

Mixing metric/imperial brake airlines and fittings

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Priority: Urgent Necessary For information

Circulate: Driver Operator Workshop Parts Fleet Manager

The incident or issue:

Through the work of its Industry Technical Council, the ATA has been alerted to a number of instances where newly purchased and installed fittings/airlines have failed to seal correctly.

These installations leaked excessively while the vehicle was under test in the workshop and were replaced without further incident. However, if undetected, these leaks could cause on-road complications such as the unintended activation of emergency braking systems.

Incident cause:

Metric airlines and their fittings have become available through a range of parts networks to support European models. However, the Australian market typically uses imperial sizes of airlines and fittings.

Confusion can arise given the similar, but not equivalent, sizes of these airlines. The metric 12 mm line will appear to accept the imperial 1/2" olive, which has an equivalent to 12.7 mm outside diameter.

The mismatch of fittings and airlines will result in a loss of integrity of the assembly. Additionally, the metric line has a smaller inside diameter restricting air flow, which potentially results in the vehicle not being ADR (Australian Design Rules) compliant. This is shown in the table below.

	Outside Diameter	Inside Diameter
6 mm	6.00	4.00
1/4"	6.35	4.32
8 mm	8.00	6.00
5/16"	7.94	5.90
12 mm	12.00	9.00
1/2"	12.70	9.55
19 mm	18.00	14.00
3/4"	19.05	14.38

The table above lists only a selected range of sizes and is not intended to be inclusive.

Solution:

It is essential that airlines and fittings use the same applicable standard (metric or imperial) and airline size. Workshop staff should check the size printed on the airline before selecting matching fittings.

Follow-up actions:

- Separate metric / imperial fittings/airlines and label stores correctly
- Educate staff about the differences

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