



Ensuring a safe and secure homeland for all North Dakotans

Flooded Farm Vehicles and Equipment

■ **Tips on Cleaning and Reconditioning**

Try to clean tractors, trucks and farm equipment as soon as possible. Delay will make dirt and silt harder to remove and may cause considerable rusting and corrosion. If you use farm vehicles and equipment before proper reconditioning, you may seriously damage them.

Have your dealer or another expert recondition engines. They need to be completely disassembled for cleaning and reconditioning. Do not try to move or start an engine that has been submerged until it has been cleaned and reconditioned, since dirt will damage bearings and precision parts. If the tractor was submerged only to the platform, you will need to service only the wheel bearings and moving parts that were under water.

■ **Emergency Cleaning**

If you must use the tractor or engine immediately or if you think the cost of professional reconditioning is not worthwhile, use the following procedure. This procedure isn't thorough enough to prevent possible damage or need for overhaul in the future.

- Clean exterior thoroughly with a hose. Scrub greasy deposits with solvent.
- Remove spark plugs or fuel injectors, air cleaner, intake manifold and carburetor.
- Clean these parts thoroughly with solvent.
- Drain the crankcase. Flush the crankcase with oil and refill with clean oil.
- Disconnect fuel lines, blowing them out with compressed air.
- Crank the engine slowly with spark plugs or fuel injectors removed to force water out of cylinders. Squirt light lubricating oil into each cylinder and let it stand for about five minutes. Then crank the engine slowly to lubricate cylinder walls and rings.
- Replace all filters -- engine, fuel, hydraulic.

- Completely flush out the fuel system -- tank, pump, lines -- with #1 diesel fuel. Be extremely careful to avoid fire danger.
- Replace starter and generator. Have an expert service them.
- Drain and flush the transmission and final drive with solvent. Refill with new, clean oil.

■ **Wheel Bearings, Cooling Systems and Batteries**

- Remove and clean unsealed wheel and track bearings with solvent. Lubricate and replace the bearings. Factory-sealed bearings should not need cleaning if the seal is unbroken.
- Flush the cooling systems with fresh water, and clean the radiator fins.
- Replace the battery, if necessary. If it was submerged, it will probably need to be replaced.

■ **Starting and Initial Operation**

Examine the machine and turn it over by hand after you have cleaned and replaced all parts. If it turns freely, it is probably ready for operation. Turn on the engine and operate the machine at low speed until you are sure all parts are working smoothly.

If there is a substantial amount of dirt in the crankcase, transmission or gear train, change the oil and oil filter after operating the machine for a few hours. Using fresh lubricant is cheaper than paying for additional repairs.

■ **Additional Steps for Trucks and Cars**

- Remove inside door panels. Clean and lubricate latches and window raising mechanisms.
- Remove seats and floor mats. Brush and vacuum thoroughly. Clean washable surfaces with soap and water. Use rug or upholstery shampoo on non-washable areas. Dry thoroughly.
- Disassemble leaf springs. Clean or replace spring pads if necessary.
- Have brakes and steering mechanism checked before you drive the vehicle.

■ Reconditioning Farm Implements

Follow applicable steps above, and clean rest of machine as follows:

- *Chains.* Soak chains in solvent for several hours, then remove chains and allow solvent to drain out of them. Soak chains for several hours in light oil, then drain off excess oil and replace chains on machine.
- *Gears and sprockets.* Clean exposed gears and sprockets with cleaning solvent. Coat gears with light oil.
- *Gear cases.* Inspect enclosed gear cases for water or grit. Water may be present below the oil. If you find water or grit, or if you are in doubt, drain the case, flush it with solvent and refill with clean oil.
- *Belts.* Examine all belts for tears or cracks. Repair or replace them as necessary.
- *Cutting parts.* Remove knives and cutter bars from mowers and combines. Clean and dry them. Coat cutter parts with light oil and reassemble. Inspect the insides of combines and remove accumulated dirt, chaff, debris or water.
- *Soil-working tools.* Clean dirt and rust from surfaces of soil-working tools such as mold boards, discs and cultivator shovels. Coat these tools with rust preventive grease or used crankcase oil.

Source: NDSU Extension Service - <http://www.ag.ndsu.edu/disaster/flood/floodedfarmvehiclesandequipment.html>