



## **New Concrete Pump Standard Available**

Canadian Standards Association recently published a new standard, CSA Z-151, entitled “Concrete Pumps and Placing Booms” in November, 2009.

The standard was developed in response to an increasing number of incidents in the concrete pumping industry. The goal of the standard is to provide a consistent level of safety around this equipment for all of industry.

The standard is organized into three parts:

Part One addresses the design, construction, installation, and markings of this equipment.

Part Two addresses inspection, testing and maintenance requirements.

Part Three addresses operation of the equipment including operator conduct and general safety precautions. It also provides standard hand signals for concrete pump trucks.

## **Highlights of Requirements**

Similarly to other CSA standards, Z151-09 defines two types of inspections – Frequent and Periodic.

### **Frequent Inspections**

Frequent inspections may be performed as often as daily but at least monthly and cover those items that are subject to more rapid deterioration or wear. These inspections may be performed by a “designated person”, most likely the operator.

Frequent inspections cover the machine and the concrete delivery system separately. Check points on the machine include, but are not limited to:

- Interlocks, holding valves, guards, etc.
- Operational controls
- Hydraulic oil level and leaking
- Damage to outrigger and boom structures
- Tire condition
- Lubrication of moving parts

Frequent check points on the delivery system include, but are not limited to:

- Boom delivery system (hard piping)
- Delivery hoses
- Couplings
- Cables & slings
- Safety signs and decals

## **How Standards Affect You**

Laws are laws and standards are standards, right?

Well, sort of.

Generally, enforcement bodies, such as the police or Ministry of Labour, won't stop you for disobeying a standard as they would with a law. So do you have to follow a standard?

The OHSA requires employers to do everything reasonable to protect a worker. This catch-all law can mean a lot of things if an accident happens.

The principles of Due Diligence provide a defense against this catch-all law. Following a Canadian standard can be very helpful in establishing Due Diligence defense in court.

Of course, disregarding established standards can be used against you, and may lead to prosecution, if an incident lands you in court.

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## Periodic Inspections

Periodic inspections are broken up into a structural portion and a more mechanical portion.

The structural portion requires that a visual weld inspection be performed by a person qualified to CSA standard W178.2 or a representative authorized by the manufacturer. This inspection is to include the placing boom and structural support system for corrosion, cracking, or other damage as well as an inspection of the boom pin for wear.

The mechanical portion covers all the items in the frequent inspection, as above, plus the following:

- Gear lash and bearing clearances
- Loose / missing bolts, pins & pin retainers
- Bearings and gears for mounting & wear
- Hydraulic / Pneumatic pumps, valves, etc.
- Cracks / damage to the truck mounting
- Presence & condition of decals
- Concrete pump components

The timing of periodic inspections depends on the age of the machine as per the table below:

<b>Machine Years In Operation</b>	<b>Inspection Interval, Hours</b>	<b>Inspection Interval, Date</b>
First 5 Years	Every 2000 working hours	At Least Annually
Years 6 to 10	Every 1000 working hours	At Least Annually
After 10 years	Every 500 working hours	At Least Annually

## **Documenting Inspection**

When the chips are down, you only get credit for inspecting your concrete pumper if the inspection was properly documented. Therefore, the standard required that all inspection information be kept in a Concrete Pump Log for as long as the pump is in service. All details of inspection, maintenance, modifications, etc. are to be kept in the log in a logical and chronological sequence. Details such as who performed the work and how many hours were on the machine at each service are to be kept in the log.

The log is to be considered a standard part of the machine and is to be supplied with the machine when it is sold.

## **Summary**

The new CSA standard, Z151-09, is a step in the right direction towards improving the safety of the concrete pumping industry. This article gives an overview of the inspection requirements of the standard. Other portions of the standard covering operating procedures, operator conduct, design, construction, and other maintenance practices are also valuable tools. We highly recommend picking up a copy of the standard to use in your pumping business.

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