

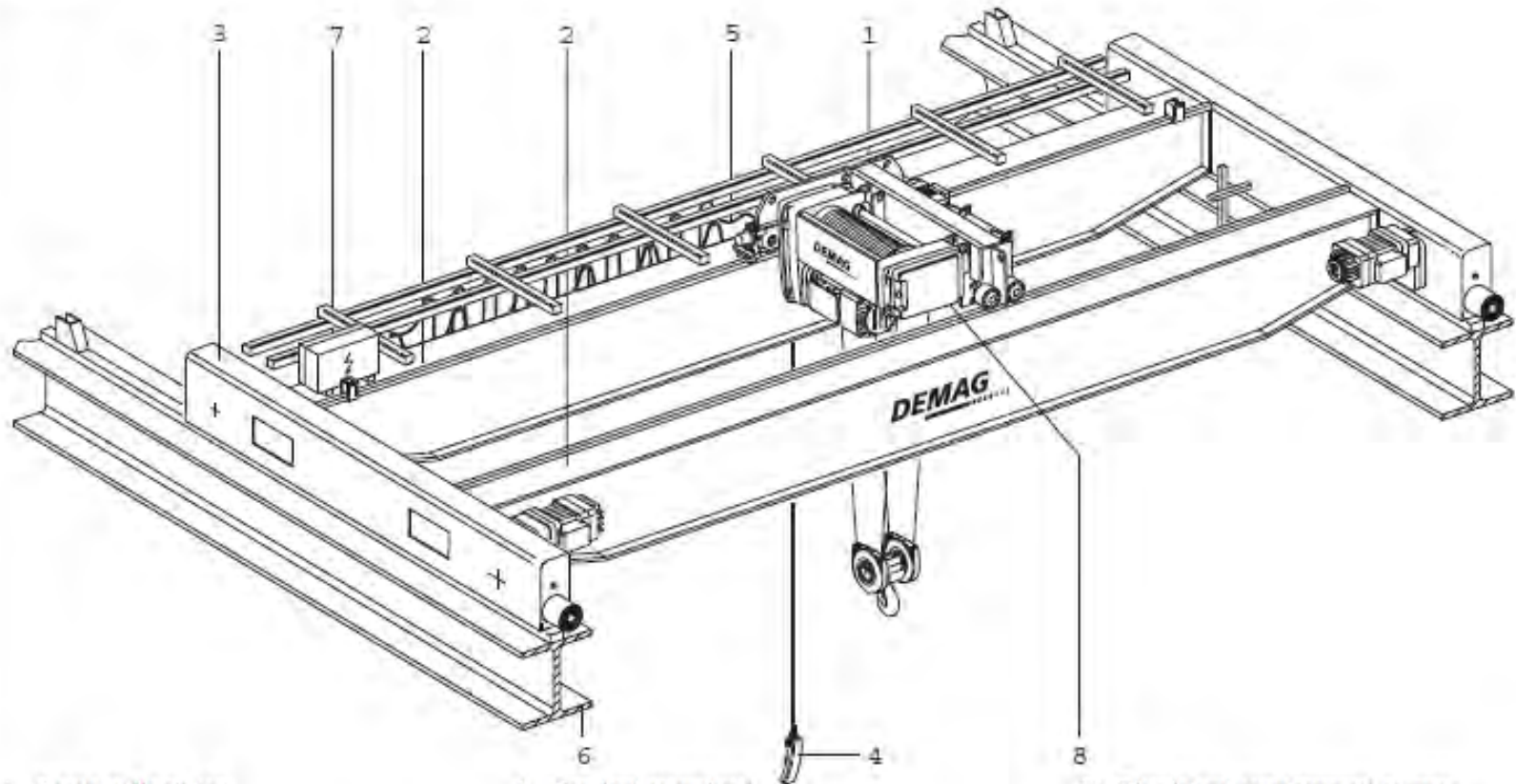
New Shop Bridge Crane Familiarization Training

- 3 new Bridge cranes installed in the new shops
 - Two 20 ton Demag cranes in the main shop area
 - One 2 ton Demag crane under the canopy



