

# HOW TO IMPROVE YOUR DROPS SAFETY

BY

**ACCESS**

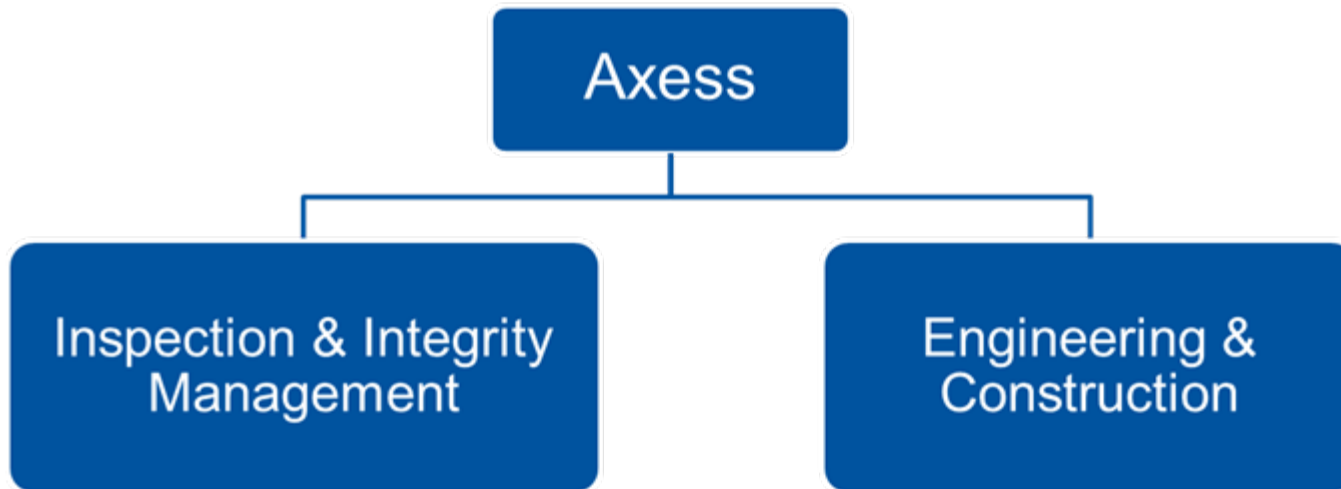
***My name: Øyvind Høgset***

Senior Inspection Engineer and project manager

Responsible for the DROPS segment

DROPS inspections, DROPS inspection programs and DROPS procedures.

17 years experience from the offshore industry



## Axxess in numbers

**62 Million USD**

annual revenue in 2011

**250**

number of engineers

**8**

number of offices; 5 in Norway, 1 in Rio de Janeiro, 1 in Singapore and 1 in Houston

**5**

number of continents we perform projects; Europe, Asia, Africa, South America and North America



## *Why are we here.....?*

By legislation all companies are responsible for the safety of their employees.

The 157 article in the CLT (Brazilian Labour Law) states this. Other countries have similar laws.

Prevention of dropped objects is an important factor to **prevent serious injuries and accidents** in the oil industry.

# GOAL = No dropped objects

## THE CONSEQUENCES

What happens when this bolt falls from fingerboard in the derrick and hits a person in the head?

The fall energy is about 65 Joules.

40Joules is considered to be the limit for injuries.



***THE CONSEQUENCES:            MOTION PICTURE***



*Why are we here.....?*

Small mistakes → Great consequences



*Why are we here.....?*

GOAL = No dropped objects

How can your company reach this goal....?





