

Know Your Hoist Operation Guidelines

BY JEAN FEINGOLD

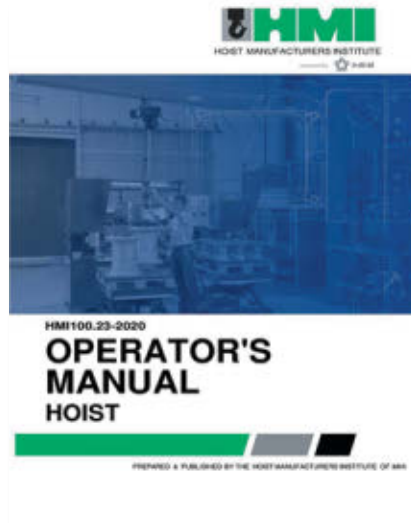
Hoists are used to lift and lower items not easily lifted by a person, making material handling tasks much easier. Operating and maintaining hoists correctly is necessary to prevent injury to workers. Toward that end, MHI's Hoist Manufacturers Institute (HMI) has recently updated two documents to help MHI members and other hoist owners, users and maintenance staff operate and maintain hoists safely.

"Hoist Operator's Manual" and "Recommended Practices for Electric and Air Powered Hoists" are designed to supplement company safety practices and hoist manufacturers' instructions. Both documents can be downloaded at no charge from the MHI website.

Recognized as the leading authority and principal resource in the hoist industry, HMI members are the leading suppliers of hoisting equipment. Products they offer include hand chain hoists, ratchet lever hoists, powered chain hoists, trolleys and powered wire rope hoists. Comprised of representatives from member companies, committee members work together to create technical publications promoting the safe use of hoist products, and their proper inspection and maintenance recommendations. More information on HMI and its members can be found at www.mhi.org/hmi.

The revised hoist documents

The "Hoist Operator's Manual" is available at mhi.org/free/4570. It lists hoist types, covers the duties and responsibilities of hoist operators, describes the motions of hoists and trolleys and explains the operation of manual, electric and air powered hoists. It also includes recommended practices for hoist operations. Perhaps most importantly, the manual enumerates and explains the need for regular inspection, maintenance and repair of hoists.



An example of a possible problem that could be prevented by following the guidelines in the HMI documents is doing visual inspection of the lifting medium. "If the operator sees a frayed wire rope or elongated chain link before operating it, the probability of having a heavy load dropped because of a broken rope or chain is eliminated," explained HMI member Brian Stephens, senior product manager at MHI member Demag Cranes and Components Corp. "The hoist operator is responsible for regular visual inspections of the equipment."

"Recommended Practices for Electric and Air Powered Hoists" discusses what to do and what to avoid when using powered hoists. There are two sections: Warnings and Cautions. These are differentiated based on the severity of the potential hazards.

Warnings cover incorrect practices that could result in serious injury or death if not avoided. Some examples of Warnings for the operator are:

- Shall NOT operate a damaged, malfunctioning or unusually performing hoist.
- Shall NOT operate the hoist until you have thoroughly read and understood



the manufacturer's Operating and Maintenance Instructions.

- Shall NOT operate a hoist which has been modified without the manufacturer's approval or without certification in conformity with applicable ANSI/ASME B30 standard(s).
- Shall NOT lift more than rated load for the hoist.
- Shall NOT use hoist with twisted, kinked, damaged or worn load chain or wire rope.
- Shall NOT use the hoist to lift, support or transport people.
- Shall NOT lift or move loads over people.

Cautions cover operating mistakes that could result in minor or moderate injury. Some operator Cautions are:

- Shall maintain a firm footing or be otherwise secured when operating the hoist.
- Shall check brake function by tensioning the hoist prior to each lift operation.
- Shall make sure the load is free to move and will clear all obstructions.
- Shall avoid swinging the load or hook.
- Shall inspect the hoist regularly, replace damaged or worn parts and keep appropriate records of maintenance.

Consult "Recommended Practices for Electric and Air Powered Hoists" at www.mhi.org/free/4601 for the complete lists of Warnings and Cautions.

Training is necessary

It is essential that hoist users be properly trained to ensure safe hoist operation. This training is readily available from many HMI members and should be included as part of the deal when buying any new hoist. "If a hoist product is changed out and is different from the previous model, operators need to learn about any changes in operation and maintenance," Stephens said.

