Safe Use of Rigging Equipment — study guide

Rigging gear — slings, shackles and hitches — is what actually holds the load. Using it correctly is a matter of hazards, hitches and honest weights. This guide covers the main points.[1][2]

Hazards

The main hazards associated with rigging equipment in heavy lifts are overloading the rigging equipment, rigging equipment failure, and unsecure connections. Moving loads should **never** be touched by hand.

Lifting equipment around the ship

Overhead cranes are commonly found in the engine room to move heavy equipment around within the engine room. **Jib arm cranes** are often located close to the side of a vessel to lift equipment or provisions to and from the shore. **Tripod lifts** are used mainly to move heavy equipment in locations not accessible by fixed lifting equipment.

Assessment and unknown loads

When planning a lift, consider both general experience with lifting operations and familiarisation with the specific equipment; the supervisor should have a **clear view**. If the weight of a load is not known and cannot be weighed, or the information cannot be sufficiently trusted, the weight should be estimated based on the **volume and density**.

Hitches

- **Two vertical slings** — the most simple but effective setup, where the weight is distributed evenly on both slings.
- **Choker hitch** — leads the sling around the load with one end through the other eye, tightening on itself.
- **Basket hitch** — used for objects such as pallets, with the sling led through the pallet or around the bottom of the cargo and back into the hook.
- **Bridle hitch** — used for uneven loads with lifting points.

The **Safe Working Load (SWL) is not independent of the equipment's configuration** — it changes with how the gear is rigged, so the statement that it remains constant is false.

Storage and selection

Rigging equipment should be stored so that it is controlled to prevent unauthorised use, accessible so it can be checked before use, and secure to reduce the risk of accidental damage and slow down deterioration. When selecting rigging equipment, take into consideration the purpose for which it will be used, the place it will be used,

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the safe working load (SWL), and the conditions under which it will be used. **Chain slings** are resistant to cutting and abrasion and are very durable.

Key facts to remember

- Main hazards: overloading, equipment failure, unsecure connections. Never touch a moving load by hand.
- Overhead cranes (engine room), jib arm cranes (ship's side), tripod lifts (inaccessible locations).
- Consider general experience and specific-equipment familiarisation; supervisor needs a clear view.
- Unknown weight → estimate from volume and density.
- Hitches: two vertical (even), choker (self-tightening), basket (pallets), bridle (uneven loads).
- SWL depends on the configuration — it is not constant.
- Storage: controlled, accessible, secure. Selection: purpose, place, SWL, conditions. Chain slings resist cutting/abrasion.

Sources

1. Lifting Operations and Lifting Equipment Regulations (LOLER) 1998 (UK) — rigging, SWL and inspection of lifting accessories.
2. Code of Safe Working Practices for Merchant Seafarers (COSWP) — Maritime and Coastguard Agency (MCA) (rigging and slinging).