

THE HYDRAULIC SAFETY PRESS

HSAC
Hydraulic Safety Authority
of Canada Inc.™
www.hsac.ca

WINTER EDITION 2012

Your Source for Hydraulic Safety Awareness **NEWS, TIPS & INFORMATION**

NEWS & EVENTS

The Board of Canadian Registered Safety Professionals (BCRSP)

has awarded the Hydraulic Safety Awareness Course, HSAC HIGH RISK MAINTENANCE LEVEL, 1.0 CMP. The CMP approval number is 11381 for the 2011 and 12049 for 2012 calendar year. HSAC would like to congratulate all CRSPs who completed the High Risk Maintenance Course and received their CMP in 2011.

COMING THIS YEAR - shop@hsac.ca

HSAC trains in detail the hazards associated with hydraulic energy and the extreme difficulty with trying to identify stored or residual hydraulic pressure. HSAC's course topic; Beyond Lockout pays particular attention to the integration of components that are designed to provide vital information. To assist you HSAC will be making these components available for purchase from the HSAC website. For more information contact info@hsac.com



Truck Company and Supervisor Fined \$115,000 Total After Worker Killed

December 7, 2010

Kitchener, ON - a truck maintenance company was fined \$100,000 for a violation of the Occupational Health and Safety Act after a worker was killed. A supervisor was fined \$15,000 in relation to the same incident. On June 9, 2010, at the company's shop in Breslau, ON, a worker was doing maintenance on a hydraulic crane. He had mounted the crane onto a truck and determined that some of the hydraulic fluid in the crane needed to be drained. As he went to drain the fluid, a worker monitored the fluid level. During this procedure, the crane's boom swung around to pin the worker against the truck's control panel, fatally crushing the worker. A Ministry of Labour investigation found that the worker had left the hydraulics of the crane engaged and the truck's engine running during the procedure.

SAFETY VIDEO SEGMENTS

HSAC has posted four video segments on You Tube which can also be viewed from the HSAC website. Please make use of these segments for safety meetings. Two of these videos are samples of the High Risk Maintenance Level course, and provides an insight to the quality of the training.

HYDRAULIC SAFETY AWARENESS POSTERS

To download **FREE** Safety Posters visit www.hsac.ca/safety_tips. All safety posters are available for printing from the HSAC website. Please forward this link to your colleagues, supervisors and field personnel for posting on bulletin boards and for use in safety meetings. Each week HSAC will be posting a new poster. To be put on the mailing list and receive the weekly poster, please send your request to info@hsac.ca

DOUBLE TROUBLE: Hydraulic Safety Awareness Returns

Hydraulic Safety Exposure Level Training returns to **Safety Services Manitoba** on **Tuesday January 17, 2012**. Contact Safety Services for details. www.safetyservicesmanitoba.ca

The Safety Services Manitoba SAFE Work Conference and Trade Show

January 18th -19th, 2012 stop by **BOOTH 31** for a visit, and enter the HSAC draw for 8 GB Nano. Also attend the HSAC seminar. This workshop will highlight why safety based knowledge is essential in preventing hydraulic related incidents and fatalities in the workplace.

ON Line Safety Courses

HSAC is very please to offer many more on line safety training courses. Visit www.hsac.ca/Safety%20Courses%20List%20web.pdf for the details of these and upcoming courses.

- * ELECTRICAL SAFETY TRAINING
- * ARC FLASH AWARENESS
- * ALCOHOL AND DRUG AWARENESS
- * BASIC FIRE FIGHTING
- * DRIVERS RESPONSIBLY INSPECTING VEHICLES EVERYTIME (I.V.E.)
- * HAZARD ASSESSMENT
- * LITHIUM BATTERY
- * SAFE SLINGING AND RIGGING PRACTICES
- * SEXUAL HARASSMENT PART 1: HOSTILE ENVIRONMENTS
- * SEXUAL HARASSMENT PART 2: QUID PRO QUO & RETALIATION
- * WORKPLACE HARASSMENT: THE REAL DEAL
- * WHMIS
- * WINTER DRIVING FUNDAMENTALS
- * TIME MANAGEMENT

THE FATAL FACTS ABOUT HYDRAULICS

Hydraulic Hose Failure

Predicting the life of a Hydraulic hose depends on several key factors; pressure, fluid type, exposure to the elements, abrasion, support, length, and temperature. Each of these key factors are broken down into sub factors that are all deducting from the life expectancy. Hydraulic hose maintenance, inspections and record keeping will greatly add to the ability to predict failure. As time passes, the risk becomes greater as time would be considered the most critical factor, which is associated to natural aging. Where hose failure would be life threatening, studies should be conducted to narrow down the replacement frequency.

Hydraulic Accumulators

Hydraulic Accumulators are an energy storage device and are also commonly used for absorbing energy from high impacting loads. The shock absorption is facilitated by the energy transfer from an actuator such as a cylinder. The fluid is the medium that transfers the energy in the form of flow under pressure. The absorption of energy is facilitated through the compressing of the inert gas in the accumulator. The energy hazard of an accumulator comes from the compressed inert gas. A fluid

can be confined and stored with the compressed gas acting on it, the pressure of the fluid and the gas can be as high as 5000 psi. The accidental release of fluid under the pressure of the compressed gas can be extremely dangerous. An accidental release is extremely violent, and has been the cause of many deaths.

Identify accumulators and get safety training. For more information please contact info@hsac.ca

Protect Personnel From Fluid Hazards

Guards, shielding, hose sleeves and hose whip devices should be utilized to protect personnel where workers are within 1 meter of hydraulic fluid hazards. (see photo A)



Deactivating Controls and Mobile Equipment Lockout

By Colin Bonner, CEO/President HSAC

The highest number of hydraulic related incidents is crushing injuries, mainly by mobile construction equipment. Construction equipment have many large components which exerts tremendous force to perform work, all driven by hydraulics. Some of the direct causes are accidental contact with manually operated directional control valves. Directional control valves are used to direct the hydraulic fluid to the side of the actuator (cylinder or motor) to move the component in the desired direction. In many cases the equipment's engine is running and there are no safety devices engaged or the deactivating controls either are not working or non existent. Unless you understand how hydraulics function, you may not understand the equipment is extremely dangerous, even without the hydraulic pump engaged. An unsupported equipment component such as a crane or excavator boom, is extremely dangerous if the fluid supporting the component is vented. "Boom crushes worker" a statement found in most related fatality reports. Shutting down the engine and locking out the battery switch does not completely control hazardous energy. Hydraulic operated equipment is a geometry nightmare. Not knowing the direction of force caused by gravity can leave components supported by confined fluid. Removing a hose from a non mechanically supported component



will set it into motion. Again, "worker crushed while working on." The charge laid by the Crown will be "failing to provide a safe working environment." Sounds simple! However controlling hydraulic energy is very complex, and requires significant training and detailed procedures for each task.

Lifting vs Earth Moving Equipment

For those who didn't get a chance to read our 2011 Fall Press which contained the controversial article about increased risk when rigging and making lifts with earth moving equipment. Visit www.hsac.ca and send us your comments.

CONGRATULATIONS!!

HSAC would like to congratulate all of the Federal and Provincial Organizations who participated and completed HSAC Hydraulic Safety Awareness Training in 2011.



FIRST AID FOR FLUID
INJECTION INJURY
[http://www.hsac.ca/images/
/Document_A.pdf](http://www.hsac.ca/images/Document_A.pdf)



SAFETY COURSES AT
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