

Safety Alert

CCTV Camera Winch Failure

Follow up to HEi158

7 August 2020

Background information

This is a follow up to the Safety Alert HEi158 - CCTV mast winch equipment failure on the M25.

The regulations governing winch equipment are The Health and Safety at Work Act 1974, and The Lifting Operations and Lifting Equipment Regulations 1998 (LOLER). It is a requirement to inspect winches at 12 month intervals.

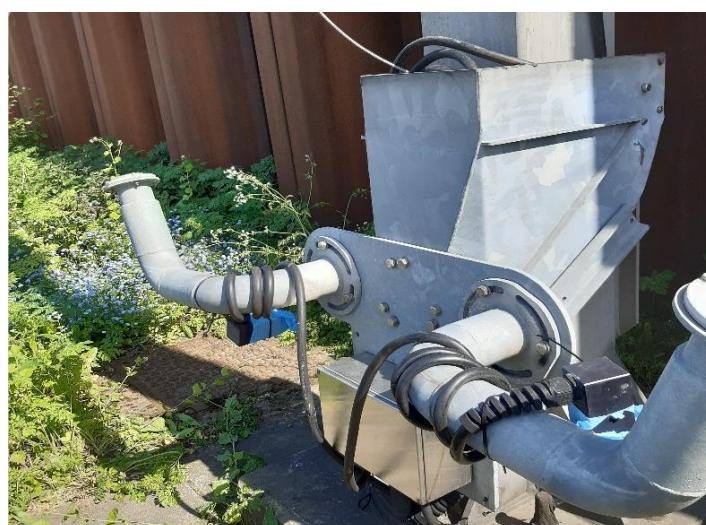
The Overseeing Organisations requirements for inspections are set out in CS 450 Inspection of highway structures. Inspection of ancillary mast equipment such as winches falls outside the normal inspection regime and must be covered by a special inspection which shall be tailored to a specific need to gather information on the condition or details of that equipment.

A special inspection may comprise the following in any combination:

- a close visual inspection;
- testing and measurements or;
- monitoring.

Special inspections may be planned as:

- a one-off inspection;
- a discrete series of inspections; or
- an ongoing programme of inspections.



Findings:

The initial findings of the investigation into the failure indicates there was excessive wear to the winch drive gear. This would not be visible due to the unit being sealed. More detailed examination of the whole mechanism and winch drum is being carried out to identify the cause of the failure.

The mast was not damaged and pulleys and cables were found to be in good order.

The cause of the failsafe breaking mechanism not activating is yet to be determined. The manufacturer has stated that the failsafe brake will operate if the cable broke but may not engage in the event of stripped winch gears. There is also the expectation that the braking system would have been set up correctly and regularly inspected.

Findings (continued):

The findings also highlight that it wouldn't necessarily require a winching operation to initiate the failure and cause the cradle to fall. If the catch mechanism at the top of the mast was not engaged correctly supporting the cradle, the cradle and cameras would effectively be hanging on the winch cable. Loading and unloading due to wind forces could potentially initiate a failure.

Recommendations:

- Maintenance teams and inspectors should be aware of this concern and should appreciate the potential for any winch mechanism to fail:
- Do not rely on automatic braking systems for protection;
- When undertaking an inspection appropriate measures should be put in place to minimise the risks should failure occur;
- Monitor the progress of the lift or descent of the cradle at all times, and;
- Be aware of the area at ground level covered by a falling cradle before commencing any ascent/descent operation.
- Do not operate any winching mechanism that has not been maintained in accordance with supplier's instructions, shows signs of not being properly maintained, or is visibly damaged.