

**1.0 Scope**

- 1.1 To define the requirements for manually lever operated chain hoists.

**2.0 Codes and Standards**

- 2.1 ASME B30.21 "Manually Lever Operated Hoists"
- 2.2 ASME HST-3M "Performance Standard for Manually Lever Operated Chain Hoists"
- 2.3 JIS B 8819 "Manually Operated Chain Lever Hoists"

**3.0 Design**

- 3.1 The manually lever operated chain hoists shall be model L4LB as supplied by Harrington Hoists, Inc. The hoists shall be rated  $\frac{3}{4}$  US Ton through 9 US Ton.
- 3.2 The manually lever operated chain hoists shall meet the design and construction criteria of paragraph 2.1 above.
- 3.3 The manually lever operated chain hoists shall employ a split load double reduction spur gear transmission.
- 3.4 The manually lever operated chain hoists shall be equipped with a dry Weston type mechanical load brake that incorporates two redundant pawls, four braking surfaces, and non-asbestos brake pads that resist humidity and moisture. The brake shall be totally enclosed for protection from impact, dirt, and moisture.
- 3.5 The manually lever operated chain hoists shall have a patented free wheel design that uses a spring loaded free knob which allows for one handed operation of the free wheel features. The pinion shall remain engaged during all phases of operation.
- 3.6 The manually lever operated chain hoists shall be equipped with Grade 100 load chain.
- 3.7 The manually lever operated chain hoists shall be equipped with hooks that are drop forged from carbon steel, and which are designed for ductile mode failure upon overload. The hooks shall have measurement nubs to facilitate inspection measurements. The hooks shall be equipped with spring loaded latch type throat closures. The bottom hook shall be designed for 360 degree swivel.
- 3.8 The manually lever operated chain hoists shall have a single fall of load chain for capacities 3 US Tons and below.
- 3.9 The manually lever operated chain hoists shall be equipped with two contoured chain guides that are tucked into the hoist body where they are out of the way and free from potential interference.

**GENERAL USE**

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- 3.10 The manually lever operated chain hoists shall be have a load sheave with at least four pockets for the load chain. It shall be equipped with a stripping device that keeps the load sheave free of debris.
- 3.11 The manually lever operated chain hoists shall have a hoist body featuring a rugged steel housing and double steel plat construction for load bearing.
- 3.12 The manually lever operated chain hoists shall have a "short" handle (10.4" long for 1 US Ton and below; 16.3" long for 1½ US Ton and above). The handle shall rotate 360 degrees, and shall have a recovery stroke of 15 degrees. The handle shall be equipped with a rubber hand grip.
- 3.13 For applications that require a load sensing feature, the manually lever operated chain hoists shall be equipped with a Load Limit Warning Handle that actuates within 10% of its setting. The Load Limit Warning Handle shall deflect 15 degrees and register a visual red signal to indicate that its setting has been reached. The Load Limit Warning Handle shall be 14.2" long for 1 US Ton and below, and 16.3" long for 1½ US Ton and above. The Load Limit Warning Handle shall be equipped with a rubber hand grip.

**4.0 Documentation**

- 4.1 Each manually lever operated chain hoist shall be supplied with an Owner's Manual that includes the following information.
  - a) Important Information and Warnings
  - b) Installation and Operation
  - c) Inspection
  - d) Lubrication, Maintenance and Handling, and Troubleshooting.
- 4.2 Each manually lever operated chain hoist shall be supplied with a Parts List.
- 4.3 Each manually lever operated chain hoist shall be supplied with a test certificate attesting that the hoist successfully passed a factory load test to 125% of rated capacity in accordance with ASME B30.21 requirements.