

The Hydraulic Safety Press

FALL,
2012

HSAC
Hydraulic Safety Authority
of Canada Inc.™

YOUR SOURCE FOR HYDRAULIC SAFETY AWARENESS NEWS, TIPS & INFORMATION



Events & News

» Hydraulic Technical Training

The Hydraulic Safety Authority of Canada is pleased to inform you of the addition of instructor led hydraulic technical training. Contact casey@hsac.ca

» The Canadian Society of Safety Engineers Professional Development Conference

- September 9-12
- Held at the Sheraton Hotel & Conference Centre, Niagara Falls.

An incredible conference. In attendance was Canada's leaders in Occupational Health and Safety. Thanks to all who stopped by to visit our booth. This conference and trade show was a great opportunity to network with colleagues. This event will be held next year in Montreal. See you there!

» Trained In Hydraulic Safety

Congratulations to the following companies who recently completed hydraulic safety awareness training:

- Town of Richmond Hill
- TC Industries Canada West
- Alberta Human Services
- Workers Compensation Board of PEI
- Parkland County

Poster Campaign A Success

HSAC is pleased to hear many organizations are making awareness of hydraulic hazards through the use of HSAC safety posters. To view the free safety posters please visit

<http://www.hsac.ca/survey.html>

All safety posters are available for printing from the HSAC website. Please forward this link to colleagues, supervisors and field personnel for posting on bulletin boards and for use in safety meetings. HSAC will be posting a new poster every two weeks. Safety posters are now available in French.

HSAC's annual 24 Safety Poster Series is coming to an end. We are asking our audience to submit a photo and caption. Selected Photos and captions will be posted along with their name and company. Submissions must be hydraulic related. Please submit to info@hsac.ca 🍁



Online Safety Courses

HSAC is very pleased to offer many more online safety training courses. Visit www.hsac.ca

- Aboriginal Awareness
- Alcohol and Drug Awareness
- Arc Flash Awareness
- Backing Safety Fundamentals
- Chainsaw Safety – Ontario
- D.R.I.V.E
- Electric Safety Training
- Fall Protection Awareness
- Firefighting Safety
- First Aid Interactive Refresher
- Goal Setting
- Hazard Assessment
- Lithium Battery Safety
- Safe Slings and Rigging
- Sexual Harassment Part 1-Hostile Environment
- Sexual Harassment Part 2-Quid Pro Quo & Retaliation
- The Effects of Stress on Driving
- Time Management
- Traffic Control Person for Construction
- Transportation of Dangerous Goods TDG
- WHMIS
- Winter Driving Fundamentals
- Workplace Harassment-The Real Deal

Introduction of MGD41

ADVANCEMENT IN SAFETY FROM DOWN UNDER

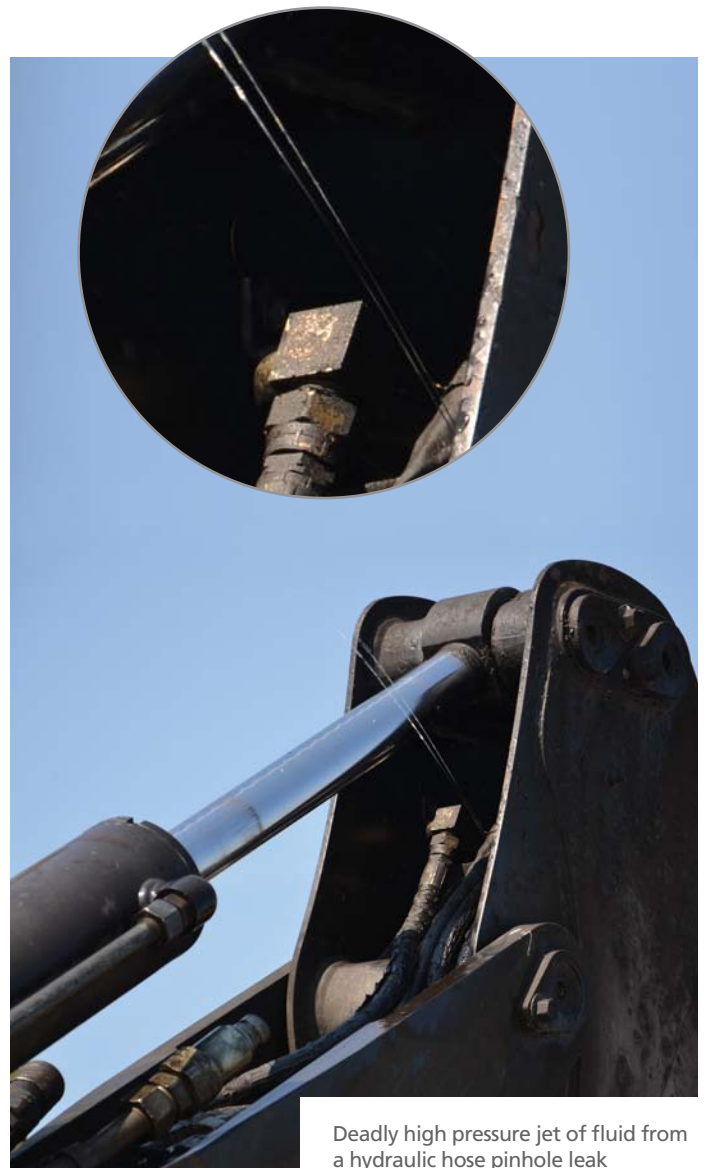
Guideline For Fluid Power System Safety At Mines:

