

SAFETY MANUAL

FOR

READY MIXED CONCRETE TRUCK DRIVERS

delivering to concrete pumps
and crane lift buckets

SAFETY MANUAL
For Ready Mixed Concrete Truck Drivers
Delivering to Concrete Pumps and Cranes

PREFACE

This document has been created to provide safety guidelines for ready mixed concrete truck drivers who are making deliveries to concrete pumps and crane lift bucket jobs.

No distinction has been made between front and rear discharge mixer trucks. The rules apply to both types equally.

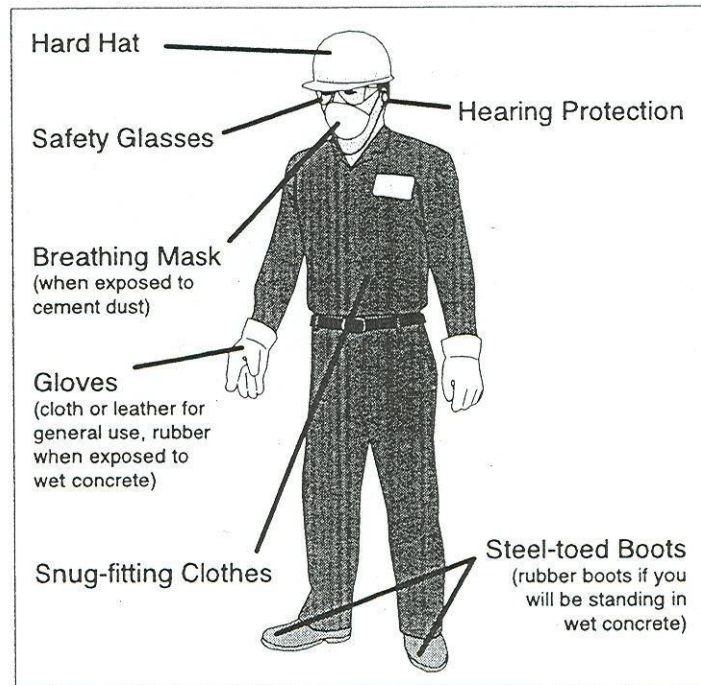
This document is intended to inform the drivers of mixer trucks about the hazards found around concrete pumps, cranes, and pumping jobs. This manual provides guidance for avoiding those hazards. It is important for operators of ready mix trucks to be familiar with all safety guidelines that apply to the operation of his or her equipment.

No attempt has been made to list all possible ways a mixer driver could be injured around pump and crane jobs. It is assumed that prudent drivers will use their own devices, awareness, and judgment to stay out of harm's way.

Disclaimer: Some of the material used in this manual was obtained from the American Concrete Pumping Association. Refer to your Company's specific rules regarding the delivery of concrete to a pump or crane.

1. General

1.1 WARNING! Always wear Personal Protective Equipment (PPE) when working near a concrete pump or crane. Proper equipment includes but is not limited to safety glasses, steel toe boots, hard hat, ear protection, and rubber gloves. These items are especially important when working near the hopper.



1.2 WARNING! ELECTROCUTION HAZARD! If the pump becomes energized, the electricity will travel through the concrete going in to the hopper and energize the mixer truck. If you are touching your truck or the pump, you could be electrocuted. Monitor the boom movements. If you perceive a problem, pull away from the pump and alert the operator. At no time should any part of a pump truck or crane become closer than 17 feet of energized power sources. **(Company policy may dictate additional distance from an energized power source. Refer to your Company's safety rules or policy manual.)** If pumps or cranes become energized and someone is being electrocuted, **NEVER** make contact with that person. Do not stand in the concrete or make contact with any steel or equipment on the job unless you are **POSITIVE** the power has been turned off! You could be electrocuted, too! Although it will be hard to do, leave the rescue effort to trained experts

