Utah State University
DigitalCommons@USU

All Archived Publications | Archived USU Extension Publications

1-1-1995

Preventive Maintenance Checklist

Von H. Jarrett PhD
Utah State University

Warning: The information in this series may be obsolete. It is presented here for historical purposes only. For the most up to date information please visit The Utah State University Cooperative Extension Office

Recommended Citation
Jarrett, Von H. PhD, "Preventive Maintenance Checklist" (1995). *All Archived Publications.* Paper 1306.
http://digitalcommons.usu.edu/extension_histall/1306

This Factsheet is brought to you for free and open access by the Archived USU Extension Publications at DigitalCommons@USU. It has been accepted for inclusion in All Archived Publications by an authorized administrator of DigitalCommons@USU. For more information, please contact becky.thoms@usu.edu.

UtahStateUniversity
COOPERATIVE EXTENSION

PREVENTION MAINTENANCE CHECKLIST FOR TRACTORS, TRUCKS, AND AUTOMOBILES

Farm Machinery Fact Sheet FM-21

By Dr. *Von H. Jarrett*, Extension Agricultural Engineer

Systematic sequence for inspection—GASOLINE AND DIESEL

(Check when done) **UNDER THE HOOD**

____ 1. Locate operator's manual for vehicle.
____ 2. Fuel, oil, and exhaust leaks—Inspect.
____ 3. Oil and fuel lines—Examine for chafing and kinks.
____ 4. Automatic transmission—Inspect oil level; also, standard transmission.
____ 5. Radiator core, water pump, cylinder head, block, heater, hoses and connections. Inspect for leaks.
____ 6. Power steering pump reservoir—Check fluid level, inspect for leaks, add if required.
____ 7. Inspect all belts, condition and adjustment.
____ 8. Electrical connections and mounting bolts of starter, generator, alternator—Tighten.
____ 9. Generator commutator and brushes—Inspect.
____ 10. Alternator, generator and regulator—Test and adjust with voltmeter.
____ 11. Steering gear housing—Inspect lubricant level.
____ 12. Steering gear housing bolts—Tighten.
____ 13. Clutch and/or brake master cylinder Inspect fluid level—add?
____ 14. Battery—Remove cables, clean terminals, reinstall cables, coat with petroleum jelly.
____ POS ____ NEG Posts
____ 15. Battery—Test cells specific gravity with hydrometer.
Cells ___1 ___2 ___3 ___4 ___5 ___6
____ 16. Battery—Examine level of each cell, add distilled water if required.
____ 17. Radiator—Inspect coolant level and add water or antifreeze solution if required.
____ 18. Radiator coolant—Inspect for signs of oil or combustion leakage.
____ 19. Cooling system—Pressure test.
____ 20. Engine oil—Inspect level. Change if at change period or add.
____ 21. Air cleaner—Clean.
____ 22. Air compressor—Adjust, cut in ___psi; cut out ___psi; tighten mounting.

Gas only

____ 23. Crankcase breather and oil filler cap air cleaner—Clean and/or replace.
____ 24. Fuel filter—Clean or replace (replace paper clement always).
____ 25. Carburetor air cleaner—Clean or replace.
____ 26. Spark plugs—Remove, inspect, clean or replace and gap. Torque with new gaskets.
____ 27. Distributor—Inspect contacts for corrosion and cap for cracks. Inspect wiring condition and points, inspect rotor for burning/cracks.
____ 28. Cylinder compression—Test and record:
Dry 1 ___ 2 ___ 3 ___ 4 ___ 5 ___ 6 ___ 7 ___ 8
Wet 1 ___ 2 ___ 3 ___ 4 ___ 5 ___ 6 ___ 7 ___ 8
____ 29. Manifolds—Inspect for leaks, tighten nuts, with engine at normal operating temperature.
____ 30. Cylinder head bolts—Torque.
____ 31. Positive crankcase ventilator valve—Remove, clean or replace.
____ 32. Valves—Run engine at proper idle, inspect overhead system and, adjust valve lash if required.
____ 33. Valve cover gasket—Replace.
____ 34. Carburetor—Adjust idle mixture and RPM.
____ 35. Ignition timing—Set with light.
____ 36. Use tachometer and record top engine RPM.