The objective of the MDG41 guidelines is to minimise risks to the health and safety of people where fluid power systems are being used in the minerals industry. The MDG41 Guideline for Fluid Power Safety at Mines was distributed to industry for consultation and through Coal Safety Advisory Committee, Metalliferous Safety Advisory Committee and Extractive Industries Safety Advisory committee.

Over the past few years there has been an increase in fluid injection injuries from the use of pressurised fluid power systems. Pressurised fluid power systems are used as an energy source on mechanical equipment in mines. Pressurised fluid power systems are a potential major hazard which may result in fatal injuries if uncontrolled. This Guideline for Fluid Power System Safety at Mines has been compiled to assist in formulating a management system approach for the safe use of fluid power systems in mines. It should be used by designers, manufacturers, purchasers, owners, operators, site contractors and Industry & Investment NSW Mine Safety Operations when assessing the safety aspects of fluid power systems.

This Guideline provides a good industry benchmark for engineering standards and fit for purpose equipment. It can be considered good industry practice for mitigating and controlling the risks associated with the use of fluid power systems in mines at this time.

For more information on Australia's MDG41 and HSAC's advancements in hydraulic safety standards please contact colin@hsac.ca



Deadly high pressure jet of fluid from a hydraulic hose pinhole leak



Why Was He Crushed?

When a crushing injury occurs, articles written of the incidents will describe that the victim was crushed by a component of a machine. An example of the machine component may be a; door, boom, bucket, press, etc. Also the article may explain what the victim was doing at the time of the incident. What maybe missing from the article is the root cause? Like most articles we as readers only get what is given by the writer and we're left with some assumptions.

An investigation of root cause often reveals "why was he crushed". If a fatality occurred, it may not be determined what he knew and understood about the hazards. Did he not know or failed to take precautions knowing? Proper written procedures for working on hydraulic systems which hold machine components and loads can and are very complex. Crushing injuries where loss of a confined fluid supporting a machine component or load was due to not understanding hydraulics. In addition to controlling hydraulic energy, understanding the mechanics and geometry of the machine is equally important. Formal training and development of specific task based procedures will prevent crushing injuries.

Near Miss Reporting

A near miss is a potential hazard or incident that did not result in any personal injury. All hydraulic leaks must be reported as a near miss if no injury occurred. Leaks in hydraulic systems are the result of component failure. Failure of hoses, seals, gaskets, and cracks will cause a hydraulic system to leak. Reoccurrence could inevitably lead to serious injury or death. When hydraulic fluid is lost from a system, the environment is also at risk should fluid reach any water or leaches to ground water. Other serious results are hydraulic fluid leaks causing fire. Hydraulic fires have caused the loss of many machines and buildings. Leaks have led to fluid injection injuries, respiratory illness, slip injuries, burns, and loss of loads causing crushing injuries.

Take hydraulic component failures very seriously! It is everyone's responsibility to report and /or correct. Reports should always be the focus of improvement for protection of personnel, property and environment. Be sure to add hydraulic leaks to your near miss reporting.



