

# Pump Safety Handbook

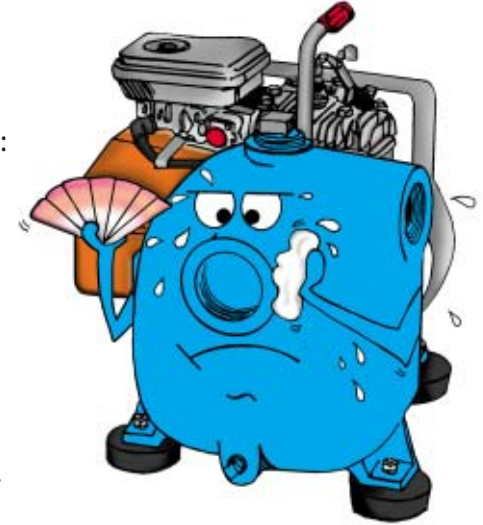


*The Pump People*™

# Pumps In General

## **REMEMBER: PUMP SAFETY IS THE RESPONSIBILITY OF THE USER**

1. Read the Installation, Operation and Maintenance Manual for your pump before installing, operating or performing maintenance on the pump or its related equipment.
2. Overheated pumps can cause severe burns and injury. If overheating of pump casing occurs:
  - A. Stop pump immediately.
  - B. Allow pump to cool to air temperature.
  - C. Slowly and cautiously vent pump at drain plug.
  - D. Refer to Installation, Operation and Maintenance Manual before restarting.
3. Do not operate pump without all guards and shields in place.
4. Cautiously approach any pump that has been in operation.
5. Pump only liquids for which the pump was designed.
6. Do not pump flammable or corrosive liquids unless pump and piping are designed for such.
7. Operating pump with suction and/or discharge closed is one cause of severe overheating.
8. Note direction of rotation – operating pump in wrong direction may cause impeller to unscrew and damage pump casing or other pump parts.
9. Locate the pump in an accessible location, as close as safely possible to the liquid being pumped.
10. Secure the pump so that it cannot move after it is in its operating position.
11. Check all lubricants before installation and operation in accordance with maintenance programs.
12. When lifting pumps, use only lifting equipment in good repair with adequate capacity.
13. Never operate a self-priming pump unless the pump casing is filled with liquid. Doing so may damage the pump. The pump will not prime unless the pump casing is filled with liquid.



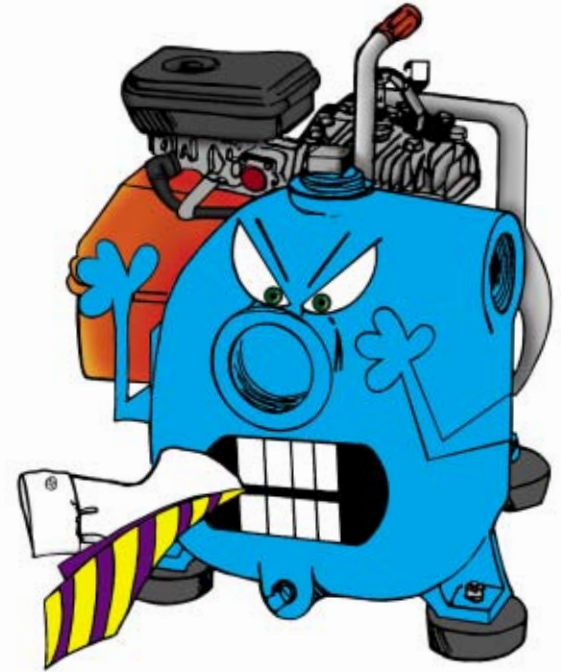
# Pumps In General

14. Do not remove the coverplate, fill port cap, gauge port plug, or drain plug from any overheated pump. Allow pump to cool to air temperature. Check pump temperature before removing coverplate, fill port cap, gauge port plug or drain plug.
15. Do not operate pump against a closed valve.
16. Check the suction strainer regularly to be sure that it is not clogged.
17. Never operate pumps in explosive or volatile atmospheres unless they are designed to be operated in these environments.
18. Check the pump thoroughly upon delivery for any shipping damage.
19. Never wear loose clothing around machinery.
20. Always read and keep the Installation, Operation and Maintenance Manual for your pump.
21. When overhauling pumps, never remove or cover warning tags and labels.
22. Be sure that only experienced personnel operate machinery.
23. Before working on pumps with electric motors and panels, LOCK control panel in the OFF position:
  - A. If control panel cannot be locked, pull main fuse or circuit breaker.
  - B. Remove all V-belts.
  - C. Disengage drive coupling.
24. Drain pump completely of water before freezing weather.
25. Do not work in underground pump systems alone or without adequate ventilation.



