

DESIGN PHILOSOPHY 1: ACCESS AND WORKING AT HEIGHTS



Objective

The objective is to prevent harm related to access and working at heights (where there is a possibility of falling at least 6' (1.8 m) or if serious harm may result) on equipment; to prevent slip/trips, sprains/strains, entrapment, falls from height and failure to egress in emergency events to as low as reasonably practical, including consideration in design for foreseeable human error.



General outcome

The intended design outcome should include/consider the following:

- Stairways, walkways, access and work platforms, railings, steps/grab handle combinations and boarding facilities including an alternate path for disembarking in case of emergency
- Emergency egress paths should shield a person from direct fire exposure, e.g. no open grating
- Ergonomically considerate access systems that allow three points of contact to be maintained and minimise the possibility of sprain or strain
- Access systems and work platforms that are well lit, located and designed to minimise their impact on operator vision, and clear of fall, slip and trip hazards
- Openings designed to account for body size variability, escape and extrication apparatus and personal protective equipment (PPE)
- Ground entry to access on driver's side to encourage persons and other vehicles to not be located in the operators blind spot, with the opportunity to locate isolation and other service points (hydraulic, air) near the driver's side operator access
- Location of access system control station placement to prevent inadvertent entrapment during operations
- Location of service points, inspection points and ancillary equipment that eliminates the need to work at heights, during routine maintenance or repair
- Provision of work platforms with suitable controls to eliminate the need to work at height and prevent the possibility of tools and other objects falling onto people below
- Where it is impractical to provide equipment mounted work platforms, the design of appropriate roll up access and work platforms or other means for workshops

Where the need to work at heights cannot be eliminated:

- Provision of fit for purpose anchor points or static lines (appropriate for PPE/rescue systems)



Causal Pathways

1.1 Harm during access and egress to equipment and its routine service and inspection points, work platforms and operator workstation due to inadequate location of service and inspection points, lack of fall from height protection, premature failure of components due to corrosion, slippery surfaces, accumulation of dirt or other material or inadequately lit environment.



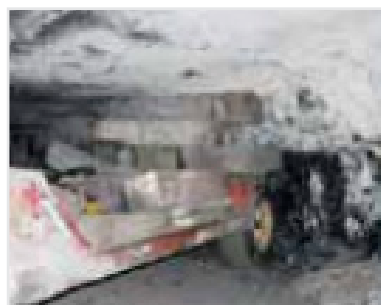
1.2 Sprains and strains during access and egress to equipment due to the need to adopt ergonomically difficult body positions to negotiate the designed access and egress point or system.



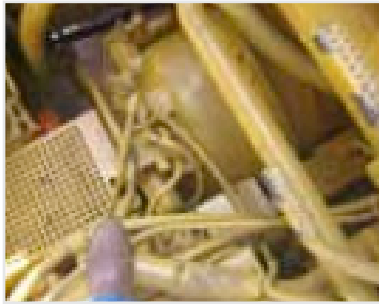
1.3 Harm due to entrapment or obstruction should normal access be blocked by a hazard or machine damage.



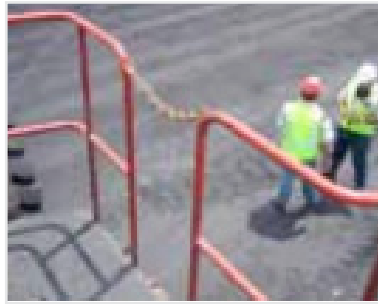
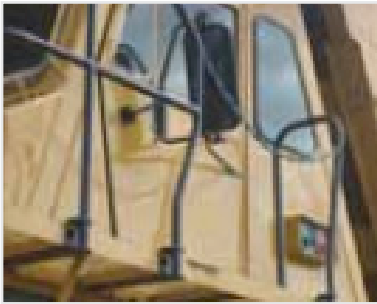
1.4 Harm from materials falling off platforms onto persons below.



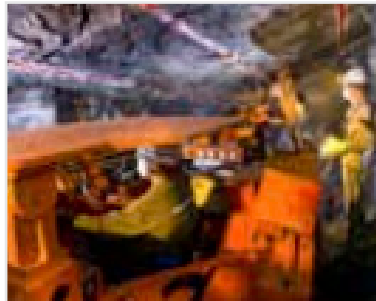
1.5 Harm caused by fasteners, brackets, hoses and fittings that protrude into the walkways and work areas.



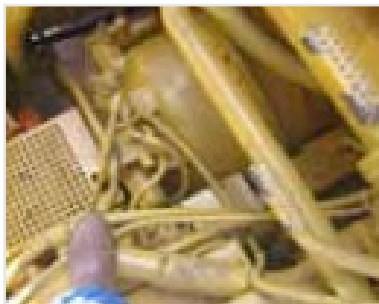
1.6 Harm from falls caused by using chains as part of the handrail or ladder opening protection.



1.7 Harm from collisions due to restricted operator vision from the cabin due to machine access and platform structures, and/or their location.



1.8 Harm from collisions due to persons and small vehicles being encouraged/forced, by the equipment design, to locate on the operator's blind side.



1.9 Entrapment caused by intended/unintended operation of movable stairways/ladders or accessing control stations for stairs where a person is reaching through a movable component of the system.