Next Issue

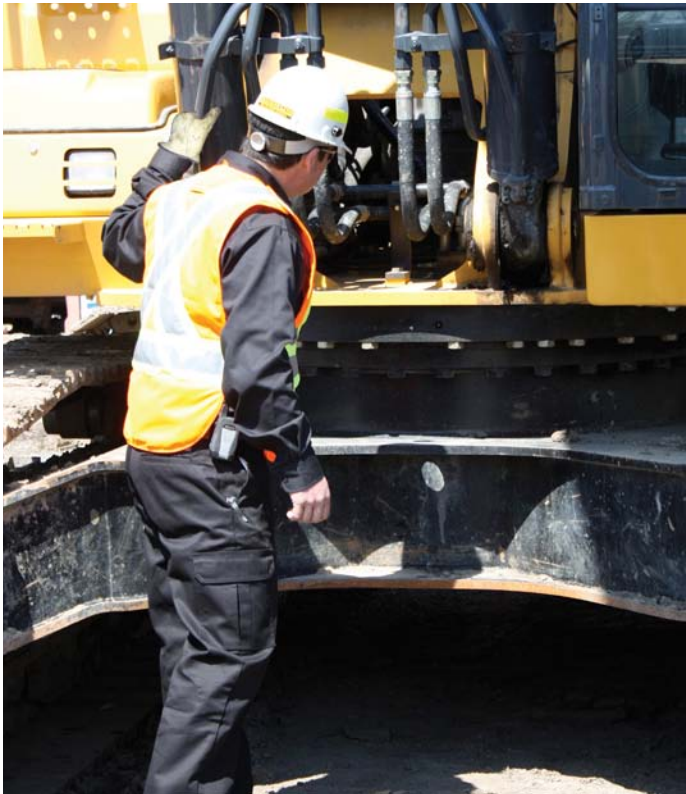
- If a fatality occurs in the workplace, do you believe there could be oversights in the current acts and standards?
- Hydraulic leaks to the environment, prevention through training
- More of what to inspect for
- Can you do an effective safety audit if you don't know the hazards?
- Identifying at risk behavior

FAQ

WE ENCOURAGE OUR VIEWING AUDIENCE TO SEND US QUESTIONS WHICH WE CAN SHARE TO ASSIST OTHERS. HSAC RECEIVED THIS QUESTION FROM AN INSPECTOR.

Q: Part of my duty as an Inspector is to identify hazards in the workplace. What should I be looking for when performing inspections on hydraulic operated equipment?

A: Visual inspections will only reveal part of the overall hazards which could lead to injury. Visual inspections are, however, extremely valuable and will intercept failures which lead to injury. Intercepting hazards not only prevents injury but prevent environmental damage. Related injuries include soft tissue injury, crushing, fractures, dislocations, lacerations, skin punctures, amputation, burns and fluid injection.



You want to look for:

- Hydraulic leaks, leaks are component failure which can become catastrophic
- Hydraulic hoses that have wear from abrasion
- Hydraulic hoses that have bubbles forming on the outer covering
- Cylinder gland nut unthreading
- Cylinder pins bushings and retainers are in place and in proper condition
- Fluid containment and absorbents are available and identified
- Fire suppression or extinguishers are available
- Low pressure adapters in a high pressure system
- Hose pressure ratings; do the hoses have a safe working pressure identified on them?
- Are accumulators identified with hazard labels and have components integrated for discharging stored energy?

Visual inspections should also include assessing risk behaviour such as:

- How workers interact with equipment when performing their own inspection
- How workers perform lockout and control hydraulic energy for maintenance tasks
- Is there a comprehensive lockout procedure for venting residual energy?
- Are they supporting loads normally supported by hydraulic cylinders?
- Is the safe work procedures task based?

Inspections are very important and will catch many hazards like hydraulic hose wear, however visual inspections will only catch a small percentage of inevitable hydraulic component failures. Thorough inspections would require dissecting the machine, which is not feasible in most cases. Where it's impractical to disassemble equipment to perform inspections, a system to reduce risk of component failure should be implemented. The aircraft industry is an example of a system which reduces risk through maintenance and component replacement prior to failure.

The next few additions of the Hydraulic Safety Press will continue this article on; what to inspect for and why.

