

FIG 25–1 —To check the rope of this 1000-lb electric hoist, man inspects 2- to 3-ft increments after rope has come to complete stop To check for frays, he wipes a rag up and down rope

Courtesy Detroit Diesel Engineering Div , General Motors Corp

Hoisting Apparatus

To raise, lower, and transport heavy loads for limited distances, hoisting apparatus has been in use for centuries Today there are traveling cranes in steel mills and power plants and hammerhead cranes in naval shipyards capable of lifting hundreds of tons

Also see the discussion of material and passenger hoists in Chapter 17, "Building Construction and Maintenance"

Hoists – general

Many thousands of hoists (electric, air, and hand powered) are in use in industry Typically, they range from ¼ to 2 tons in capacity, but they can go larger

During a 20-year period, one division of an automobile manufacturing company made 72,000 formal hoist inspections, involving over 600 electric hoists and cranes The inspections disclosed approximately 3000 unsafe cables, 1000 faulty brakes, and 1000 defective limit switches

Scheduled detailed inspection of all hoists, with special attention to load hooks, ropes, brakes, and limit switches, is important (Fig 25–1)

Safety factors, similar to those indicated for cranes, should be allowed for hoists The safe load capacity of each hoist should be shown in conspicuous figures on the hoist body of the machine

Flanges on hoist drums with single-layer spiral grooves should be free of projections that could damage a cable

All hoists should be attached to their supports (fixed member or trolley) with shackles,