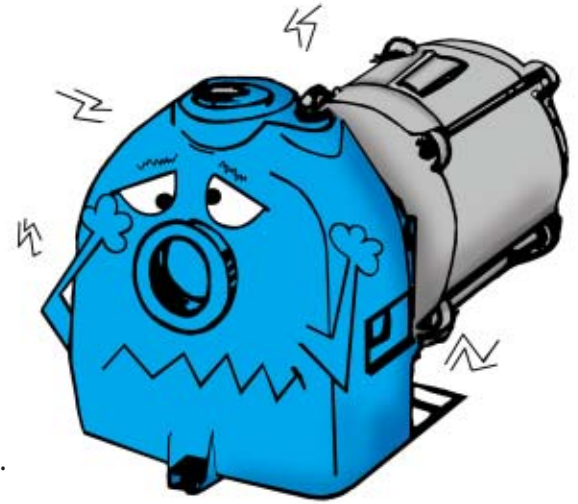
# Engine-Driven Pumps

1. Normal heat and fumes from an internal combustion engine can be hazardous. Always pipe exhaust fumes outside when operating an internal combustion engine in an enclosed area.
2. Do not overfill fuel tank.
3. Disconnect spark plug before performing any maintenance to engine or pump.
4. Never refuel a hot or running engine.
5. Be sure that only experienced personnel operate machinery.
6. Never tamper with the governor setting on an engine to gain more power. The governor establishes safe operating limits.
7. Always store gasoline in an approved container and in a safe location.
8. Make sure all fuel lines are secure.
9. Follow engine manufacturer's recommended operation and maintenance instructions.
10. Always use correct type of fuel for engine.
11. Do not jump-start engine battery.
12. Do not shut down high-head pumps quickly:
  - A. Throttle back slowly.
  - B. Open bypass line.
  - C. Be sure system has a check valve.
  - D. Slowly close gate valve on discharge, if one has been installed.



# Electric Motor Driven Pumps

1. Electrocutation may occur whenever electricity is present.
2. Allow only qualified personnel to install, wire and operate pumps and motors.
3. Always ground electrical units.
4. Never use gas piping as an electrical ground.
5. Be sure to connect motor to correct phase and voltage.
6. Do not operate pump if voltage is not within limits.
7. If circuit breaker or fuse is tripped, locate and fix the problem before restarting pump.
8. Make sure all electrical installations are in accordance with National Electrical Code and local codes.
9. Shut down and lock out all related electrical circuits before performing any maintenance.
10. Follow motor manufacturer's recommended operation and maintenance instructions.



# Submersible Pumps

1. Never attempt to raise pump by its electrical cord.
2. Always use a Gorman-Rupp approved control box, mounted in a vertical position.
3. Always check rotation on 3 phase pumps.
4. Shut down and lock out all related electrical circuits before performing any maintenance.
5. Do not hold reset button if overload control trips off. Wait 10 minutes before resetting again.
6. Never put pump directly on soft, loose bottom.
7. Be sure to connect pump to correct phase and voltage.
8. Do not run pump if voltage is not within limits.
9. Check oil level only when pump has cooled to air temperature.
10. Use only recommended transformer oil.



# Using This Manual

Notice: This manual is meant to be used as a quick-reference guide only; use it with your Installation, Operation and Maintenance Manual.

Notice: Be sure that only qualified personnel install and operate pumps. Read all of the Installation, Operation and Maintenance Manuals, as well as any specific safety instructions provided with your new pump before operation.

These documents alert personnel to known situations which could damage equipment and/or be dangerous to personnel. However, these documents cannot possibly anticipate and provide detailed precautions for every situation that might occur. Therefore, it is the responsibility of the owner, the operator and maintenance personnel to be sure that **only** safe, established procedures are used, and that any procedures not addressed in these documents are performed **only** after establishing that neither personnel nor the pump will be harmed as a result of such procedures.

Following these instructions while using safe, established operation and maintenance procedures should provide years of trouble-free pumping.



## REMEMBER: PUMP SAFETY IS THE RESPONSIBILITY OF THE USER

A pump safety video is available from the Construction Industry  
Manufacturer's Association,  
111 E. Wisconsin Avenue, Milwaukee, WI 53202  
Phone: (414) 272-0943 • Fax (414) 272-1170

or link to:

[http://www.cimanet.com/Public/member\\_services/safety/videos.asp](http://www.cimanet.com/Public/member_services/safety/videos.asp)



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