Grader falls off low loader

Mines safety alert no. 355


Fig. 1

What happened?

A grader that was being driven onto a low loader was misaligned, causing the left hand side rear wheel tandem to slip off the ramp. During the attempt to correct the misalignment, the grader toppled sideways off the low loader (see Fig.1). The operator was wearing his seat belt and was not injured.

How did it happen?

An experienced grader operator was being assisted by a spotter standing on the gooseneck of the low loader when the incident occurred.

The operator lowered the grader blade onto the low loader load platform to correct his position. He elected to use the side-shift of the grader blade to realign the machine. The movement caused the grader to slide, potentially with the blade acting as a fulcrum, resulting in it over balancing and sliding off the low loader, coming to rest on its side.

Comments

- The approach distance to ensure complete alignment of the grader was limited.
- Alignment was critical due to the narrow margin of error between the load platform width, and the wheel tracking width of the grader.
- An attempt was made to correct the misalignment on the load platform, instead of doing so by driving the machine off and correcting alignment on the ground.
- Similar incidents involving loading and unloading mobile plant have resulted in fatalities and serious injuries. In addition, serious accidents have occurred relating to securing and use of loading ramps.

Recommendations:

1. The responsibility for loading and unloading of plant must be determined and allocated.
2. A fit for purpose low loader must be used. A *Guideline for Excess Dimension* can be referenced at: www.nhvr.gov.au/files/t045-qld-guideline-for-excess-dimension.pdf
3. A risk assessment must be carried out and consideration given to at least the following stages of the activity*:
    - Positioning the low loader on level ground and lowering the ramps. Particular attention to be paid to the side slope, especially when a tracked machine is being loaded onto a steel load platform.
    - Establishing an exclusion zone.
    - Alignment of plant to be loaded – ensure adequate approach is available for plant to be aligned properly.
    - Competent spotter(s) with effective means of communication.
    - Ensure the prime mover and trailer remain stationery as the load moves onto the ramp and platform.

    *Depending on the outcome of the risk assessment, supervision may be required.
4. As soon as any misalignment is apparent on the ramp or load platform, the loading activity is to be stopped. It is industry practise to remove the machine from the load platform. The removal method used must be risk assessed.
5. Raising/lowering and the proper attachment of ramps involves inherent risks which have resulted in severe injuries. Mitigation measures must include the use of fit for purpose devices such as double acting hydraulic cylinder or a turnbuckle tensioning device with lock nut.
6. Effective load restraint. For further information on load restraint visit: www.ntc.gov.au/Media/Reports/(9E12B22A-6156-41B0-F382-136A34520AF8).pdf (62MB)
7. The information supplied may be applicable to the loading of other plant on vehicles such as tilt trays, flat bed trucks and trailers.

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