20 Ton

ZKKE



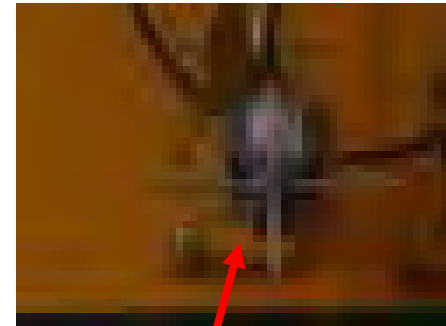
- 1 Crab with drive
- 2 Crane girder
- 3 Travel unit with drive

- 4 Control pendant
- 5 Power supply
- 6 Crane runway

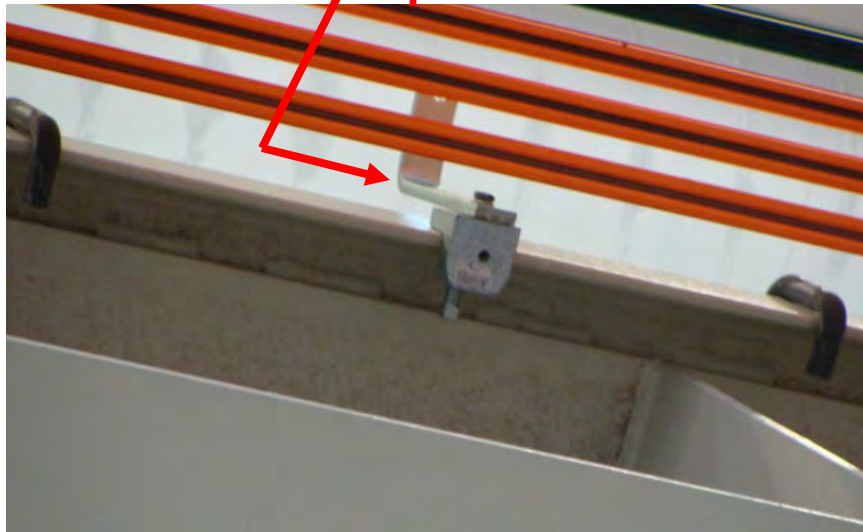
- 7 Electrical equipment crane
- 8 Electrical equipment trolley
- with lifting limit switch
- with load detector

20 Ton Important Mechanical Features

- To avoid running into the end stops at full speed, a slowdown feature is installed.
- When the Slow-down Switch hits the Trip mechanism, approx 20-30 ft from the end block, it lowers the crane speed.
- If the crane is at high speed it will switch to a lower speed.
- If the crane is at low speed it will switch to stop.



Trip-mechanism



Slow-down switch



20 Ton Important Mechanical Features

- Contact at the End Block is softened by the Bridge Bumper.
- **Do Not intentionally run the crane into the end block.**