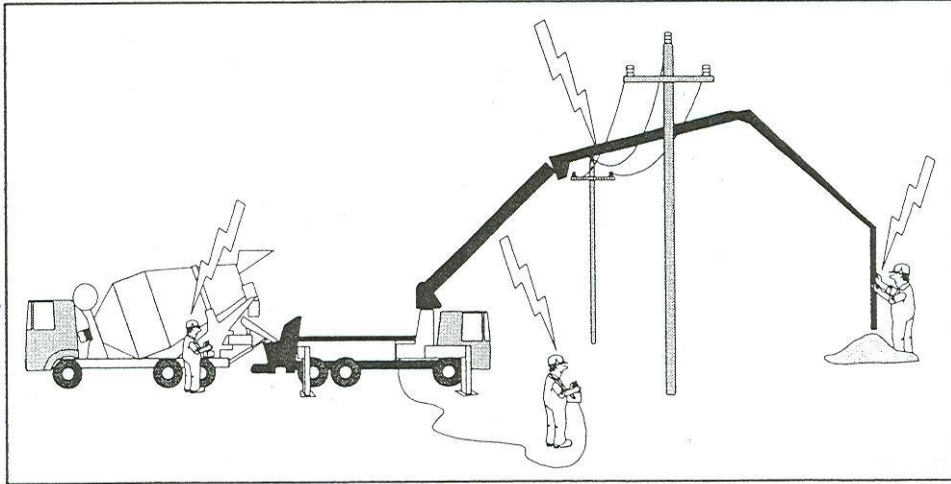
Some high voltage power lines have circuit breakers that may stop the flow of electricity for a short time and then become energized again. You could be electrocuted by standing in wet concrete or by making contact with steel or equipment being used on the job.

If the pump or crane comes in contact with energized power lines and you are not in or on your truck, **DO NOT COME IN CONTACT WITH YOUR TRUCK.** Do not attempt to move your truck. Do not climb on the ladder!

Safety Rules for Ready Mixed Concrete Truck Drivers Delivering to Pumps and Cranes

If you are in or on your vehicle and the pump or crane comes into contact with energized power lines **and** there is no fire or feeling of electricity, stay put! If there is a fire and you have to exit your truck, jump and roll as far away from your truck as possible.

NEVER MAKE CONTACT WITH THE TRUCK AND GROUND AT THE SAME TIME!

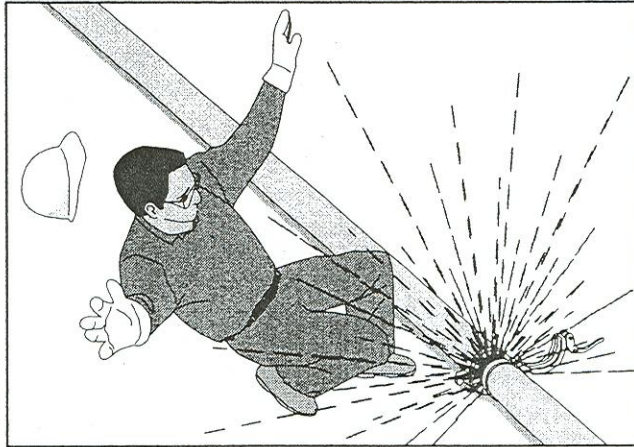


1.3 WARNING! LIGHTNING, ELECTROCUTION HAZARD! Although electrocution due to lightning is rare, lightning should be monitored if in the area. If you feel the risk of a lightning strike, notify the operator that you will be in the cab of your truck until the threat has subsided.

1.4 WARNING! FALLING HAZARD. Never stand on a concrete pipeline or walk across the pipeline while in use. Concrete pumps can develop pipeline pressures greater than 1000 PSI! Pipelines can move without warning.

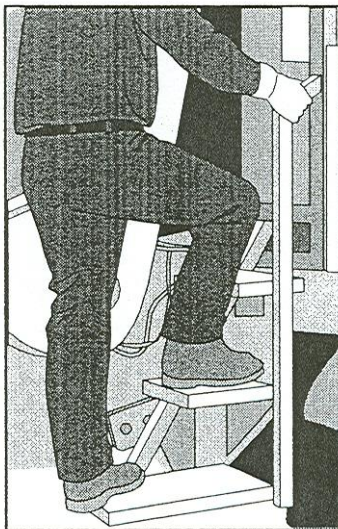


1.5 WARNING! PROJECTILE HAZARD. Stay away when the pipeline is being opened. If pressure remains when the pipeline is opened or if the clamp/pipe breaks, concrete will be ejected with dangerous velocity. The pump operator is responsible for knowing how to safely remove pressure from the line. You must wear your personal protective equipment near a pipeline.

