

## EG-09: Remove/Replace Hoist

### SAFETY FIRST

- Follow all Caterpillar facility safety standards when performing this task.
- A moving equipment hazard exists when operating the man lift. Always use the required warning equipment and wear a safety harness.
- A moving equipment hazard and overhead hazard exist when operating the mobile crane. Always use the required warning equipment to secure the area.
- There is an electrical hazard when working on an electric hoist.

### EQUIPMENT

- man lift
- mobile crane
- basic Maintenance Mechanic hand tools
- lifting/rigging devices (nylon slings and chains)
- safety cones, tape, signs, and/or guard rails
- safety harness

### RESOURCES

- hoist model number/weight capacity from the boom

### Remove/Replace Hoist

#### 1. Obtain the replacement hoist.

- Replace the hoist with a hoist of the same capabilities, including air or electric, cable or chain, and weight.

#### 2. Ask your assistant to obtain and position the mobile crane.

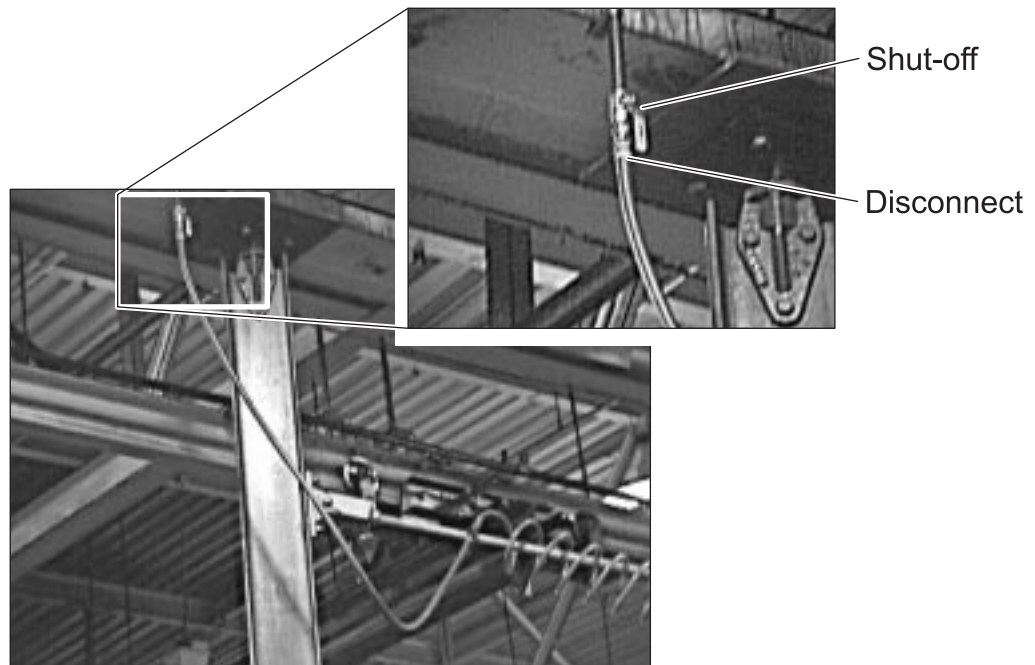
- Position the crane for maximum efficiency for clearly reaching the hoist at the end of the boom.

#### 3. Obtain and position a man lift.

- Put on the safety harness.



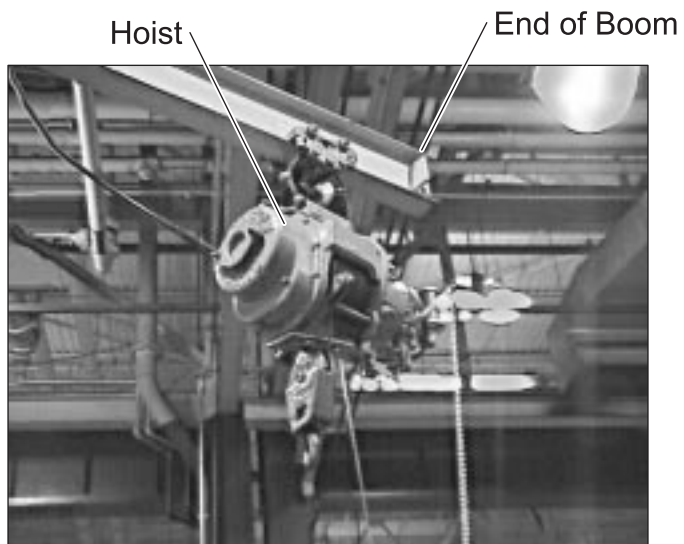
4. **Secure the work area.**
  - Place safety cones, tape, and/or guardrails as needed to secure the work area.
5. **Gather the required tools and equipment.**
  - Place the required tools in the man lift bucket.
6. **Communicate with your assistant (crane operator) to plan the job.**
  - Only one person (the one removing the hoist) will provide hand signals to your assistant.
  - Discuss any problems or hazards that may arise as the hoist is removed.
  - Tell the crane operator what you are going to do.
7. **Disconnect the power source.**
  - Shut off the air and disconnect the air hose.



