

SAFETY MATTERS



Safety Matters is intended to promote discussions of safety issues among underground construction professionals. You should always read and understand the operator's manual before operating any equipment. For additional information, please e-mail safety@ditchwitch.com.

TOPIC:

Equipment Maintenance

POTENTIAL HAZARDS

- Crushing
- Pinching
- Burns
- Cutting
- Explosion
- Fluid injection

PRECAUTIONS

- Do not weld on tanks or drums unless you've been properly trained. Consider alternative methods to welding on fuel tanks, such as cold repair techniques or replacement. If tank must be welded, remove, drain and clean the tank. Flush the tank with an inert gas such as argon or CO₂. Keep a steady flow of inert gas into the tank while welding. Do not use exhaust fumes.
- Unless otherwise instructed, perform all work with engine off. Remove key from ignition, disconnect battery and tag machine for maintenance to prevent machine from being started.
- Use cylinder locks or some type of mechanical support if work must be conducted under raised components. Never work under a raised component unless it is mechanically supported or is raised "over-center" so that it cannot fall. Never leave a raised component unattended unless it is mechanically supported.
- Locate pressurized fluid leaks with a piece of wood or cardboard. Do not use your hands.
- Wear personal protective equipment. Avoid loose clothing and jewelry.
- Practice proper lifting and ask for help.
- Disconnect battery and engine controllers before welding on machinery.
- To minimize hazards of unintended movement, start and operate equipment only from the operator's station.
- Be aware that tires may be heavier than they appear due to possibly being filled with tire ballast or sealant.
- Fluids and components will be hot. Allow machine to cool before attempting repairs or adjustments. Do not open the radiator until the machine has cooled. Coolant may spray out

of the cap when hot.

- Keep steps and platforms free of oil and grease.
- If working on equipment that may be used in unsanitary environments, have immunizations to prevent contracting a disease from contaminated equipment.
- Use proper procedures for handling and disposal of batteries.
- Know the weight of the equipment. Only use hoists and lifts rated for the weight of the equipment. Use lift points as identified on equipment and in the equipment operator's manual.
- Set equipment parking brake and block wheels or tracks before performing service.

INFORMATION/FACTS

- Hydraulic fluid injection in skin must be treated by a professional familiar with that type of injury. If not treated properly, infection and gangrene can occur and result in loss of limb.
- Even with the engine stopped, machines can store energy which can be hazardous if not handled properly. Operate controls with engine stopped to relieve pressure in lines if possible. Even after operating controls, fluid can still be under pressure. To release pressure in a hydraulic line, the fitting should be loosened just enough to allow a small stream of fluid to escape. After the stream has slowed, the fitting should continue to be loosened slowly until all pressure is relieved in the line. Think before loosening fittings; if the line is pressurized because it is holding a raised component, the component will fall when pressure is released unless a mechanical support is used.
- If not handled properly, batteries can explode and cause burns or blindness.
- Even if a fuel tank is drained, fumes and residue may still be present and can explode. A very small amount of residue can cause an explosion. Also, exhaust fumes can contain unburned fuel, especially from older trucks and some off-road equipment. Exhaust fumes should not be used to purge fuel tanks prior to welding as these exhaust fumes can explode.

**DON'T LEARN SAFETY
BY ACCIDENT**