# Hoist Safety – Capstan Meeting Kit

## WHAT'S AT STAKE

Capstan hoists are strong machines that help us pull and lift heavy loads safely. They make tough jobs easier, but only if we use them the right way. When things go wrong—like a rope snapping or a load slipping—it can happen fast and cause serious injuries.

If a capstan hoist isn't handled properly, it's not just people who get hurt. Equipment can get damaged, work can stop, and projects can be delayed. Staying safe with capstans protects everyone on the job and keeps things running smoothly.

## WHAT'S THE DANGER

Capstan hoists may look simple, but the risks are real – and fast. One small mistake, like improper rope handling or skipping an inspection, can lead to serious injury or worse. Understanding the full range of hazards is the first step to staying safe.

**Entanglement and Pull-In Hazards**

Capstan hoists have a spinning drum that creates powerful pulling force. If a worker wraps the rope around their hand, arm, or body – even for a second – they can be pulled in instantly. Loose clothing, gloves, jewelry, or untied long hair can also get caught in the rotating drum. These incidents can lead to severe injuries, including broken bones, lacerations, or amputations.

**Overloading the Capstan**

Every capstan has a rated load capacity. Exceeding that limit puts enormous stress on the equipment, rope, and anchor point. Overloaded systems may not fail right away, but they can suddenly give out mid-lift, causing the load to fall or swing dangerously.

**Poor Anchoring and Stability**

If the capstan isn’t properly anchored, it can shift or tip during operation. On uneven or unstable ground, even normal use can cause the unit to become unstable. A tipping capstan can injure workers nearby or cause the load to drop unexpectedly.

**Damaged or Improper Rope Use**

Using ropes that are frayed, stretched, or not rated for the task can lead to sudden failure under tension. Likewise, mismatched rope diameter or material (like using nylon instead of a recommended polyester rope) can affect the grip on the drum and cause load slippage.

# HOW TO PROTECT YOURSELF

Using a capstan hoist safely means being smart and paying close attention every single time you’re on the job. These machines are powerful, and if you get careless, things can go wrong in a flash. The good news? Following a few simple steps can keep you and everyone around you safe.

**Use the Right Rope and Keep It Clear**

Always use rope that’s rated and approved for the specific capstan hoist. The rope should match the diameter and type recommended by the manufacturer — usually synthetic, like polyester. Before each use, inspect it for fraying, cuts, burns, or stiffness. Never use damaged rope. During operation, keep your hands, body, and clothing clear of the rope and the rotating drum. Never wrap rope around your hands or body.

**Set Up the Capstan Safely**

Make sure the capstan is on stable, level ground and is properly anchored before you begin. If using a vehicle-mounted capstan, confirm the vehicle is parked securely with the brake engaged. Test the hoist under a light load before attempting a full lift.

**Stay Alert and Communicate Clearly**

Never work alone with a capstan. Have someone watching out and communicating with you – hand signals, radios, or clear calls can make all the difference. Good communication helps avoid surprises and keeps everyone ready for what’s coming next. Remember, distractions are dangerous, so stay focused on the task.

**Inspect the Equipment**

Don’t skip inspections! Check the whole capstan – look for cracks, loose bolts, oil leaks, or anything unusual. Make sure the drum spins freely and controls respond well. If something seems off, tag it out and get it fixed before you use it again.

**Quick Safety Reminders:**

- Use rope rated for capstan use only – inspect it before every job
- Keep clear of the drum – never wrap rope around body parts
- Anchor the capstan securely on level ground
- Always work with a trained partner or spotter
- Report damaged equipment and never use it until repaired

**Tip:**

Never let your guard down around moving rope. One moment of distraction can lead to a lifetime injury. Stay focused, stay clear, and always follow proper procedures.

# FINAL WORD

Capstan hoists are powerful tools, but they demand respect and attention. Using the right rope, setting up correctly, and staying alert can prevent serious injuries. Safety isn’t optional – it’s part of every lift.