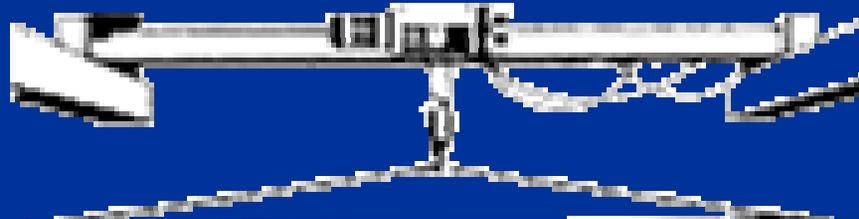


Cranes, Hoists and Slings



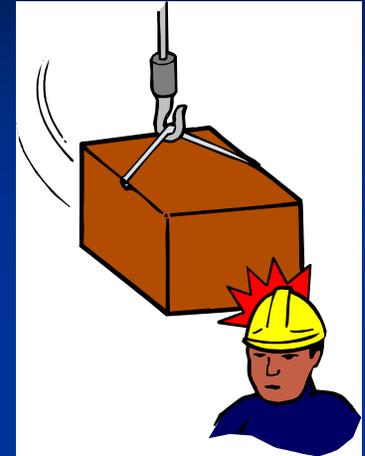
Amy Riley
MASC Safety
Technician

Cranes, Hoists and Slings

- **Hoist operators must inspect equipment daily before use.**
- **Do not operate a crane or hoist if limit switches, steel ropes, chains or other components are worn or in disrepair.**
- **Replace nylon or web slings immediately if excessively worn.**

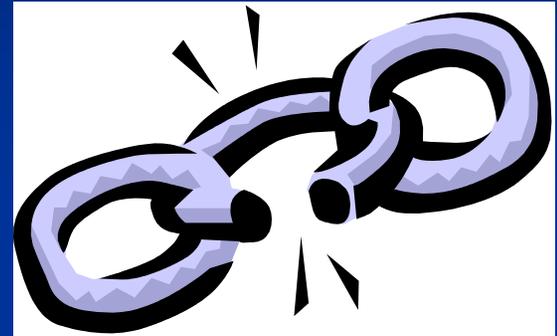
Cranes, Hoists and Slings

- **Associates in the direction of travel should be warned to move and remain clear of a lifted load at all times.**
- **Loads should not be suspended over personnel below.**
- **Under no circumstances may anyone ride the hook or load.**
- **Directional movement should be made smoothly and deliberately. Avoid rapid movements in any direction.**



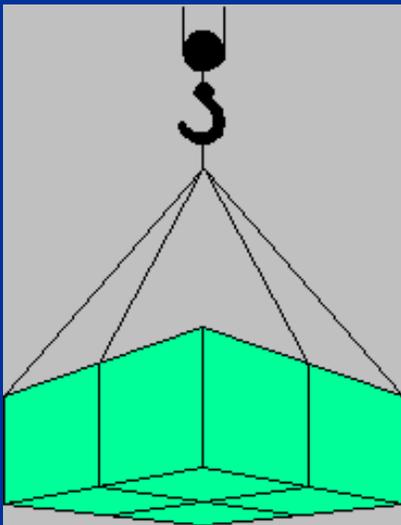
Cranes, Hoists and Slings

- **Do not exceed the rated load capacity of the crane, hoist, chain, cable, slings, or other component.**
- **Slings, load chains and other lifting devices must be fully and securely seated in the hook before moving a load. Remove slack from the sling, chain, or cable before lifting a load.**



Cranes, Hoists and Slings

- **Use the following practices to avoid swinging loads:**



- > **Locate the hoist directly above the lifting point of the load before lifting.**
- > **Lower loads directly below the hoist.**
- > **Keep hoisting ropes vertical. Do not pull or push the load.**
- > **Maintain two full wraps of cable on the hoisting drum.**

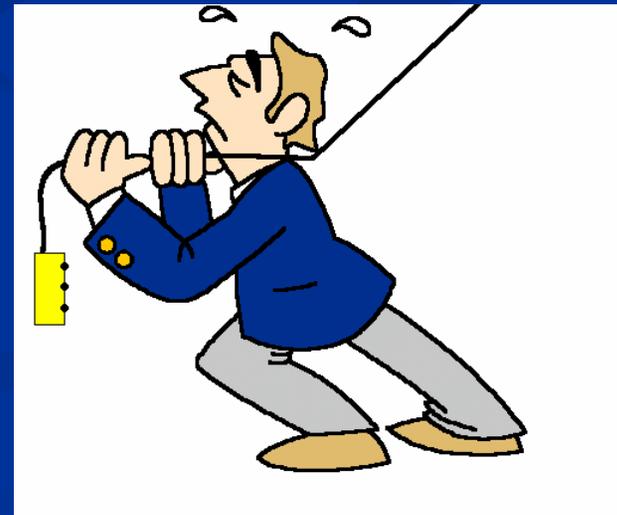
Cranes, Hoists and Slings

- **When lifting loads at or near capacity, test the hoist brakes by returning the master switch or push button to the “OFF” position after raising the load a few inches off the floor. If the brakes do not hold, lower the load to the floor slowly and do not operate the crane. Report the situation immediately and DO NOT USE until repaired.**