NO  
DROPPED  
OBJECTS



NO  
DROPPED  
OBJECTS

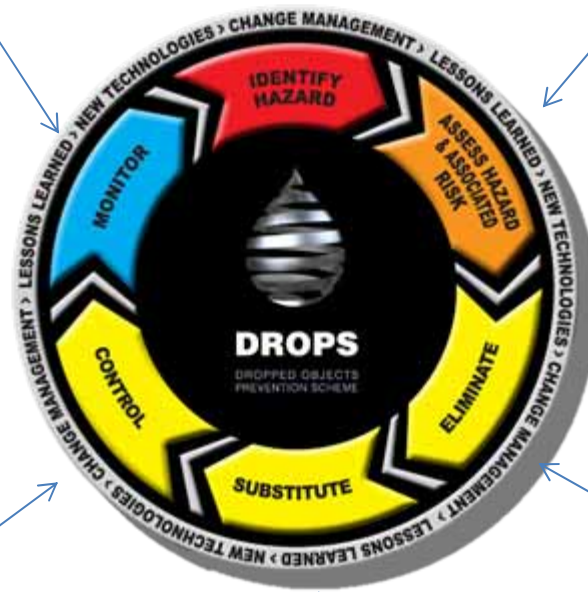


## BEST PRACTICE TO PREVENT DROPPED OBJECTS...?

Identify hazards by doing drops inspections.

Use **monitoring** systems for continuous controls of potentially dropped objects.

**Assess hazard & associated risks** by criticality evaluations



Make **control** routines for the measures implemented.

**Eliminate** hazards by repairing findings and establishing new barriers during inspections, and after inspections.

**Substitute** potentially hazardous objects by safer objects.

# CHALLENGES

We have done DROPS work around the world for some years.

We are experiencing some challenges which seems to be common.



## COMMON CHALLENGES

- 1.Limited knowledge of DROPS and “Best Practice”.
- 2.Lack of equipment for securing objects at height.
- 3.Not familiar with procedures
- 4.No periodic DROPS inspection systems
- 5.DROPS findings are not closed.
- 6.DROPS work is not prioritized. Operation comes first.

**1. *Limited knowledge of DROPS and “Best Practice”.***

Rig crew have little training in discovering potentially dropped objects.

Rig crew are not familiar with the best practice for securing items at height.

Rig crew are not following best practice when they are installing new objects, or try to close DROPS findings.



## ***2. Lack of equipment for securing objects at height.***

Tools are not suitable for work at height.  
Not possible to secure all parts.

Materials used for secondary retention  
cannot be found onboard.

- Wire
- Carabiners
- Locking nuts
- Suitable cotterpins etc.

Materials available are of incorrect quality.



### ***3. Not familiar with procedures***

Most clients have corporate procedures for the prevention of dropped objects.

It seems like the DROPS procedures sometimes are inactive documents.

Management does not enforce the procedure internally, and it is not used by the rig crew.

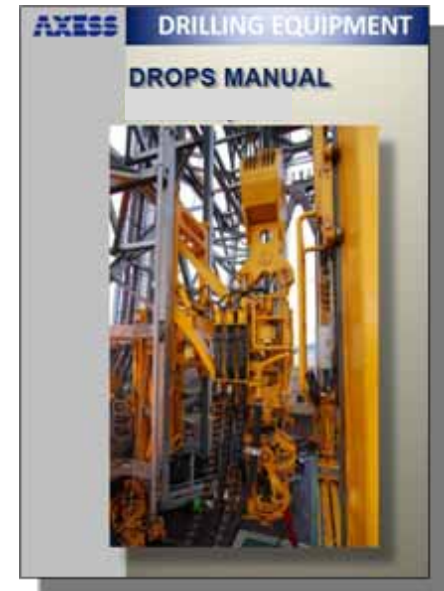
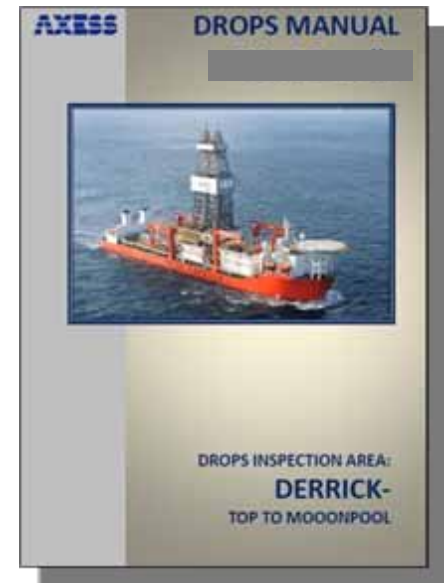


#### **4. No periodic DROPS inspection systems**

Some clients have no active system for doing periodic DROPS inspections.

