



SIDE PULLING IN HOISTS

Side pulling is one of the most common and most dangerous mistakes made with overhead cranes and hoists that may cause tragic consequences.

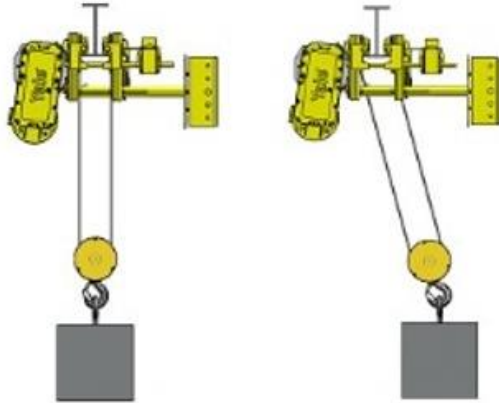


Figure 1

Figure 2

As per standard practice, hoists are designed to lift load along the central axis. Accordingly, the load being lifted must be centered under the hoist (*Figure 1*).

Side pulling (*Figure 2*) occurs when attempting to lift any load that is not located directly under the hoist. Another form of side pulling occurs when a crane operator attempts to use the bridge or trolley drives to apply force to move an object horizontally when the load is not first fully suspended on the hoist and free of the floor or other support.

What are the dangers of side pulling?

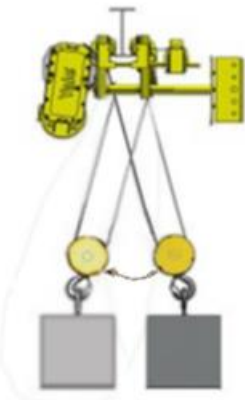


Figure 3

As the load is lifted free of the floor or other support it will attempt to centre itself under the hoist, causing the load to rapidly swing in a horizontal arc (*Figure 3*). This pendulum effect can cause serious injury to personnel or damage to other equipment in the area.

The wire rope or load chain can be forced out of the grooving or pockets on the hoist drum or lift wheel. This can damage the chain/rope, and may also cause damage to drums, sheaves, and other components. In the best case scenario, this can lead to costly repairs and downtime. More importantly, it could cause the chain or wire rope to break and the load to drop, putting equipment, facilities, and personnel at serious risk.

Side pulling at an angle that is not in line with the length of the bridge or monorail (*Figure 4*) could cause the trolley hoist to tip, making the trolley inoperable. In the worst case, the trolley hoist could actually be pulled off of the beam. This side pull condition also puts stresses on the beam itself and could cause the beam to skew (*Figure 5*).

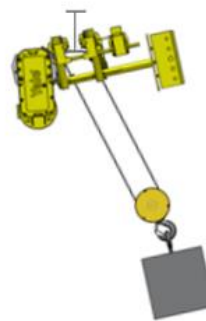


Figure 4

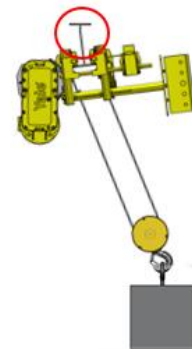


Figure 5

SIDE PULLING IS NOT CONSIDERED "NORMAL OPERATION" HENCE VOIDS EQUIPMENT WARRANTY AND HIGH COST OF REPAIR DUE TO DAMAGE.