

Dangers of using coiled brake system air hoses (suzi coils) on drawbar type trailers.

Subject

The purpose of this safety bulletin is to highlight the dangers of inappropriately using suzi coils for air supply to the brake system on self-supporting trailers, such as a dog, pig or tag type trailers, which use an ‘A’ type coupling system.

Issue

Plastic coiled air hoses (commonly called suzi coils) are a popular choice for supplying air to trailer brake systems. Their ability to stretch for several meters makes connecting with a variety of different trailers easier. Braking systems that rely on air are designed so that in the event of an unintentional decoupling, the air hose supply line breaks, reducing the air pressure below a certain threshold and activating the trailer’s emergency brake system.

This system works best on trailers where the coupling method is via a ‘B’ or 5th wheel coupling system as this style of trailer is typically fitted with an axle group located to the rear of the unit. The design of these trailers results in the front of the trailer dropping to the ground as soon as it decouples, breaking the air hose supply line and allowing the emergency brake system to activate almost immediately. By contrast, trailers with ‘A’ type coupling systems (e.g. pintle hook, ball) are typically fitted with an axle group to either the centre, or at both the front and rear of the unit. The design of these trailers means that in the event of an unintentional decoupling there may be a delay in the activation of the emergency braking system.

The NHVR is aware of a number of decoupling incidents where suzi coils have been used as air supply lines to trailers with ‘A’ type coupling systems. The combination of the design of the trailer, and the use of suzi coils, has resulted in the suzi coils stretching, allowing the trailers to travel significant distances before the emergency brake system has activated. In some extreme cases these trailers have drifted into other lanes with a total lack of emergency brake application due to the extent that the suzi coils have stretched.

To address the risk of this happening, the NHVR strongly recommends that suzi coils are **not** fitted to trailers with ‘A’ type coupling systems and are fitted to only trailers with a ‘B’ or 5th wheel coupling systems. Trailers that use an ‘A’ type coupling, should use traditional rubber hoses meeting the SAE J1402 or equivalent standard as air supply lines to the braking system. Rubber hoses are not designed to stretch, making them more likely to break when the coupling failure has occurred – resulting in a quicker application of the emergency braking system.

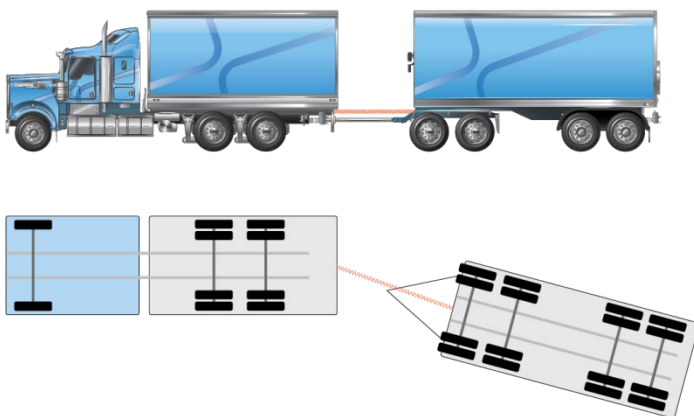


Figure 1: Dog trailer incorrectly fitted with plastic coiled hoses



Figure 2: Dog trailer correctly fitted with rubber hoses

Action required

To ensure trailers that have unintentionally disconnected can stop within the shortest possible distance, the NHVR strongly recommends that trailers, other than semitrailers, are **not** fitted with suzi coils.

Traditional rubber hoses are more appropriate in these applications as they do not stretch and deform in the same way as suzi coils. This typically results in quicker application of emergency brakes, hopefully minimising the damage these trailers may inflict.



WARNING: In situations where a trailer, fitted with a drawbar, unintentionally disconnects from its towing vehicle, suzi coils can significantly delay the activation of the trailer's emergency brakes.

Further information

For further information, contact the NHVR Vehicle Standards team via email to vehiclestandards@nhvr.gov.au or phone 1300 MYNHVR (1300 696 487).

For more information

Visit: www.nhvr.gov.au

Email: info@nhvr.gov.au

Telephone: 1300 MYNHVR* (1300 696 487)

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