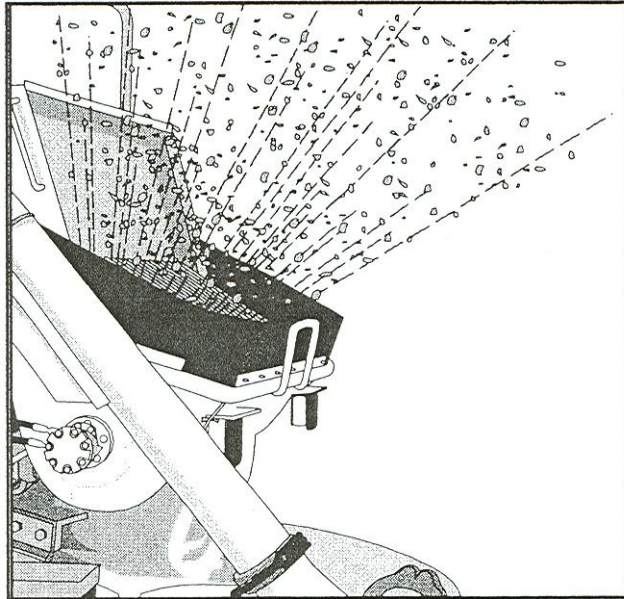


1.6 WARNING! PROJECTILE HAZARD. Do not touch any concrete pump pipe clamps or hoses. Alert the operator immediately if you see a problem!

1.7 WARNING! FALLING HAZARD. Use the “three point rule” when getting on or off the pump. The three point rule means that the person must have one hand and two feet or two hands and one foot in contact with a secure surface at all times. Avoid getting on the pump unless it is absolutely necessary.



1.8 WARNING! PROJECTILE HAZARD. Always wear safety glasses before looking in the hopper. Keep your distance when monitoring the hopper. Never look into the end of a connected pipe or hose.

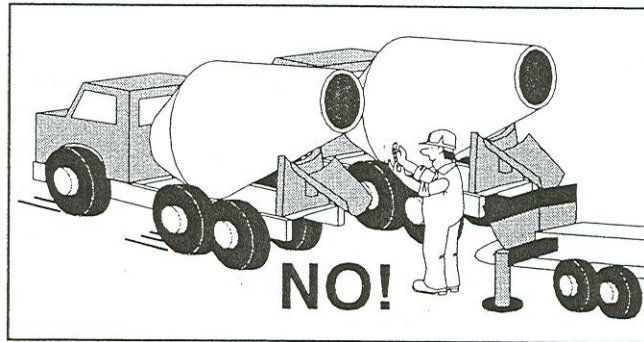


2. Arriving at the Jobsite

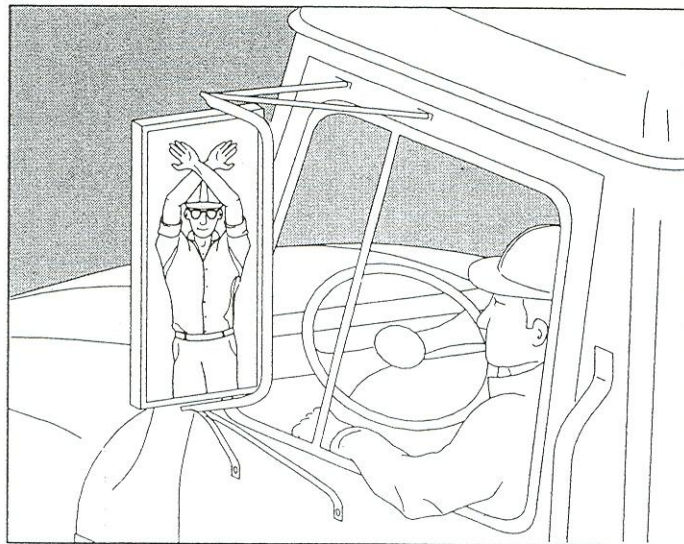
- 2.1 **BE SEEN! A safe jobsite depends on others knowing your location.** Ensure the pump operator knows that you are on site.
- 2.2 Look up and all around for electrical lines or power cables that may be or become closer than 17 feet of the boom or crane and the cable while in operation. (Company policy may dictate additional distance from an energized source. Refer to your Company's rules and policy manual.)
- 2.3 If delivering at night, make sure to have proper lighting. If not, take additional precautions.
- 2.4 Let other equipment operators know where you are located.
- 2.5 Make sure all mirrors are clean and properly adjusted before backing up to pump.
- 2.6 Always use a spotter when approaching the pump or crane.
- 2.7 Inspect the route from the road to the pump or crane.
- 2.8 The route must allow a clear view of the pump hopper or crane.
- 2.9 You must be able to see the equipment or spotter as you get close to the pump.
- 2.10 Identify if more than one mixer truck will be discharging into the pump hopper.
- 2.11 Make sure the outriggers of the pump/crane are stable and can be seen.

