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	Europe	USA
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1 EFFECTIVITY

All steel braided brake lines with clear plastic jacketing and plastic radius guide.

2 PURPOSE

The purpose of this advisory is to provide information to mechanics and pilots about the staining of brake lines.

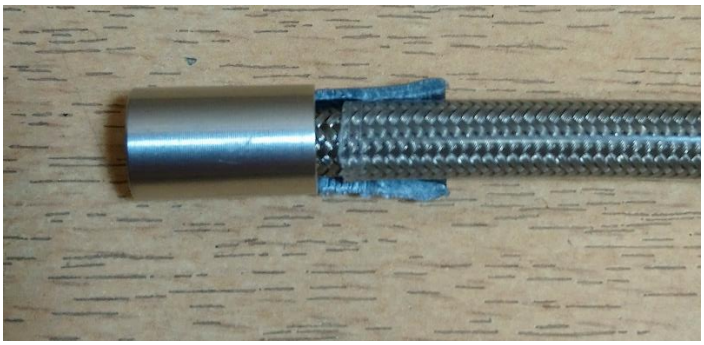
3 BACKGROUND

Numerous brake lines have been replaced due to staining that was noticed near the end fittings on the steel braided brake lines with plastic jacketing.

4 ADVISORY

There is no conformity issue, operational issue, or safety issue related to this observed staining. The brake lines should be used as is.

Multiple stained brake lines that had been removed from aircraft were pressure tested. No defects were found. It has been concluded that an external source causes the staining, and that the staining is not indicative of any leak or malfunction:

Brake line ends are constructed as shown. The clear plastic jacketing is stripped back.	
The compression fitting and plastic radius guide are then slid over the steel braided brake line.	
The desired end fitting is then inserted into the plastic inside the steel braided line and the assembly is crimped.	
During installation, bleeding, or maintenance, it is possible for a small amount of brake fluid that is outside of the system to run down the outside of the plastic jacketing and into the radius guide. As shown in the picture of the cut-away of the radius guide, the brake fluid would be able to contact the steel braided brake line and then be wicked upwards between the steel braid and the plastic jacketing. The near microscopic amount of space between the steel braid and the plastic jacketing means that a few drops of brake fluid can stain a couple inches of brake line jacketing.	

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The effects of capillary action are immediately noticed when a brake line is placed in a small amount of brake fluid. The fluid is immediately wicked upwards between the steel braid and the plastic jacketing.	
To create a more realistic simulation, 5 drops of fluid were dropped on the brake line just above the radius guide.	
These 5 drops resulted in 3.5 cm of stained brake line within minutes. After a few days the plastic jacketing began to take on a maroon hue.