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"Wheel Sentry" – Combined Wheel Nut Indicator and Retainer System – Roll Out To Royal Mail HGV Vehicle & Trailer Fleet:

To: All Branches

Dear Colleagues,

Further to LTB101/17, following a number of incidents of road wheel detachments on 7.5t Royal Mail vehicles in 2016 and 2017, Royal Mail Fleet have been looking at various solutions to help protect the fleet against wheel loss on the road. Fortunately none of the incidents led to a major catastrophic road accident but it could of course have been very different.

To mitigate future loose wheel nut incidents, Fleet Engineering has been working with suppliers and the CWU to establish an improved wheel nut indicator system to aid visibility to the drivers and retention of the wheel nut. The product known as 'Wheel Sentry', was trialled at Nottingham VOC and a decision has been taken by the Royal Mail Group to retrofit this system to all HGV vehicles and trailers.

Please see attached information on the 'Wheel Sentry' product which Royal Mail Fleet successfully trialled on the 7.5t vehicles based at Nottingham MC.

Proper wheel care is needed to prevent accidents, damage, injuries and fatalities as a result of wheel loss, as well as Police prosecutions and VOSA prohibitions, vehicle downtime and costly repairs.

Loose wheel nut indicators are small pointed tags, usually made of fluorescent orange, yellow or green plastic, which are fixed to the lug nuts of the wheels of large vehicles. The tag rotates with the nut, and if the nut becomes loose, the point of the tag shifts noticeably out of alignment with the other tags. If too many lug nuts are loosened, the wheel can detach from the wheel stud. Loose wheel nut indicators allow identification of loose nuts before this can occur. Although not compulsory, most road safety organisations and bodies recommend their use especially on large or heavy goods vehicles, buses, coaches, large vans, trucks etc. They are used extensively by the transport industry as an enhancement and development of fleet safety and roadworthiness procedures, daily walk-round inspection and defect reporting and scheduled maintenance requirements. Its use allows accurate monitoring for loose wheel nuts and helps prevent wheel hub damage or the loss of a road wheel should a wheel nut

loosen. The current Royal Mail policy is that all vehicles exceeding 3.5t GVW and all Trailers must have a full set of Yellow Wheel Nut Indicators fitted.

The "Wheel Sentry" product goes a step further than standard wheel nut indicators or wheel nut locking clips as it's a two-in-one solution which both indicates and retains loosened wheel nuts. It is a combined Wheel Nut Indicator and Wheel Nut Retainer which provides prompt indication of any potential wheel detachment problems and makes wheel checks easy. It retains the wheel nuts in place on the studs, should they become loose, until the nuts can be re-torqued (tightened) and the clamping force restored.

This innovative product consists of bright green combined wheel nut covers and indicators, when fitted to the wheel nuts of HGVs, LGVs or trailers which are then linked together with a Viton band that allows wheel nuts to loosen slightly, but then holds them in place at a lower torque level until the nuts are tightened. On a driver's daily check the new position of the Wheel Sentry on a loosened wheel nut is clearly visible and ensures it receives prompt attention.

Royal Mail Fleet are of the view that this unique wheel nut indicator and retaining system will both complement and enhance existing vehicle maintenance and drivers pre-use safety checks procedures, to ensure the safe and efficient supply of goods and services with a reduced risk of wheel loss. The 'Wheel Sentry' manufacturers offer extensive operational back up and carefully monitored stock levels to ensure ease of ordering and continuity of supply.

The product was successfully trialled on a fleet of ten 7.5t vehicles operating out of Nottingham Mail Centre and the Health, Safety and Environment Department has held meetings with the manufacturers and Royal Mail Fleet Engineers and has visited Nottingham on several occasions to speak to Drivers, Workshop Fleet Maintenance staff and local CWU Reps who are all supportive of the wheel nut indicators/retainers.

I can now report that after considering the trial outcome and to mitigate future loose wheel nut incidents, a decision has been taken by the business to retrofit this system to all of Royal Mail's fleet HGV vehicles and trailers from 6.5t upwards.

The 'Wheel Sentry' works in a similar way to the existing wheel nut indicators with each point of the indicator facing its pair, but the 'Wheel Sentry' has the addition of a 'Viton' stretch band which wraps around each indicator so becoming a wheel nut retaining system and if one wheel nut comes loose, it can only turn to the extent of the elasticity in the band as the band is locked in position by the other indicators. It allows sufficient movement for the driver to identify the loose nut, but not enough for the nut to completely unwind and come off the stud, thereby retaining the wheel nut.

An important point to remember however is that this innovative system will certainly reduce the risk but will not eradicate wheel loss if the driver safety checks are not concise and completed before every duty. The indicators will highlight loose wheel nuts but if no remedial action is taken when indicated by the system and required, wheel loss could still occur. The continued use of a vehicle with loose wheel nuts will cause rim damage and wheel stud hole elongation that will eventually cause a wheel loss, which has been experienced on Royal Mail Fleet vehicles. Zero wheel loss cannot be achieved via the system alone. The workshops processes' on wheel cleaning and the checks and accurate use of the torque wrench along with adherence to the wheel security policy and the driver pre-use safety checks on their vehicles must in combination be adhered to in order to reduce the risk to the lowest possible level.

New vehicles will shortly be delivered to sites equipped with the "Wheel Sentry" Wheel Nut Indicator and Retainer system.

Royal Mail Fleet Workshops that maintain HGVs will shortly be receiving kits direct from the supplier 'ATE'. A Royal Mail Fleet Technical Service Bulletin (TSB) will be issued in late February/early March to satisfy this requirement.

This is a positive investment in a safety critical initiative that will support the vehicle maintenance and driver check processes previously deployed and recently re-communicated throughout Royal Mail Group, following a number of wheel loss incidents.

See attached:-

- Wheel Sentry Leaflet 'How It Works' 5 Step Instructions.
- Wheel Sentry Leaflet 'What You Can Put In Place To Remove The Risk Of Wheel Detachment.'
- Photos.

Yours sincerely



Dave Joyce
National Health, Safety & Environment Officer