

# Worker Injured by Raising Arm Assembly Injury Incident

SAFETY ALERT

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## Enform: Your Partner in Safety

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## An Industry Product

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## Details

Release Date: October 23, 2012  
Incidence Type: Injury  
Country and Region: Alberta, Canada

For more information on this event, please contact: [Safety@enform.ca](mailto:Safety@enform.ca)

## Description of Incident:

Two workers and a Supervisor were in the process of reassembling one of the catwalks within the fleet, after it had been re-enforced on the structural support beam on the bottom side.

- They had hoisted the raising arm assembly (scissor arm) using the overhead crane and had lowered one end inside the frame of the catwalk. After lowering the end, they were planning to perform a block up by the raising arm using 4x4 square tubing, before removing the overhead crane.
- They had discussed how they were going to use 4x4 square tubing to stabilize the assembly, by tack welding it in place in order to eliminate the potential of the beam shifting or sliding out.
- The two workers were on top of the catwalk, while the Supervisor stood on the ground to supervise the operation.
- Worker one was operating the controls for the overhead crane, after both workers had slid the tubing in place. Once the tubing was in the correct position, the Supervisor instructed them to lower the raising arm to rest on the tubing, and advised that the beam needed to be secured by tack welding to ensure it did not slide out.
- Worker one lowered the raising arm onto the 4x4 tubing and proceeded to remove the hooks from the cross supports of the raising arm. Worker one noticed that the raising arm was staying in a static state and assumed it would be fine. The Supervisor reiterated the instruction to the worker to leave the crane attached, until it was welded by the welder, who was outside gathering his equipment to weld the tubing.
- When worker one started to walk down the catwalk with the hooks in his hand, the 4x4 square tubing slid out sideways, causing his right foot to be pushed directly to the side of the equipment and then under the raising arm, causing his foot to become wedged between the catwalk walkway and the arm. Worker one was still holding the chains and hooks for the crane. The second worker, moved over to assist the injured worker; retrieved the controls and the chains, and reattach them.
- The second worker, then raised the arm off of the injured worker's right foot and took the injured worker to the lunch room and removed the boot. It was noticed, that the steel toe was distorted. When they removed the boot, the second worker observed that the boot and the injured worker's sock were blood soaked. The injured worker was transported to the local hospital, the appropriate managers were contacted.

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## What Caused It:

### Substandard Act:

#### Immediate Causes

- **Failure to Secure** – Due to the 4x4 square tubing not being welded into place, it allowed the tubing to slide out and the raising arm to fall, which pinched the worker's foot.
- **Improper Positioning for the Task** – The worker stepped over top of the 4x4 tubing, which allowed the tubing to contact his foot and push it under the raising arm, as it fell inside the frame of the catwalk.
- **Failure to Follow Procedure** – The workers had discussed welding the 4x4 square tubing to the top surface of the catwalk, to ensure that the tubing could not be forced out. During the execution of the task, however, this procedure was skipped.
- **Failure to Identify the Hazard / Risk** – Due to the tubing sitting static for an extended amount of time, the workers assumed it would remain still for the remainder of the time needed to detach and re-attach to the top assembly (pipe trough). When the workers went to move on to the next step, however, the tubing let go and resulted in the Incident.
- **Failure to Correct** – When the procedure changed from the original plan, it needed to be re-evaluated for hazards. When they did not re-evaluate and assumed it was safe, they tolerated the risk and the consequences.
- **Failure to Communicate** – According to the witness statements and interviews, it was determined that there was a breakdown of communication between the team leader and the injured worker. The job needs to be shut down, when there is a deviation in the procedure that added risk to workers being injured.

#### Substandard Condition:

- **Inadequate Guard and Barrier** – Whenever the overhead crane is removed there needs to be a guard that cannot be removed, until the job is done. This must be a physical barrier, such as the tubing, which should be welded in place, as the meeting dictated.

#### Root Causes

##### Personal Factors:

###### Improper Motivation

- **Improper Attempt to Save Time or Effort** – Decision that it would be safe without being weld in place, since it had not moved while the hook were attached and slacked off was an improper attempt to save time and to finish the task faster.

##### System Factors:

###### Inadequate Leadership and/or Supervision

- **Inadequate Identification and Evaluation of Loss Exposure** – The injured worker felt it was safe, as it had not moved, while the chains were still hooked. During the interview it was stated that supervisor was not willing to take the risk and was instructing worker one to wait for the welder to tack weld the tubing, to ensure safety. The varying opinions on the task need to be resolved before continuing the task.

###### Inadequate Communications

- **Inadequate Vertical Communication between Supervisor and Worker** – Given that the operation deviated from the original plan and Safe Operating Procedures and the Supervisor wanted the operation to stop, the operation should have been stopped.

Raising Arm  
Assembly



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