### **Air Hose Disconnection**

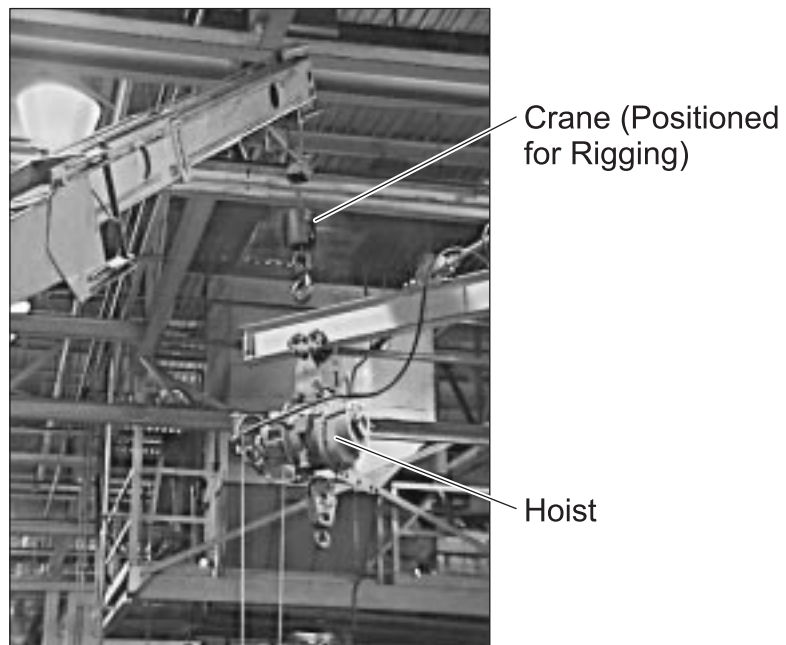
- Ask an Electrician to lockout/tagout an electric hoist. Remember to attach your own personal lock.

8. Roll the hoist to the end of the boom.



**Hoist Placement**

9. Rig the hoist to the crane.



**Rigging the Hoist**

10. **Signal the crane operator to tension the slack on the rigging.**
  - Look for potential slips to verify the rigging.
11. **Signal the crane operator to raise the trolley from the boom.**
12. **Remove the end stops from the boom.**

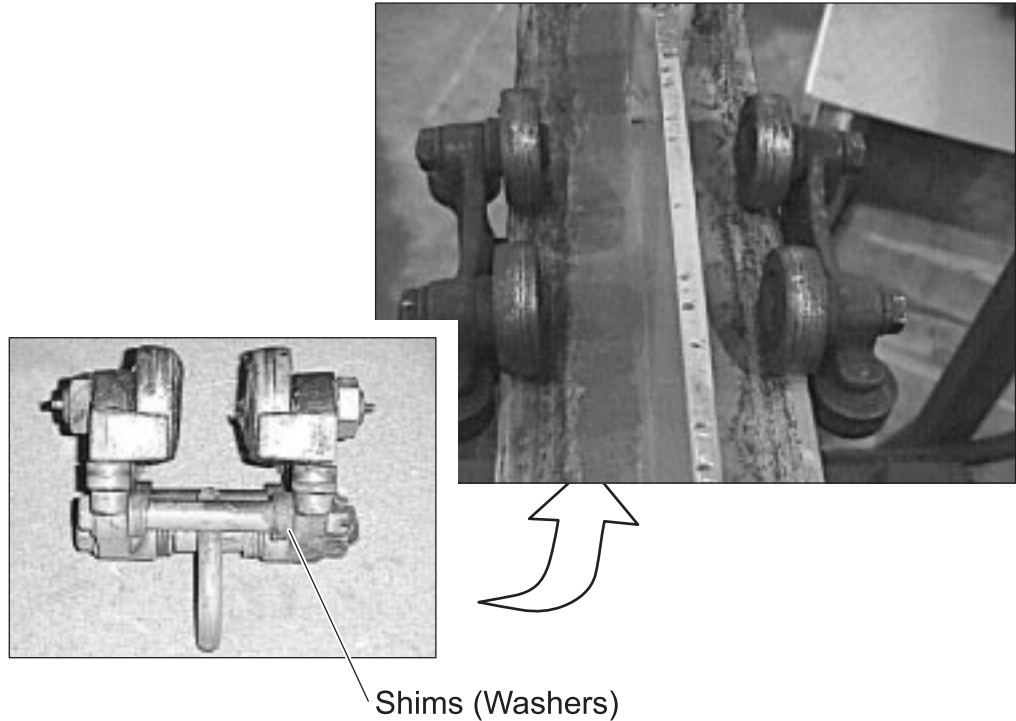
End Stop



### End Stops


13. **Signal the crane operator to remove the hoist from the boom.**
  - Lower the man lift to the floor.
  - Signal the crane operator until the old hoist is safely on the floor, tub, or return pallet.
  - Unhook the hoist and rig the replacement hoist for lifting.

14. **Align/shim the trolley as needed to ensure smooth and even wheel travel along the boom.**



### Aligned and Shimmed Trolley

15. **Rig and lift the new hoist.**
  - Attach the safety cable between the trolley and the hoist, if it is not already attached.
16. **Signal the crane operator to raise the new hoist into position.**
17. **Return to the man lift and position the bucket into working position.**
18. **Reinstall the trolley to the boom.**
19. **Replace the end stops.**
20. **Remove the lifting devices.**

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21. **Manually test the trolley operation.**
    - Roll the trolley the length of the boom and back to verify straight rail run and smooth operation.
  22. **Reconnect power to the hoist.**
    - Reconnect the air supply and turn on the air, or ask the Electrician to power up the unit.
  23. **Test the hoist for normal operation.**
    - Check the hoist control chain or cable.
    - Verify that the trolley is not damaged.
  24. **Notify the supervisor to have the hoist inspected.**