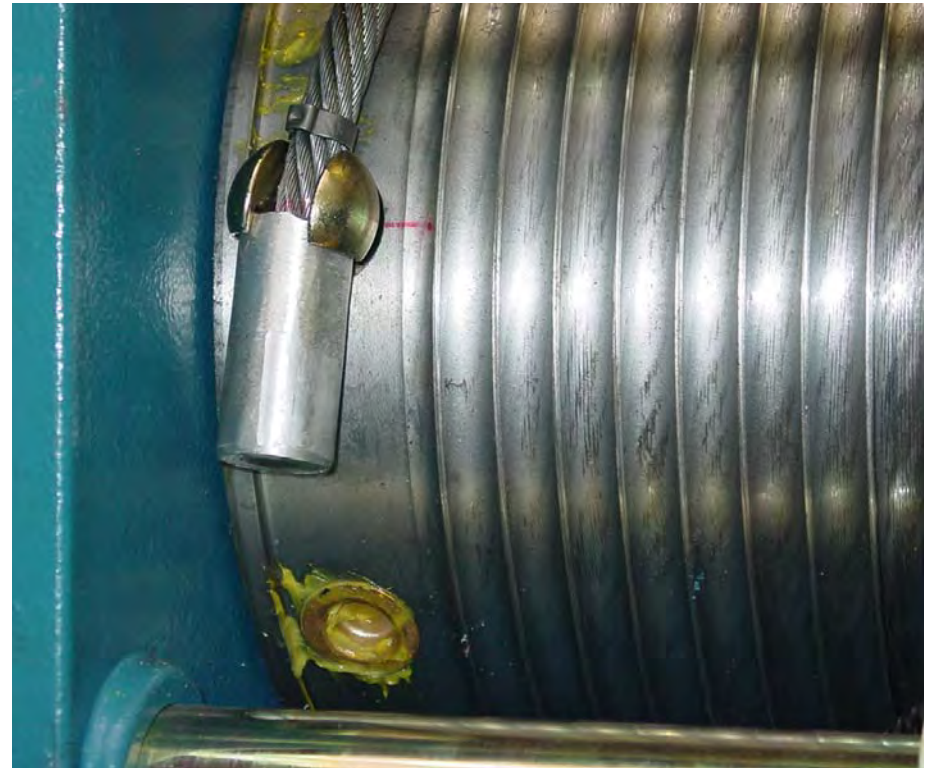
- Collision Avoidance System – The two 20 tons will detect each other and come to a stop approximately 30 feet apart.

20 Ton Important Mechanical Features

- Hoist is programmed to stop prior to contacting the floor.
- If this safety stop is bypassed for any reason, and the hoist is continually lowered, rather than reverse wind back up on itself, causing severe damage, the wire rope at termination is designed to drop off the drum.



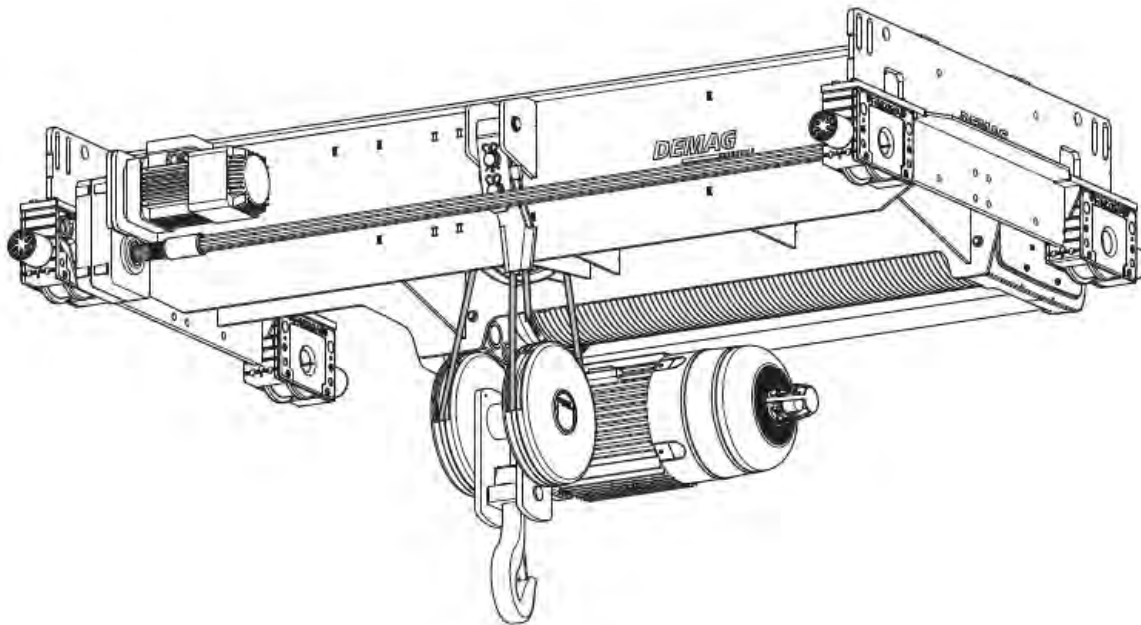
•Rope Guide



•Rope Termination at Drum

20 Ton Important Mechanical Features

- 20 Ton Crane Hook
 - Comes with a Load Scale with digital display which will likely be stored in Tool Issue.
- 20 Ton Trolley