The most important preventive measure is to do **regular periodic inspections** of all objects at height. This should be in the routines to the rig crew.

The annual third party inspection is not sufficient for maintaining the highest safety level.





## **5. DROPS findings are not closed**

On some installations we discover the same DROPS findings year after year.

Management do not prioritize resources on closing findings.

**Year 1**



**Year 2**



**Year 3**



**6. *DROPS work is not prioritized. Operation comes first.***

Some clients are very focused on operation and find little time and resources available for DROPS work.

Usual problems are

- Limitations on POB
- Inspectors have to work on nightshift in the dark
- Too short time available to do the inspection or closing of findings in a satisfactory way.



### *Special challenges in Brazil*



- DROPS prevention is new in Brazil.
- Attitude towards DROPS and safety.
- Housekeeping at height.
- Available materials for secondary retention like self locking nuts, carabiners etc. in the right quality.
- General DROPS knowledge within the rig crew.
- Use of 2 part shackles without cotterpin.
- Missing secondary barrier on objects at height.
- Secondary barrier is not correctly fitted.

# ***HOW CAN YOUR COMPANY IMPROVE?***

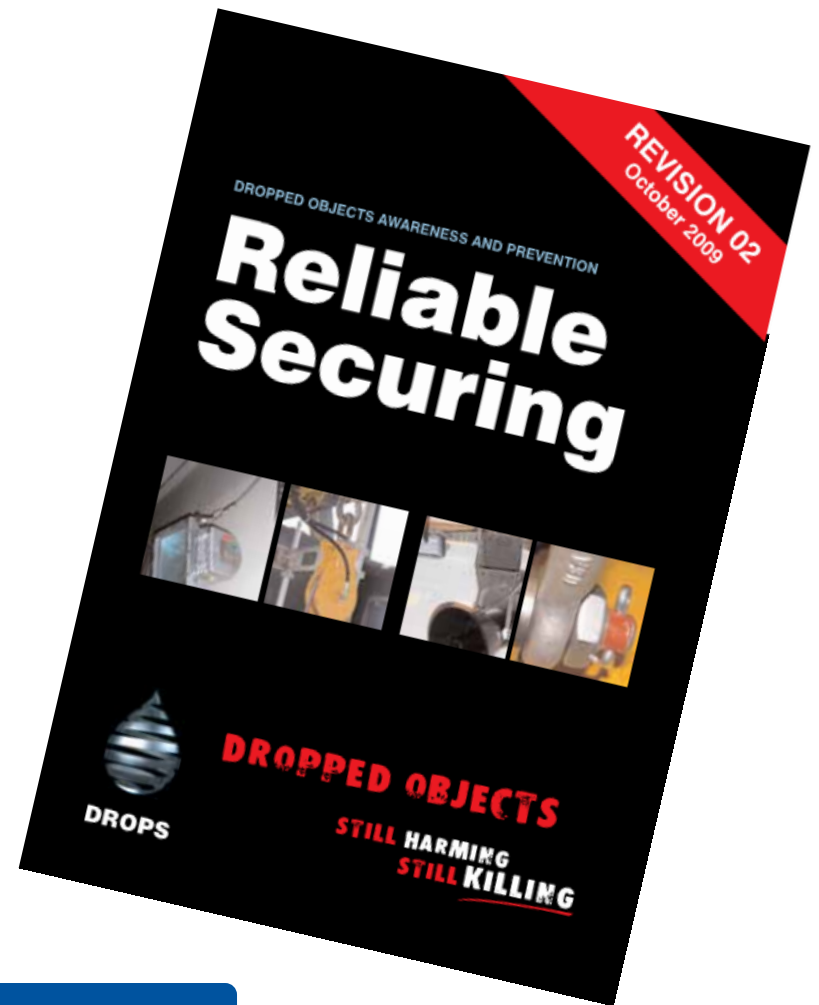


DROPS seems to be anchored in the top management.