3. Approaching the Pump or Crane

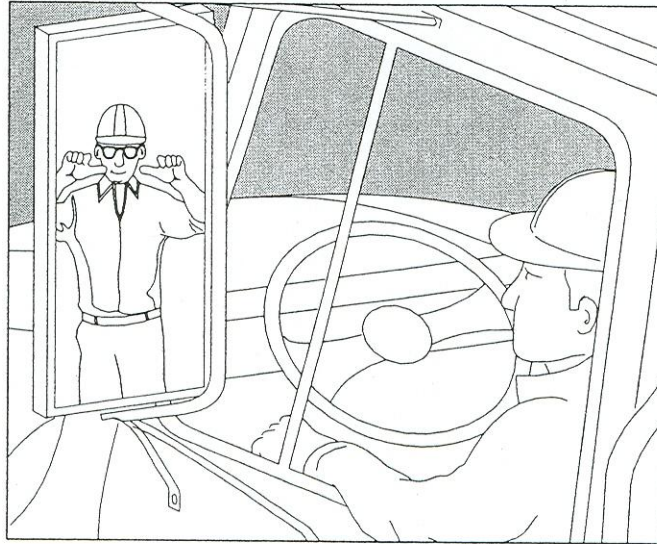
3.1 WARNING! CRUSHING HAZARD. NEVER get between a pump/crane/bucket and a mixer truck. Never let anyone else stand between the pump/crane/bucket and a mixer truck. If more than one mixer truck is delivering to the pump hopper, make sure no one is trapped between the mixer trucks or between the mixer truck and the concrete pump before you begin backing towards the pump.



3.2 WARNING! CRUSHING HAZARD. Do not get closer than 10 feet to the pump/crane/bucket unless you have a clear view of the spotter who is directing you. If you lose sight of the spotter, stop immediately. Do not continue to back up until line-of-sight has been re-established.



3.3 WARNING! CRUSHING HAZARD. When backing towards the pump hopper, the spotter must use clear and concise hand signals. Agree on hand signals before you begin the back.



3.4 WARNING! CRUSHING HAZARD. If you find yourself acting as the spotter for another mixer truck, make sure the driver is watching you. Make sure you're not in the path of the mixer truck as it backs towards the hopper. If the driver is not safely approaching the pump, immediately signal the driver to stop. When stopped, agree on hand signals and any other factors or conditions that would affect a safe approach to the pump.

3.5 WARNING! CRUSHING HAZARD. Take direction from only one spotter. Do not attempt to use both rearview mirrors as you near the pump. Taking your eyes off the spotter for even a moment could lead to an accident.

3.6 WARNING! CRUSHING AND AMPUTATION HAZARD. Do not allow anyone to move, raise, lower, operate, adjust, or unfold the discharge chute while backing towards the pump. Stop immediately if someone tries to make a chute adjustment.

3.7 WARNING! CRUSHING HAZARD. Know the condition of your brakes. Approach the pump hopper at a speed that allows you to stop immediately. Set the parking brake before leaving the cab. Be sure the transmission is in neutral. Trucks with automatic transmissions can move suddenly if the engine RPM is increased and the transmission is not in neutral.

3.8 WARNING! CRUSHING HAZARD. Loaded and unloaded crane buckets can swing unexpectedly and crush individuals in pinch points. Never attempt to grab a swinging crane bucket!

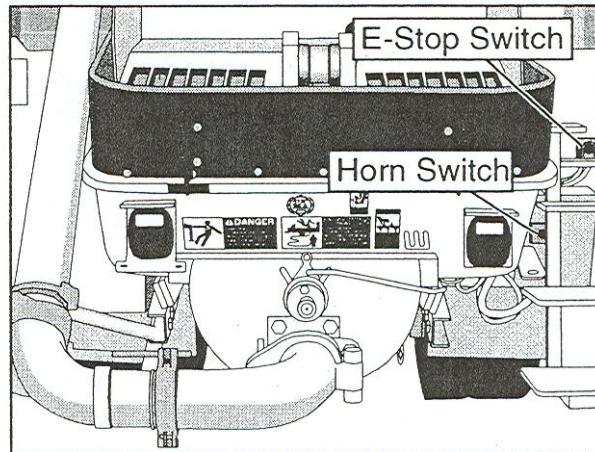
3.9 WARNING! EQUIPMENT MALFUNCTION HAZARD. If your truck hits any part of the pump or crane, report the damage to the operator and your company immediately. Even seemingly small damage can cause an unsafe operating condition and could endanger everyone on the jobsite.