Cranes, Hoists and Slings

- **Ensure that all loads are lifted high enough to clear obstructions before moving the bridge or trolley. Whenever possible, maintain a minimum clearance of one foot above loads and to the sides. Raise the load only to the height necessary to clear lower objects.**
- **Never pull a hoist by the pendant cable.**

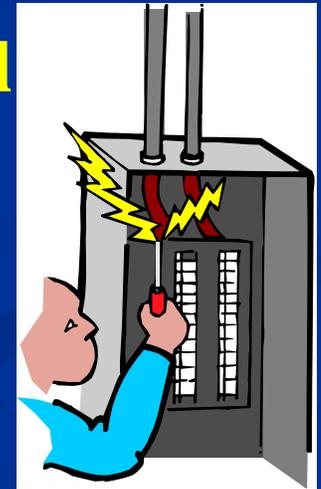


Cranes, Hoists and Slings

- **Never leave the controls unattended while a load is suspended. If it becomes necessary to leave the controls, lower the load to the floor.**
- **Familiarize yourself with the location of the disconnect switch.**
- **If loss of electrical power occurs, place controls in the “OFF” position to prevent unexpected startup upon restoration of power.**

Cranes, Hoists and Slings

- **Disconnect power to a hoist that is unsafe or in need of repair. Arrange to have the disconnect switch locked and the control panel tagged with and “Out of Order” or “Do Not Operate” tag. Never operate a hoist that has been tagged with an “Out of Order” or “Do Not Operate” tag, or is your opinion, UNSAFE TO OPERATE...**



HOISTS / CRANES

Daily Inspection Checklist

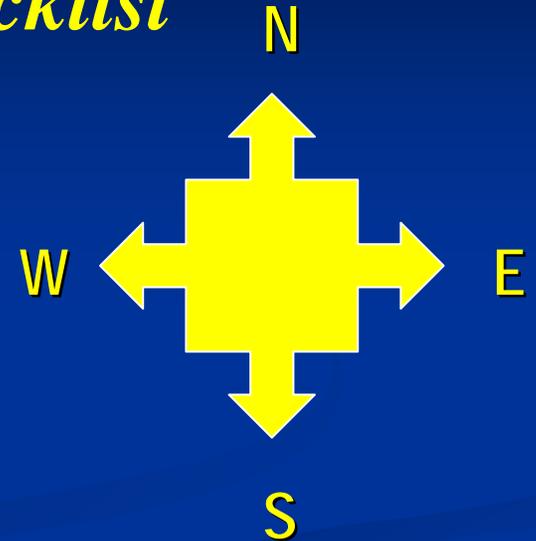
- **Check for any loose or missing parts.**
- **Check end stops. End stops prevent the trolley from running off the beam.**
- **Know the location of disconnect switch that will cut the power off only to the hoist or crane. Be sure it is readily accessible and not blocked.**



HOISTS / CRANES

Daily Inspection Checklist

- **Make sure all control buttons are labeled to indicate their function. Operate each button to make sure it functions properly, releases immediately, and does not stick.**
- **Check upper hoist limit switch by slowly raising the block to trip the switch.**
- **Lower the hoist block to activate the lower limit switch if the hoist is so equipped, leaving at least one turn of rope on the take-up drum.**



HOISTS / CRANES

Daily Inspection Checklist

- **Make sure wire rope is properly seated in its drum and sheave grooves without any slack or overlapping.**
- **Operate the crane or hoist several feet in each direction that it travels. Listen for any unusual noises. Look for any jerky movements.**
- **When moving an A frame hoist, take care to ensure that the wheels on each side stay on the track.**

HOISTS / CRANES

Daily Inspection Checklist

- **Check all hooks. Hooks should not be cracked, stretched, bent, or twisted. Each hook must have a safety latch that automatically closes the throat of the hook. If the latch is bent, spring is broken, or is otherwise damaged the latch must be repaired before use. Hooks should rotate freely in block assembly without any “grinding” felt or heard.**

HOISTS / CRANES

Daily Inspection Checklist

- **Check the block assembly for structural damage or cracks in any components. Sheaves should rotate freely without any grinding felt or heard coming from the bearings. The sheave guard must be unbroken and intact. No part of the sheave guard should be in contact with the wire rope or sheave.**



