings; inspect spindle/tube; inspect and replace retaining hardware; adjust wheel bearings. Verify end play with dial indicator method.												
P-2	2. Identify, inspect or replace unitized/preset hub bearing												