Diesel only

____ 37. Radiator shutters—Inspect to see they are open before starting engine and close as air pressure builds up after starting engine.
____ 38. Shutter-stat—Lubricate.
____ 39. With engine operating at proper temperature—Tighten exhaust manifold and exhaust pipe flange nuts. Tighten air inlet system hose clamps. Inspect for leaks.
____ 40. Air box drains and crankcase breather tubes—With engine running, see that they are open.
____ 41. Primary and/or secondary fuel filters—Open petcock and drain water.
____ 42. Fuel return line—Disconnect at tank or other convenient place. Run engine at ____ RPM. Fuel return should be approx. ____ quarts per minute. Observe fuel for appearance of air bubbles or gases.
____ 43. Primary fuel filter—Clean. Secondary fuel filter—Replace if at change period.
____ 44. Engine and oil cooler lines—Inspect for leaks.
____ 45. High pressure lines and clamps—Inspect, tighten or replace.
____ 46. Fuel jumper lines—Tighten if required.
____ 47. Valves—Inspect for proper clearance. (LASH.)
____ 48. Injector nozzles—Inspect and clean as required, set cracking pressure.
____ 49. Injectors—Check and adjust for proper height setting. Inspect overhead system and adjust rack.
___ 50. Air cleaners—Clean and refill reservoir with engine oil.
____ 51. Emergency stop control—Test with engine off.
____ 52. Throttle, accelerator, shut-off and choke controls—Test operations.
____ 53. High idle speed setting—Test and record
____ RPM. Low idle speed setting and record ____ RPM.

____ 54. Check on a dynamometer.
PTO RPM's ____ High Idle ____ Rated ____ Horsepower

WALK-AROUND

____ 1. Front sheet metal, paint and bumper—Inspect for appearance/accident.
____ 2. Front lights and directional signals—Inspect.
____ 3. Left front tire—Inspect for cuts or unusual wear, torque wheel nuts.
____ 4. Left-hand side of cab—Inspect for appearance and condition.
____ 5. Left-side door hinges and latch—Lubricate, adjust if necessary. Window regulators and vents—Test operation.
____ 6. Fuel tank mountings—Tighten if required.
____ 7. Battery—Examine box cover clamps; inspect level of each cell.
____ 8. Left-side of body and frame—Inspect for appearance and condition.
____ 9. Left-rear tires—Examine for cuts or signs of unusual wear. Torque wheel and axle flange nuts.
____ 10. Fifth-wheel mountings—Tighten if required.
____ 11. Rear of vehicle—Inspect for appearance and condition.
____ 12. Cab sheet metal—Inspect for appearance and condition.
____ 13. Right rear tires—Examine for cuts or signs of unusual wear. Torque wheel and axle flange nuts.
____ 14. Right side of body and frame—Inspect for appearance and condition.
____ 15. Right side door hinges and latch—Lubricate, adjust if necessary. Window regulators and vents—test operation.
____ 16. Right front tire—Examine for cuts or unusual wear. Torque wheel nuts.
____ 17. Front ball joints—Inspect on both wheels for excessive looseness.
____ 18. Front kingpins and bearings—Inspect on both wheels for looseness.
____ 19. Front brake linings, anchors, locks, wheel cylinders and drums—Inspect, blow out drums and shoes. Lubricate shoe anchors and cams—wedge-type brakes, clean and lubricate actuating components.
____ 20. Front wheel bearings—Clean, repack and adjust for both front wheels. Replace grease retainer.
____ 21. Rear brake linings, anchors, locks, wheel cylinders and drums—Inspect. Blow out drums and shoes, lubricate shoe anchors and cams; wedge-type brakes—clean and lubricate actuating components. Adjust as required.
____ 22. Wedge-type brake systems—Remove brake drums, clean and lubricate adjusting components.
____ 23. Rear wheel bearings—Clean, repack and adjust. Replace grease retainer.
____ 24. Front wheel caster and camber—Inspect to see that it is within specifications.
____ 25. Toe-in—Adjust as required.