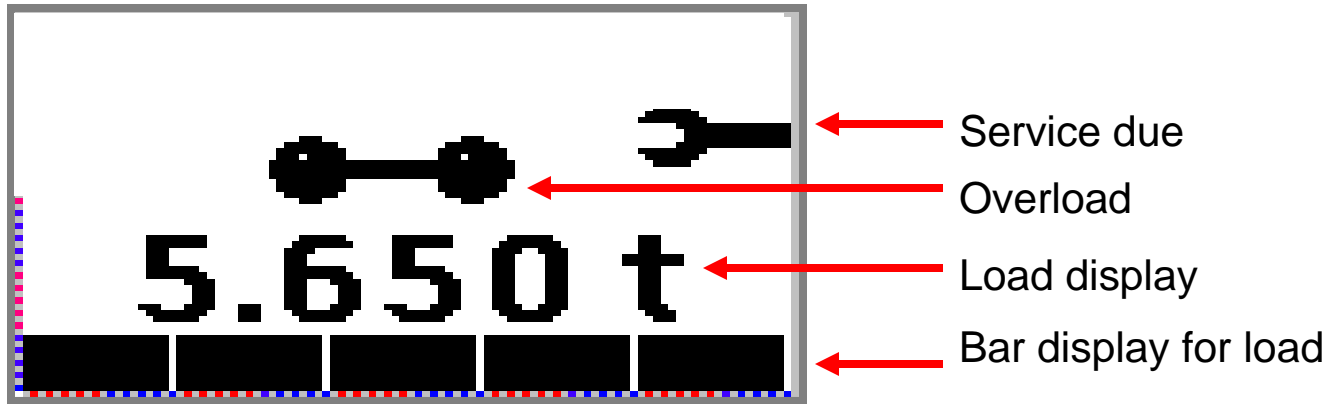
Pendant Control

Note: North, South, East, West, Up, Down decals will replace the arrows.

- Variable Speed: Crane speed will increase the deeper the button is pressed.
- Automatic shutdown on faults.
- Emergency STOP button, if pressed while the crane is moving, will come to a SUDDEN stop.
- Load Indicator Bars at bottom of display – each bar indicates 20% of rated capacity.
- When first turning on the crane at the Pendant, there will be a short “bootup” time.
- To place the crane in Operating Mode – turn the red button clockwise and then pull up.
- To Emergency Stop, or just to place the crane in Stop Mode – press the red button down.
- Turn the power off when the job is complete.
- Horn Button
 - activates the horn at first stage of button press.
 - activates limit switch test at second stage of button press if held for 5 seconds.



Control Display



Error and Warning displays:



