

NO GO ZONES ON VEHICLE LOADING CRANES

BMA Blackwater Mine has implemented new design controls to greatly eliminate the risk of being crushed while operating a vehicle loading crane (VLC). The implementation of the new controls were introduced following a fatality at BMA Blackwater, where an operator of a VLC was trapped against the operator's control panel by the movement of a vehicle loading crane jib.

After comprehensive research the BMA team designed and implemented a no go zone that prevents the boom of a VLC from entering the operator's control area. The implementation of the new controls will not allow the VLC to slew over the area in which the controls are operated. The operator can still operate the VLC from both control panels, however, if they try to slew the boom over the no go zone it will slow right down forcing the operator to walk to the other controls and operate in a safe location.

The new no go zone has been developed by BMA Blackwater Mine in conjunction with Rockhampton Hydraulics and Pneumatics. The engineering controls include:

Bump Bar

A bump bar was fitted around the controls and in conjunction with proximity switches and proportional control it ensures that:

- The crane cannot be operated unless the bump bar on the operator's side is raised into the correct position.
- If both bump bars are raised the crane will not operate
- If an emergency occurs and the bump bar is pushed up or down the crane will stop immediately.
- Normal operation of the VLC outside the operator zone is not effected.

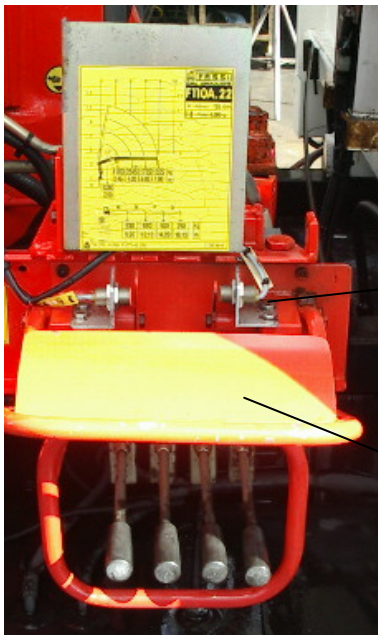
Proximity Switches

Proximity switches are attached to the boom of the VLC. The proximity switches locate the VLC's movements when slewing. This stops or slows down the slewing of the crane into the no go zone. The proximity switches also work in conjunction with the bump bar to identify from which side the operator is working the controls. The interaction between the proximity switches on the crane and bump bar prevent the booms from slewing into the no go zone when the operator is working on the same side as the boom.

The no go zone has been implemented in all VLC's at Blackwater Mine including contractor VLCs. There has been widespread interest in the new VLC modifications from various cross sections of industries, and the implications of this project seek to eliminate the possibility of a crush injury relating to VLC's.

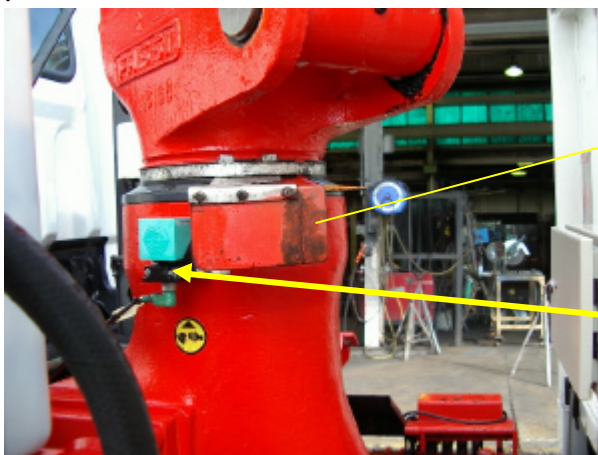


NO GO ZONE PREVENTS BOOM FROM SLEWING INTO OPERATORS ZONE



Switches on the bump bar allow VLC to operate outside no go

The bump bar must be raised to operate crane.



Position of VLC is located when shroud crosses over proximity switch

Proximity Switch located at base of VLC. One also located on the opposite side.