UNDER VEHICLE

____ 1. Chassis—Lubricate according to correct lubricating chart.
____ 2. Front tires—Examine for cuts or unusual wear.
____ 3. Front springs—Inspect for shackle looseness and wear. Inspect leaves for breakage and misalignment.
____ 4. Pitman and steering arms, drag link and tie rod—Inspect.
____ 5. Power steering cylinder—Inspect for leaks.

____ 6. Propeller shaft—Inspect, including all brackets, flanges, hangers and center bearings.
____ 7. Rear springs—Inspect for loose or worn shackles, broken or misaligned leaves.
____ 8. Engine oil—Replace oil, filter element and gasket at change period.
____ 9. Engine pan gasket, front and rear crankshaft seals—Inspect.
____ 10. Engine mounts—Inspect for deterioration or looseness.
____ 11. Clutch controls—Examine for any abnormal condition. Inspect clearance and adjustment.
____ 12. Front U-bolts—Tighten to specifications.
____ 13. Transmission—Inspect for leaks. Inspect the lubricant level. Add?
____ 14. Automatic transmission cooler lines—Inspect for leakage.
____ 15. Automatic transmission linkage—Adjust.
____ 16. Transmission support and strut rod—Adjust if required.
____ 17. Driveline-type parking brake—Inspect lining condition and adjust.
____ 18. Auxiliary or transfer case—Inspect for leaks. See that breathers are not restricted. Tighten rear bearing retainer bolts.
____ 19. Transmission; auxiliary or transfer case linkage pivot points—Lubricate.
____ 20. Center bearing, brackets, U-joints and flanges—Tighten as required.
____ 21. Rear axle—Inspect lubricant level, add if required. Clean breather.
____ 22. Rear axle differential housing—Inspect for lubricant leakage and pinion bearings for looseness. See that axle breather is free of dirt.
____ 23. Rear tires—Examine for cuts and unusual wear.
____ 24. Rear axle carrier housing and pinion cage bolts—Tighten.
____ 25. Rear U-bolts—Tighten to specifications.
____ 26. Air brake valve clevis pin—Lubricate.
____ 27. Brake hoses, lines, valves, chambers, etc.—Inspect for leaks. Examine cross shaft, cables, linkage for abnormal wear.
____ 28. Air tanks—Drain.
____ 29. Frames and crossmembers—Examine.
____ 30. Exhaust pipe, muffler, tailpipe and hanger brackets—Inspect.
____ 31. Cab hold-down-bolt insulators—Inspect, tighten bolts if required.
____ 32. Body mounts—Tighten if required.

CAB/DRIVER ITEMS

____ 1. Cab interior—Inspect for appearance and condition.
____ 2. Seat adjustment—Operate. Inspect seat cushions.
____ 3. Window regulators and wing vents—Operate.
____ 4. Mirrors—Inspect for cracks, discoloration and tightness.
____ 5. All lights, horn, tell-tale lights and dash instruments—Test.
____ 6. Wipers—Inspect for correct operation and wear. Adjust, repair or replace as necessary.
____ 7. Washers—Operate.
____ 8. Radio; heater and directional signals—Operate.
____ 9. Steering wheel—Inspect steering gear play.
____ 10. Service brake pedal—Test for action and adequate reserve.
____ 11. Parking brake—Test for action and adequate reserve.
____ 12. Transmission lever—Shift through all gear positions.
____ 13. Clutch pedal—Test for action and adequate free play.
____ 14. Fire extinguisher—Inspect for leakage and secure mounting.

____ 15. Fire extinguisher—Refill or recharge if needed.
____ 16. Tools—See that those regularly assigned are in the vehicle.
____ 17. Engine emergency stop—Test with engine off.
____ 18. Throttle and accelerator controls—Test for binding.
____ 19. Choke—Test for binding.
____ 20. Seat belts—Securely anchored and in good condition.

Utah State University is an Equal Opportunity/Affirmative Action Institution.

Issued in furtherance of Cooperative Extension work, Acts of May 8 and June 30, 1914, in cooperation with the U.S. Department of Agriculture, Robert L. Gilliland, Vice President and Director, Cooperative Extension Service, Utah State University, Logan, Utah. (EP/2-95/DF)