

Safety requirements for Hydra

Objective : old designed hydra has history of killing so many people at construction sites across the country. The requirement indicated in this document is aimed to help construction sites to avoid such incidences.

Equipment : Currently supplied hydra from both supplier (ACE or Escorts) have certain design defects. Most critical are ;

- a. Front limited visibility to driver in left side of the vehicle
- b. Very sensitive balancing of its CG and center of machine

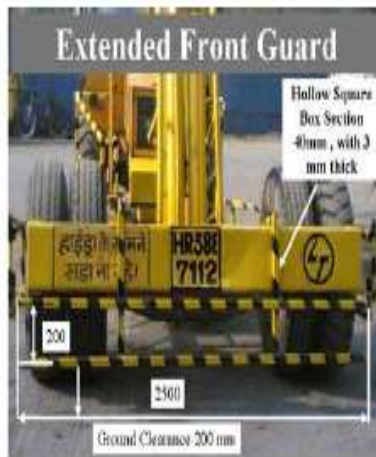
Though the suppliers claim it to be “pick and carry crane” but it is really suitable for only loading and unloading. Any activities related to carrying the load increases the risks.

These limitations adds on due to poor human behaviour like high speed driving, driving with load, pillion riders, very limited visibility of riggers / signal / helpers while guiding the drivers.

Solution to problems :

- a. Eliminate: Ban use of hydra at construction sites.
- b. Replace : Use modified hydra (like K 10, K 12, K14) which is better designed with high visibility and stability
- c. Control: Ban activities related to carry the load.
- d. Administrative Control :
 - 1) All the drivers and any signal man must be trained at site and qualified based on written and / or verbal test.
 - 2) Every drivers and signal man must have valid entry gate pass.
 - 3) The operator must have valid driving license.
 - 4) The helper/rigger must wear florescent jacket while guiding direction to the hydra operator.
 - 5) The helper/rigger must use flag (red/green) while guiding direction to the hydra operator.
 - 6) The lifted materials must be tied with guy rope to avoid striking against anything/anybody.
 - 7) The helper/rigger must blow whistle while giving direction to the hydra operator.
 - 8) Only experienced driver & rigger / helper must be deployed with the hydra.
 - 9) The brakes of the hydra must be in good condition.
 - 10) The front and back lights must be functional.
 - 11) The front horn and reverse horn must be functional.
 - 12) The tyre must be in good condition.
 - 13) The indicators must be in operative condition.
 - 14) The hydra must have front and back run over protections.
 - 15) The ground clearance of the front and rear run over protection must not be > 200 mm from ground.
 - 16) Speed lever must be removed or blocked from hydra.
 - 17) The ignition key must be present and operational in the hydra.
 - 18) Rear view mirrors must be present in the hydra.
 - 19) There should be latches on the hooks & functional of limit switch with pulley block.
 - 20) There should be display of lifting capacity on the boom of the hydra near each hook.
 - 21) The hydra must have a valid test certificate on Form-7-A from competent person.
 - 22) Authorized operator certificate must be obtained after undergoing training at safety department.
 - 23) No oblique pulling or tandem lifting is allowed with hydra.
 - 24) No hydra drivers / signal man should be allowed to use mobile while working.

Recommended Run-over protection design for Hydra Crane



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