Where we experience the challenges are within the offshore rig management and among the rig crew.

All personnel working in DROPS exposed areas on the rig should have **basic training** in the DROPS best practice booklets.



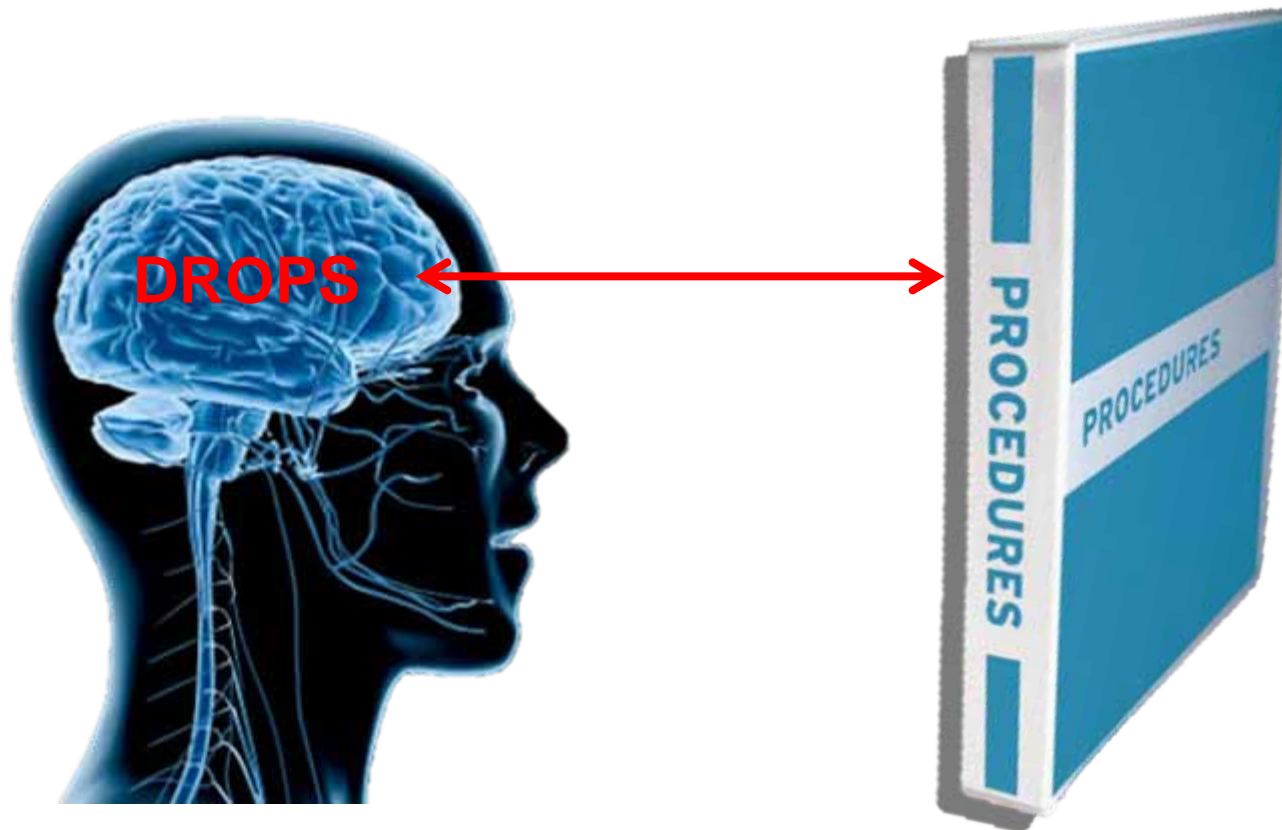
Rig managers, technical superintendents, stability section leaders, drilling section leaders, safety officers, drillers and other relevant personnel

**Should have a basic introduction to DROPS work and to the best practice for prevention of dropped objects.**



The company **DROPS procedures** must be followed up by the company HSE management.

DROPS procedures must be **active documents**.