HMI member Terry Hershner, who is staff engineer and quality control manager at MHI member Acco Material Handling Solutions, recommends hoist users be trained in safe hoist operation, inspection, maintenance and repair when they first start using hoists. Continuing training should be done at least annually and every time there is a revision to the hoist manufacturer's manuals.

The importance of the HMI documents

Two other hoist documents published by MHI were reviewed by HMI and needed no changes. They are "Recommended Practices for Hand Chain Manually Operated Chain Hoists" (mhi.org/free/4602) and "Recommended Practices for Manually Lever Operated Chain Hoists" (mhi.org/free/4603). They are available in English, French and Spanish. Links to additional hoist manuals and checklists are available here: mhi.org/hmi/technical-papers.

RECOMMENDED PRACTICES HAND CHAIN MANUALLY OPERATED CHAIN HOISTS	
<p>The owner, the user and the operating personnel are responsible for ensuring that good safety practices are followed because the manufacturer has no direct control over the hoist and its operation. ANSI/ASME B30.16 has been used as a guide in preparing this list of SHALL'S and SHALL NOT'S. Ask your supervisor for a copy. Signal words, CAUTION and WARNING indicate the degree of seriousness and are identified according to ANSI/NEMA Z535.6. The following information does not constitute a comprehensive safety program, cannot guard against pitfalls in operating, selecting and purchasing such equipment, and should not be relied upon as such. For additional information on manually operated lever hoist operation, inspection and maintenance visit the Hoist Manufacturers Institute at http://www.mhi.org/hmi.</p>	
<div style="text-align: center;">WARNING</div> <p>Improper operation of a system can create a potentially hazardous situation which, if not avoided, could result in <u>death</u> or <u>serious injury</u>. To avoid such a potentially hazardous situation, the operator:</p> <ul style="list-style-type: none"> • Shall NOT operate the hoist until you have thoroughly read and understood the manufacturer's Operating and Maintenance Instructions or Manuals. • Shall NOT operate a damaged, malfunctioning or unusually performing hoist. • Shall NOT Operate a hoist which has been modified without the manufacturer's approval or without certification that it is in conformity with applicable ANSI/ASME B30 standard(s). • Shall NOT operate a hoist unless all persons have been warned of the load and remain clear of the supported load. • Shall NOT use the hoist to lift, support, or transport people. • Shall NOT lift or move loads over people. • Shall NOT lift or pull more than rated load for the hoist. • Shall NOT use damaged hoist or hoist that is not working properly. • Shall NOT use hoist with twisted, kinked, damaged, or worn 	<div style="text-align: center;">CAUTION</div> <p>improper operation of a system can create a potentially hazardous situation which, if not avoided, could result in <u>minor</u> or <u>moderate injury</u>. To avoid such a potentially hazardous situation, the operator:</p> <ul style="list-style-type: none"> • Shall maintain a firm footing or be otherwise secured when operating the hoist. • Shall check brake function by tensioning the hoist prior to each lift operation. • Shall use hook latches. Latches are to retain slings, chains, etc. under slack conditions only. • Shall make sure the hook latches are closed and not supporting any part of the load. • Shall make sure the load is free to move and will clear all obstructions. • Shall avoid swinging the load or hook. • Shall inspect the hoist regularly, replace damaged or worn parts, and keep appropriate records of maintenance. • Shall use the hoist manufacturer's recommended parts when repairing the unit.

"The benefit of the HMI documents is they have a baseline amount of safety-related information that would apply to a broad range of manufacturers as opposed to a single manufacturer," said Hershner. "In-house or manufacturer sponsored training should be based on the hoist manufacturer's instruction, operation and maintenance manuals. Manufacturer's manuals provide

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specific product information while the HMI documents are written to cover all products provided by HMI members."

"The HMI documents give hoist users a comprehensive overview on how to use hoisting products safely in their facilities," Stephens agreed. "Almost everything within the HMI documents would be included in the manufacturer's documentation or product training but would be specific to the brand of that manufacturer. These documents are not brand specific. They give excellent generic knowledge of what should or what should not be done when using a lifting device. This could be of great benefit to a facility that has multiple brands or styles of lifting equipment. The HMI documents can be a valuable training tool for all end users of hoisting products."

To learn more, visit mhi.org/hmi. ●



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