



## “GETTING IT OFF THE GROUND SAFELY”

### INCIDENT SHARING

Excerpts from WSH Alert on 10 August 2016- “Accident Notification: Worker Struck by Lifting Gear”

<https://www.wshc.sg/wps/portal/wshc/bulletin?action=publicViewBulletin&bulletinID=BU201608100000010866>

On 08 August 2016 at about 1745hrs, a group of workers was lifting a formwork for the casting of the walls of a stairwell, when one of the chains used to lift the formwork snapped, causing the remaining chain section to swing outwards and hit a worker standing nearby. The worker was conveyed to Ng Teng Fong Hospital, where he subsequently passed away at about 1900hrs.

There are many factors that can affect a lifting operation and it is important that personnel involved in lifting operations are aware of such factors. Broadly, they can be classified as:

Machine: Selection of appropriate lifting equipment for the job as well as the integrity of the equipment to perform the job;

Material: Load that is intended to be lifted;

Medium: Environment in which the lifting operation is to be carried out and includes the setting up and stability of the equipment;

Man: Competency, roles and responsibilities of personnel involved in the lifting operation

Method: Planning and procedures to be adopted for the lifting operation.

### COMMUNICATION

Communication on site is not simply just talking and the other party listening.

Going through the documents on site is part of communication. Questions raised during document checks can further verify that plan(s) prepared are well thought of and are communicated to all level of work force.

Documents include:

- Lifting plan
- Lifting gear checklist
- Tool box talk with the operatives

### POINTERS TO SHARE

- Lifting Plan- Weight of load to be lifted
- Lifting gear check- **Chain slings**

All sling types must be visually inspected prior to use. When inspecting alloy steel chain slings, pay special attention to any stretching, wear in excess of the allowances made by the manufacturer, and nicks and gouges. These signs indicate that the sling may be unsafe and they must be removed from service.

Questions can be asked before the activity in the tool box talk:

- 1 What is the maximum load that this chain would be use to lift?
- 2 What was the total length of the chain sling before it was being put to use the first time on site?
- 3 What is the total length of the chain sling now?
- 4 What is the condition of each chain?
- 5 Do we see any chain that of a different shape (elongated) that is different from the rest?
- 6 What shall we do if we see elongated chain?

### THE LIFTING SLING

One of the key component in the lifting operation which is lifting gears. When selecting a sling for a particular task, the variables will include the sling type (i.e. material), configuration (i.e. number of legs), terminal fittings (e.g. hooks) and the conditions in which it will be used and stored.

Sling types fall into three types : chain, wire rope and textile.

Configuration influenced by the type of load or loads being handled. Commonly, two leg sling are suitable for a wide range of load types and 3 leg sling commonly use for circular or irregular shape load.

Correct rating of slings is another vital stage of specification process. The standard rating of slings assumes certain condition of use including environmental conditions (e.g. temperature), the manner in which the sling is attached to load (e.g. straightleg or choke hitch) and operational condition (e.g. Equal share of load between the sling leg, without shock loading). Any changes to these assumption, allowance must be made.



This is a guide to help for effective sharing in tool box talk.



# Accident Sharing and Prevention (ASAP) Program

## “GETTING IT OFF THE GROUND SAFELY” CONT’..

### TYPE OF SLING MATERIALS

Alloy steel chains are strong and able to adapt to the shape of the load. Care should be taken when using chain slings because sudden shocks will damage them. This may result in sling failure and possible injury to workers and damage the load.

Chain slings must be visually inspected prior to use. During the inspection, pay particular attention to any stretching, nicks, gouges, and wear in excess of the allowances made by the manufacturer. These signs indicate that the sling may be unsafe and must be removed from service immediately.

Wire rope sling offers an economical alternative to chain for many applications. It is easier to feed under a load and such sling made from galvanized rope and thimbles are more tolerant of main or similar environments. Misuse or abuse of wire rope slings will result in their failure long before any other factor. Abuse can lead to serious structural damage, resulting in kinks or bird-cage. (in bird-caging, the wire rope strands are forcibly untwisted and become spread outwards).

Webbing sling has two eyes at two ends and has a flat construction. One major disadvantage where the fibres which provide the strength to lift the load are also the one which come in contact with the load. Therefore, in case of damage to the yarns, the sling has to be taken out of services.

A round sling is an endless hank of yarn wound without any break. The inner core yarn is protected by the outer casing which contact with the load. Also the (load) bearing points (the points which go on the crane hook) keep changing, whilst on a webbing sling the points are fixed that subjected to wear and tear. If these points are not inspected regularly, they could lead to the potential “weak spots” in the sling.

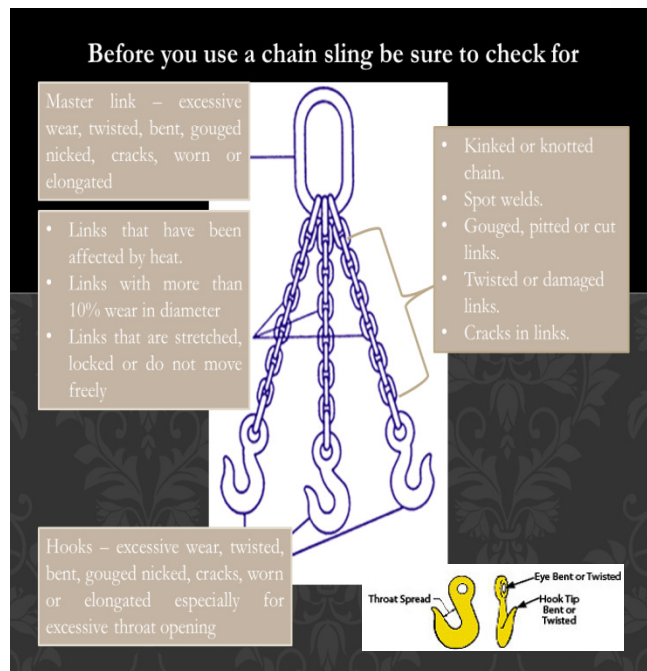
### CHAIN SLING INSPECTION

Recommended a daily or before each shift inspection shall be conducted by a competent person and every 12 months by Authorised Examiner.

These inspections must be recorded and maintained for each individual sling.

### INSPECTION

1. Clean chain prior to inspection, to more easily see damage or defects.
2. Hang chain vertically if practical, for preliminary inspection. Measure reach accurately (bearing point of masterlink to bearing point of hook). Check this length against reach shown on tag for sign of stretched/elongation.
3. Make a link-by-link inspection of the chain slings for:



### 4. Other:

Missing or illegible sling identification; Evident of heat damage; slings that are knotted ; Fittings that are pitted;

Reference to :

<http://www.wshc.sg>

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Visit [siso.org.sg/members](http://siso.org.sg/members)  
for more safety tips