



SAFETY ALERT

Failure of hydraulic manhole lifter

TO: ALL STAFF, CLIENT, SUPPLYCHAIN
CC: THE BOARD, MANAGERS, H&S

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INTRODUCTION

On 5th May 2016 MTS Cleansing Services Limited (MTS) were lifting a manhole using a hydraulic manhole lifter hired from Speedy Hire. During this operation one of the jacks became harder to operate. On the next operation of that jack, one of the four lifting keys attaching the lifter to the manhole failed. The investigation confirmed that the operatives were trained and had set up the lifter correctly. The equipment had all relevant LOLER and PUWER certification and had been given a pre-use check by the hire company in line with the manufacturer instruction supplied.

FINDINGS

Having eliminated individual action or failure to follow procedure as a root cause, the operation of the equipment was reviewed. It was noted that as the frame was only designed to lift 3 tonne, both jacks had been de-rated from 5 tonne to 1.65 tonne by adjustment of the over pressure relief valve by the manufacturer. On testing the jacks it was found that they had come out of calibration with one jack providing a test force of 3 tonnes and the other 2.5 tonne.

On review of the of LOLER test undertaken it was found that it examined the ability of the equipment to lift 3 tonnes. It did not test the over pressure relief valves of the jacks to check that they could not apply a force greater than 1.65 tonne each.

This failure of the relief valve allowed a force to be applied to the lifting key of over 200% of its design strength. This caused it to fail and bend the lifting frame as the energy stored was released rapidly.

CONCLUSION

Two recommendations were made from the investigation.

1. Updating the LOLER examination and pre use checks undertaken to include the pressure relief valve and condition of the jack for leaks and oil contamination. This has been completed by Speedy and shared nationally across their business.
2. Updating the user training to include that a percussive force with a soft face mallet should be applied to free the manhole once tension has been applied to the lifter. This has been undertaken by MTS Cleansing and should be considered best practice.



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**Remember there is nothing we do that is so
important that it should cost a life.**

#everyonehomesafe

For further guidance please contact your Safety Department