4. Delivering the Concrete

4.1 WARNING! PLUGGING HAZARD. Do not put concrete into the pump hopper until the operator directs you to do so. If the pump has not been primed, filling the hopper can cause the pump to plug. Plugs create a hazard because they cause the pump to reach maximum pressure.

4.2 WARNING! PLUGGING HAZARD. Foreign material can cause blockages. If you see foreign material coming from the mixer truck, signal the operator to stop the pump. If you cannot get the operator's attention, hit the emergency stop switch. Do not allow the concrete chute rake or any other item to fall into the pump hopper. Do not attempt to grab foreign objects from the pump hopper while it is operating. Even if stopped, the pump is remote controlled and can start at any time. Alert the operator to stop the pump if you must remove foreign material from the hopper.

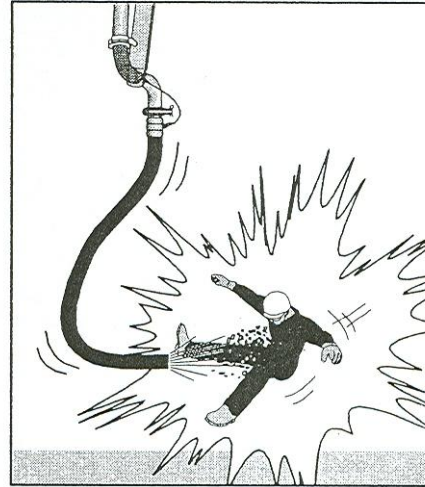
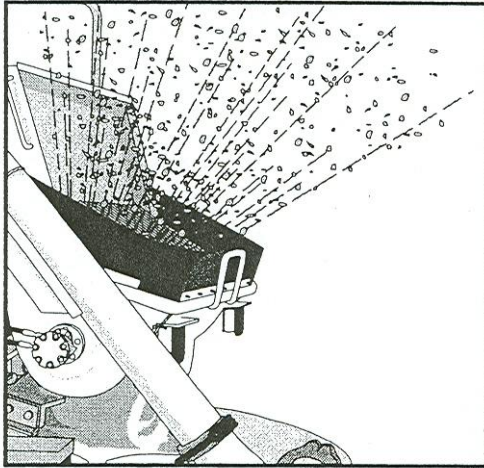
4.3 WARNING! HOSE WHIPPING AND OTHER HAZARDS. You must know how to stop the pump in an emergency. Have the operator show you the locations of the emergency stop switches and how they work. If an emergency arises, hit the emergency stop switch. Tell the operator about the problem after hitting the switch.



4.4 WARNING! HOSE WHIPPING AND OTHER HAZARDS. Know how to signal the pump operator to stop the pump if you can't keep enough concrete in the hopper. Some pumps are equipped with horn buttons on the rear of the pump. Use the emergency stop switch only if you can't get the operator's attention. A restarting procedure is required after hitting the emergency stop that may cause delays. In spite of the restarting procedure, do not hesitate to use the emergency stop if the need arises.

4.5 WARNING! HOSE WHIPPING AND OTHER HAZARDS. Keep the hopper about two-thirds full. Do not let the material level in the hopper become so low that air is sucked into the material cylinders of the pump. If air is sucked into the cylinders, the pump will compress the air. Compressed air always poses a hazard as it is released from the pump or the delivery pipeline. Before air is sucked into the cylinders, signal the operator to stop the pump. Some pumps are equipped with switches which will stop the pump without using the emergency stop. In that case, the operator would be able to show you what to do.

4.6 WARNING! HOSE WHIPPING AND OTHER HAZARDS. If air is sucked into the cylinders, the pump must be stopped regardless of how it happened. If you cannot get the operator's attention, hit the emergency stop switch. It is the operator's job to know how to safely remove air from the pump and delivery system. Do not refill the hopper unless directed to do so by the pump operator. Stand away from the hopper and the end hose until the operator has removed the trapped air from the delivery system and has signaled you that it is safe to begin unloading again.



