

Subsea chain lever hoist failure

Safety Flash Published on 16 February 2007 Generated on 28 January 2026 IMCA SF 01/07

IMCA has received a report of a near-miss resulting from a failure of a chain lever hoist being used in a subsea operation.

What happened?

The hoist had a safe working load (SWL) of 3 tonnes and was in use for the first time underwater. It was reported to be in correct usage, loaded correctly and rigged such that it was inverted, with a load of about 2 tonnes suspended from the hook on the block casing. The weight was subsequently removed from the hook and the unit left in hoist mode.

Subsequently, a load was again hung off the unit and a diver later attempted to lower it. He switched the hoist to lowering mode and started to move the lever. As he did so the load dropped, the free chain running through the unit; and the brake eventually engaging, but not before it had dropped about 0.75 metres. It then operated satisfactorily in hoist mode.

All usual safety procedures had been followed and there were no injuries or significant damage to equipment.

The unit was immediately withdrawn from service and is currently undergoing extensive tests along with other similar chain lever hoists.

The company involved reminded users of its safety procedures, the importance of risk assessments, lift plans, not working under suspended loads, avoiding single point failures and the use of secondary back-up rigging.

What were the causes?

Members are warned that no certain cause for this failure has yet been identified and to take great care when using chain lever hoists.

Investigation continues and, while no conclusions have as yet been made, orientation of the lever hoist has not been discounted as a contributory factor. Therefore, in addition to the previous precautions, another company has also instructed its employees that lever hoists should not be used in the inverted position during lifting operations; that loads should not be transferred from a lever hoist direct to a crane hook or vice versa without the load first being laid down in a suitable safe and stable location; and that particular attention should be paid to the slack chain to ensure that the chain does not bind or catch on any part of the lever hoist or adjacent equipment, during either lifting or pulling operations.

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