247

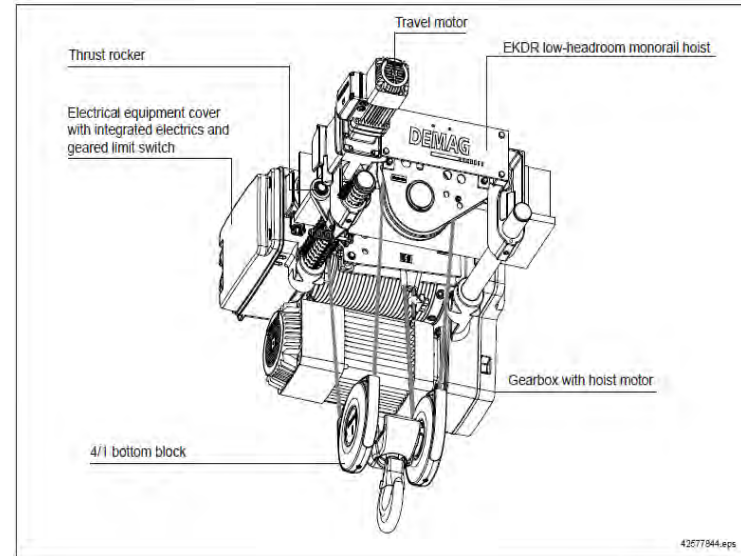
Error with error no. 247



160

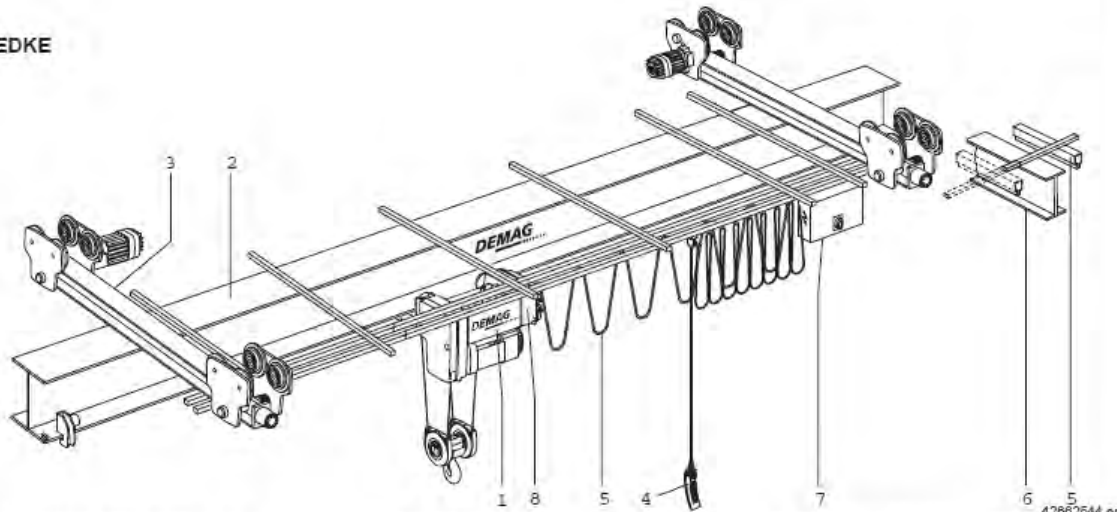
Warning with warning no. 160

2 Ton Crane



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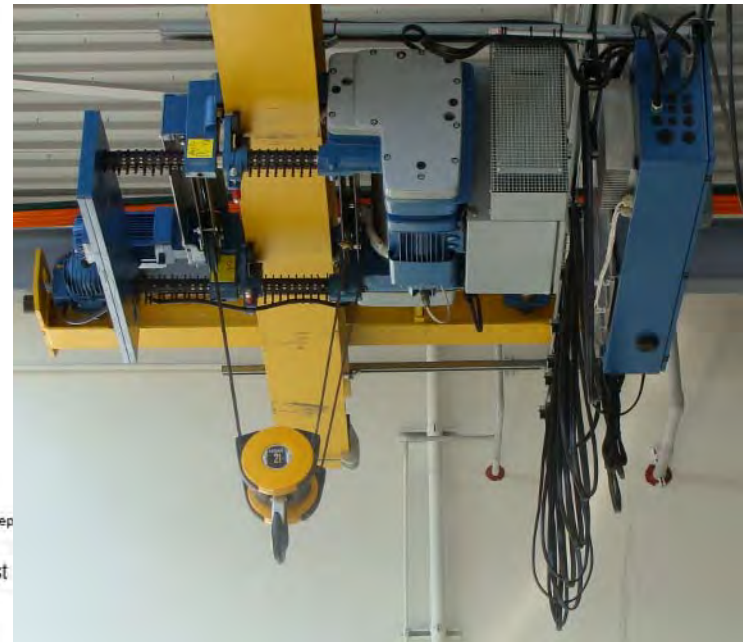


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- 1 Monorail hoist with drive
- 2 Crane girder
- 3 Travel unit with drive

- 4 Control pendant
- 5 Power supply crane, monorail hoist
- 6 Crane runway

- 7 Electrical equipment crane
- 8 Electrical equipment monorail hoist
- with lifting limit switch
- with load detector



Disconnect Switch Locations

- 20 ton Disconnect Switches are located just next to the locker room entry-way.
- 2 ton Disconnect Switch is located under the Canopy on the wall midway between the north end and the mid-shop access-way.



