UKRO

LGV & PSV Vehicle Stabilisation Techniques

UNITED KINGDOM RESCUE ORGANISATION

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1. Introduction

When considering stabilisation issues around LGV's and PSV's in any Heavy Rescue scenario, all the normal risk critical interventions/steps need to be completed first.

As part of any Incident Commander's Dynamic Risk Assessment, immediate consideration will need to take place regarding the vehicle's air brakes and air suspension. The condition and management must be one of the primary concerns to ensure scene safety.

Heavy rescue incidents involving LGV and PSV vehicles can generally be placed in a number of categories.

- Incident involving the vehicles cab, i.e. driver trapped
- Incident involving the vehicles body/ chassis, i.e. side or rear under run
- Person trapped under the vehicles road wheels, i.e. pedestrian
- Catastrophic/ major event, i.e. PSV on its side down a verge

Whilst not all Heavy Rescue incidents will fall into one of the above categories', the way they are approached and the techniques used will be the similar.

2. Static Stabilisation

When an IC is satisfied the vehicles air brakes and suspension are properly assessed/ managed their next thoughts will be around ensuring the vehicle stays exactly where it is.

This can involve using a large array of equipment available including winch cables, vehicle stabilisation kits and wooden/PVC blocks etc., but all designed and placed in position to ensure the vehicles structure does not move.

Static Stabilisation will also be used to provide a safe environment for Firefighters and Medical teams to work around (safety cell), i.e. holding an LGV chassis in place whilst attending to a trapped cyclist.

Finally this technique will be employed at a scene once any lifting to release has taken place or if a lifted vehicle/load is to be left in situ for any period, i.e. Police Accident Investigation etc.

In the above picture employing Static Stabilisation has ensured the PSV cannot move any further and has also provided a "Safety Cell" for the attending Rescuers/ casualties

3. Dynamic Stabilisation

Dynamic Stabilisation is best described as following or "Backing up" a lifting action.

For example, an LGV side under run, where the chassis has been statically stabilised initially, and then using suitable lifting equipment the chassis is raised and "Backed up" continually throughout the lift to allow better access to the casualties

What is key throughout this process is the lifting action is followed completely maintaining full contact with the stabilisation equipment. This will ensure that should there be any failure in the lifting equipment the lifted vehicle/ load will remain exactly where it is.

In this picture the rear of the LGV trailer is being lifted by a Lorry Loader Crane and High Pressure Air bags, throughout the process its chassis is being dynamically stabilised utilising vehicle stabilisation equipment and wooden cribbing/ blocks.

4. Stabilisation Considerations

Initial static stabilisation carried out to protect the Casualty and Rescuers from an air suspension failure or further vehicle movement (Safety Cell)

- Are we stabilising the correct area/ components? i.e. chassis stabilisation employed with a pedestrian under the wheels of an LGV. (On LGV's the cab, chassis and axles are all independent of each other and require consideration when deciding stabilisation requirements)

- Is the structure and surrounding area strong enough to take our stabilisation equipment, taking into account the implied and any transferred load.

- Is our equipment fit for purpose and the requirements within its WLL/ SWL. (There is a wide range of equipment available for Heavy Rescue type scenario's from wooden/ PVC blocks to state of the art lifting and stabilisation kits, all with their own advantages and limitations)

- When we transfer from the static to the dynamic phase, do we have additional equipment requirements, or could we have selected suitable equipment with that it mind?

- Have we considered any load transfer/ load shift, with a possible lifting requirement have we accounted for that in our stabilisation/ planning?

- Static Stabilisation Priorities, do we need to re prioritise our stabilisation when casualties or vehicles are beneath an LGV/ PSV. IC following his DRA may feel the LGV is more a priority initially, and require a "Safety Cell" before committing resources to the light vehicle beneath.

Stabilisation is key to a successful Heavy Rescue Incident not only to minimise movement transfer to any casualties but to ensure the safety of all personnel at the scene.

For further information around LGV/ PSV Rescue please visit the education section of the United Kingdom Rescue Organisation website UKRO.

http://www.ukro.org/education/ukro_workshops/

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