4.7 WARNING! HOSE WHIPPING HAZARD. Stay away from the end hose of the concrete pump. This is especially important to remember when the material is being placed close to the mixer truck. The tip of the hose may move quickly and unexpectedly. If the hose is kinked, it could unkink violently.

4.8 WARNING! CRUSHING AND AMPUTATION HAZARD. Do not stand on the hopper grate.

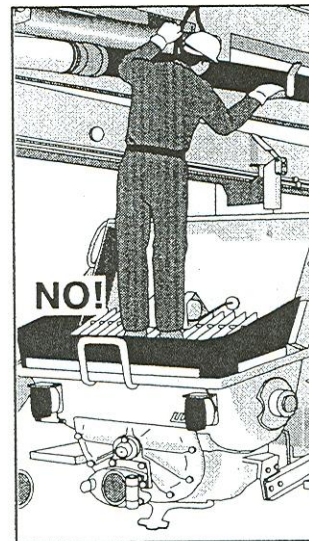


4.9 WARNING! PROJECTILE HAZARD. Avoid walking under the boom of concrete pumping trucks. Avoid standing next to the elbow at the back of the pump.

4.10 WARNING! HEAD INJURY HAZARD. Avoid walking under the outriggers of the concrete pump.

4.11 WARNING! TRIPPING HAZARD. Try to avoid overfilling the hopper to the point where concrete piles up on the ground. As the concrete dries, it creates a tripping hazard near moving machine parts.

4.12 WARNING! TRIPPING AND FALLING HAZARD. Avoid getting on the pump at all. Do not stand on the pump because you could lose your balance near moving machine parts.

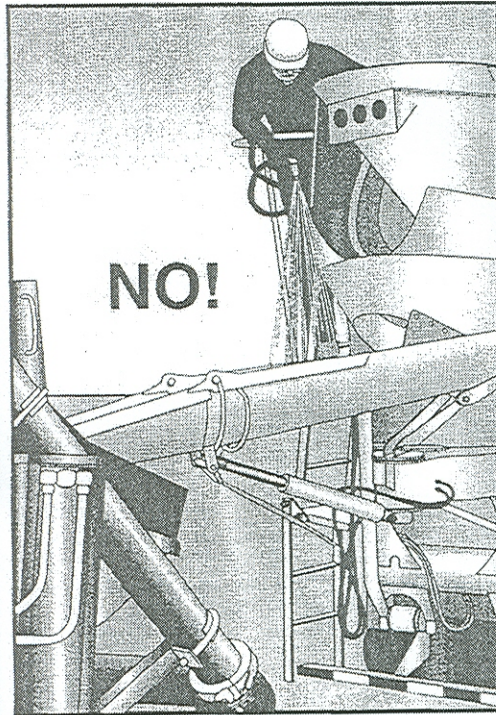


4.13 Only one person operates the concrete pump. The pump operator is responsible for the safe operation of the pump and boom. If you have questions regarding correct or safe pumping procedures, talk to the operator. Different operators may have different procedures. If in doubt, ask.

4.14 Safety is always in the hands of the people on the job. Monitor the movements of the boom at all times even if no electric wires are present.

5. Cleaning and Departing the Jobsite

5.1 WARNING! PLUGGING HAZARD. Do not wash the mixer truck out into the pump hopper. Water washes the cement and fine aggregate out of the mix leaving a coarse mixture that cannot be pumped. This is called segregation.



5.2 WARNING! HOSE WHIPPING AND PROJECTILE HAZARD. At the end of the job, the operator may want the level of material in the hopper to be lower than usual. In spite of this, do not allow the level to become so low that air is sucked into the material cylinders.

5.3 WARNING! COLLISION HAZARD. Do not drive under the boom of the concrete pump when pulling away from the job. Ask the operator to move the boom to a safe area. If the operator will not move the boom, take a different route off the jobsite.

5.4 WARNING! VARIOUS HAZARDS. Do not allow the operator to pump concrete back into your truck.

5.5 WARNING! HOSE WHIPPING AND PROJECTILE HAZARD. Make sure the operator knows that you are empty and leaving. Be friendly. Before leaving, allow the pump operator to have some spare water if needed.

5.6 WARNING! CRUSHING HAZARD. Before leaving the job site, inspect the area for a safe exit.