HOISTS / CRANES

Daily Inspection Checklist

- **Check the wire rope by lowering the block to the lowest level and looking for the following conditions. If any of these conditions are observed, they should be reported immediately.**
 - > **Reduced diameter of the rope. This may indicate the rope has been stretched, has lost its inner core support, or has worn outside wires.**
 - > **Any number of broken strands of wires.**
 - > **Kinked, crushed, cut, or “bird caged” wiring, or wiring with heat damage.**



HOISTS / CRANES

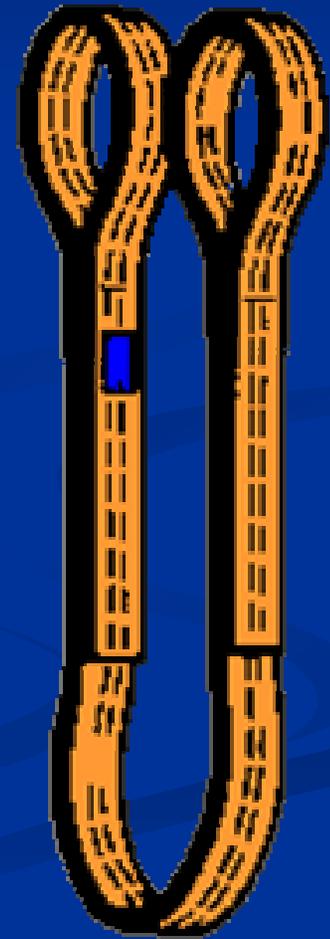
Daily Inspection Checklist

- **Check load chain for damage, wear at contact points, cracks, or distorted (bent, twisted, or stretched) links. Inspect all mechanical coupling links to insure linking pins are secure and in good condition. Report unsafe conditions immediately.**

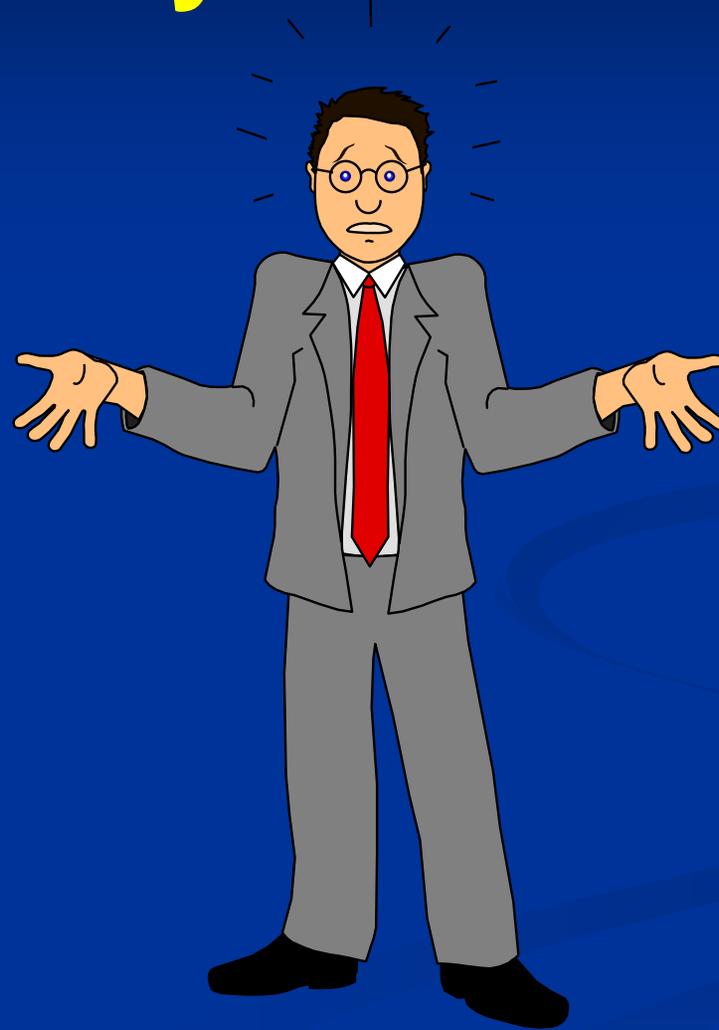
HOISTS / CRANES

Daily Inspection Checklist

- **Check the condition and capacity of nylon or synthetic web slings. Capacity ratings must be legible on the manufacturer's label. The capacity of the sling being used must be adequate for the load and attachment method. Replace slings immediately if excessive wear occurs.**



Any Questions?



Questions

- If you have any questions or concerns please contact the MASC Regional Safety Manager at (303) 497-3912 or at Rhonda.S.Carpenter@noaa.gov.