Hand Signals

➤ ASME B30.2 Overhead and Gantry Cranes

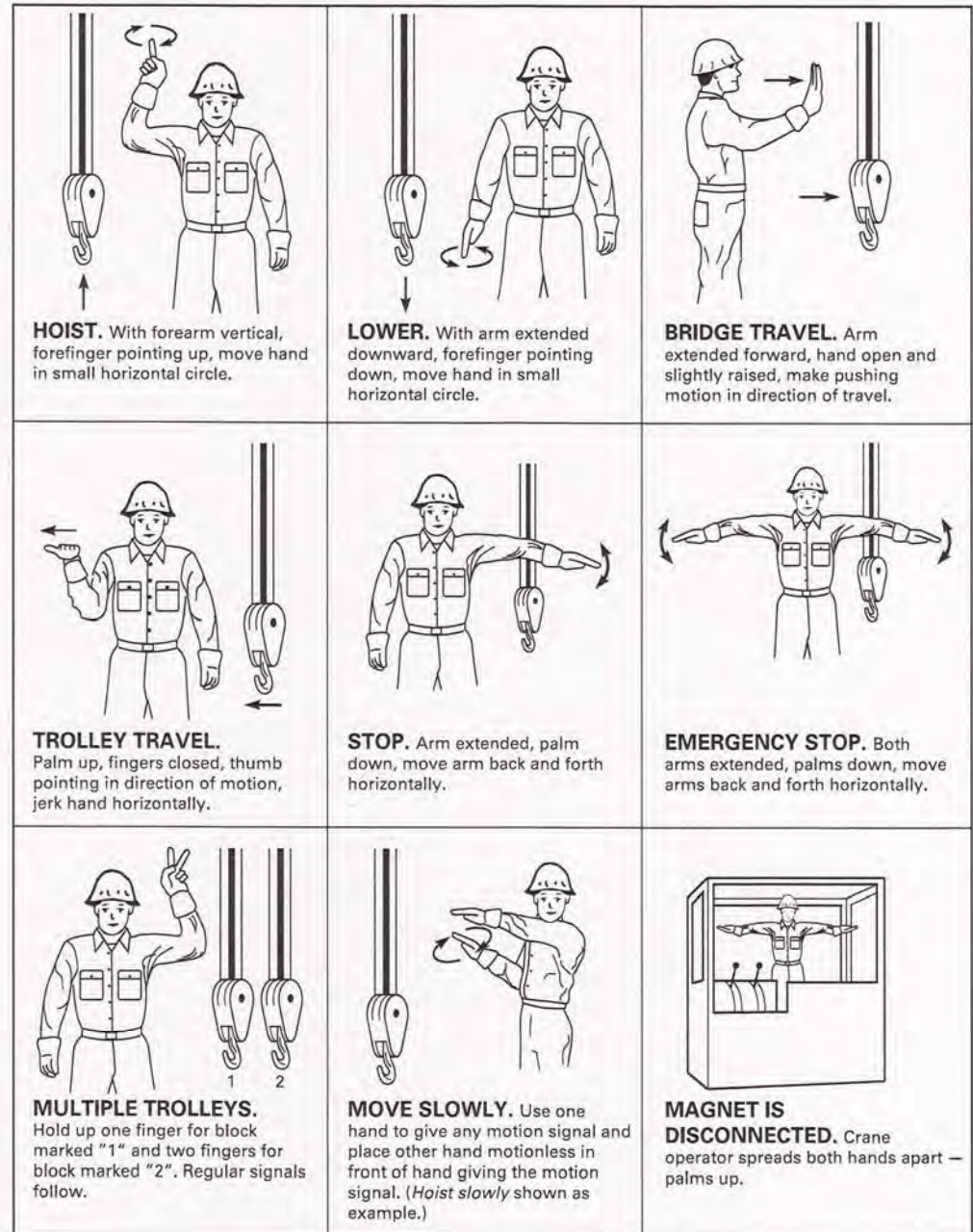


Fig. 10 Standard Hand Signals for Controlling Overhead and Gantry Cranes