Failure of tipper's sheeting arm whilst driving on motorway

WHAT HAPPENED

A company employee was driving an articulated tipper vehicle along the motorway. He heard a loud bang and thought a tyre had blown on the offside, when he looked in his mirror he could see a lot of sparks.

He immediately pulled over into a refuge on the hard shoulder and stopped. On walking around the vehicle he noticed that the offside sheeting arm had fallen off the trailer and onto the carriageway. He used the emergency phone to contact the highways department who then activated the electronic warning signs before the police turned up at the scene to clear the object from a motorway. Three vehicles were damaged driving over the arm but fortunately nobody was injured.

On later inspection it was found that the spilt pin had sheared and the washer had fallen off.

LEARNING POINTS / ACTIONS TAKEN

The trailer was empty so that the sheet was fully wound in towards the headboard in the un-sheeted position. The sheet is held in this position by the

sheeting motor mechanism but this means that the sheeting arm springs are under full tension.

The bottom end of the sheeting arms and the attached springs are held on the mounting spigot by a large washer and split pin (see figure 1). The sheeting arms on either side of the body are joined together by a cross member bar which is attached by an elbow joint on either end (see figure21). The sheet/net is also attached to this cross member at one end and to a spindle at the headboard which is operated by the sheeting motor.

The offside end of the cross member sheared off at the elbow joint thus causing the offside sheeting arm to become detached from the cross member. As the arm was under tension from the spring, this caused the arm to swing towards the end of the trailer. In normal circumstances the complete mechanism would be released towards the rear of the trailer slowly as the sheet is fed out by the motor. It would then come to rest with a cross member located in the brackets at the top of the tailboard. As the offside sheeting arm was only attached to the trailer by the spigot it swung right down until the end of the arm hit the road.

At this point the driver heard a loud bang and saw sparks in his offside mirror three pulled over into a refuge next to the hard shoulder. On inspection he

refuge next to the hard shoulder. On inspection he immediately noticed that the sheeting arm had actually become detached from the mounting point and was on the carriageway. On later inspection it was discovered that the split pin had sheared and the retaining washer had fallen off.

Immediate:
All vehicle sheeting systems visually checked and drivers instructed to ensure sheet is in closed position when vehicle not in use. This will prevent the springs from being under prolonged tension and enable drivers to carry out more extensive checks.

Mid & long-term:
Discuss incident report, together with design and use procedures, with the system manufacturers. Investigate the fitting of side to side automatic sheeting systems on new vehicles.

Figure 1

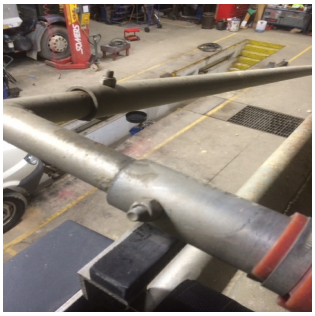
Figure 2

LOCATION:	ON-HIGHWAY	ALERT STATUS:	Normal
ACTIVITY:	TRANSPORT & LOGISTICS / DELIVERY	DATE ISSUED:	25/02/2015 00:30:20
SUB ACTIVITY:	ON-HIGHWAY	INCIDENT No:	00405