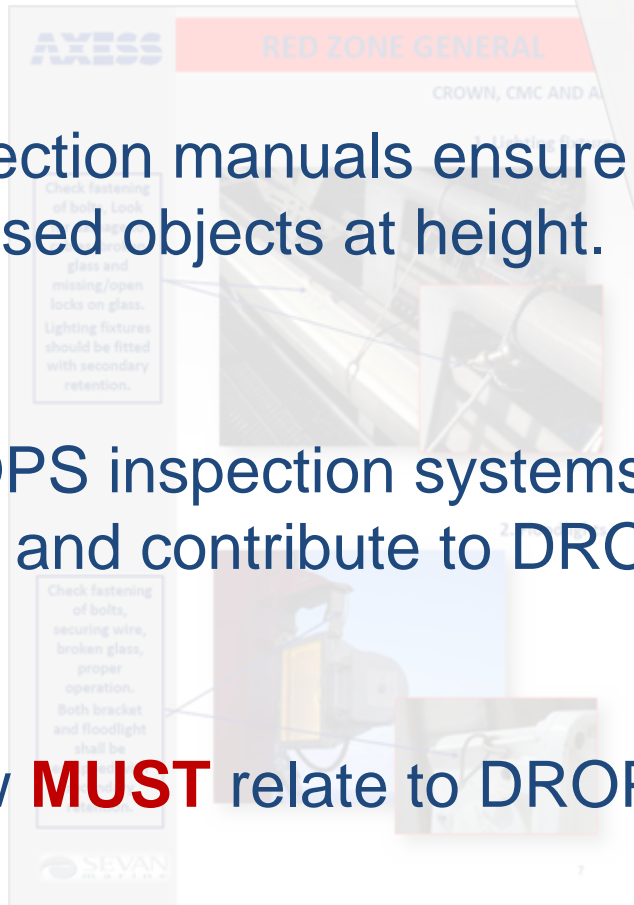


**DROPS inspection systems** are the most important measure for preventing dropped objects.

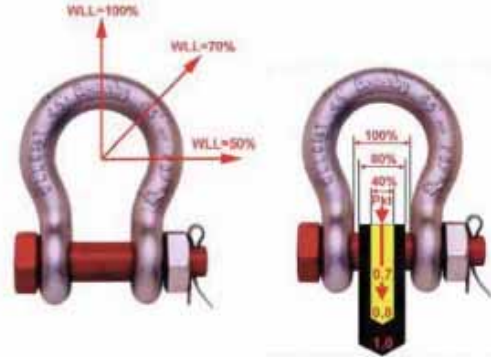
Inspection manuals ensure frequent inspections of all exposed objects at height.

DROPS inspection systems involve the rig crew in the drops work and contribute to DROPS awareness and knowledge.

Crew **MUST** relate to DROPS work at least once a month.



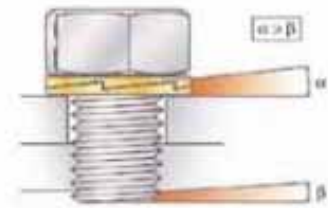
# Correct materials for secondary retention must be available.



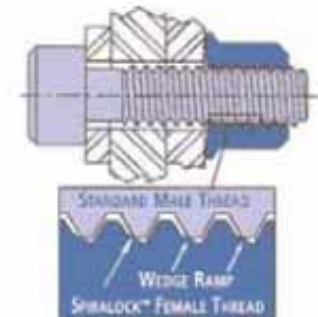
Safety-wiring



Nord-lock bolt



Spiralock nut



The cost for storing a small amount of materials onboard is very low.

The HSE benefit is very high.

Buy secondary retention materials of good quality and use it!



## **Close DROPS findings after the inspections!**

Don't let the findings stand untouched until next annual inspection.



# Give DROPS prevention priority

1. Educate crew in DROPS prevention.
2. Make DROPS inspection systems.
3. Follow corporate DROPS procedures.
4. Purchase required materials for DROPS prevention.
5. Close DROPS findings from inspection reports.

# Thank you for your attention.



## Any questions?