

Fixing Brake and Fuel Line Flare Fitting Leaks

By Bob Nichols – Effective August 1, 2022

The metal brake lines and fuel line are connected with fittings using a “flare” design. Occasionally after brake or fuel line repairs the flare connections leak. Sometimes no amount of reseating the line or tightening the flare nut will stop the leak. There is a fix. You can install a “flare gasket”.

Flare fitting – Before the modern “O” ring seal design, automotive fuel and brake fittings used a metal to metal flare fitting. Traditionally tube flares were made with precision machines and the flare connections sealed without issue. Today flares are often made with small hand operated presses that can result in less than accurate flares. Older flares might be damaged by excess force applied to the flare nut.

- **Flare fitting angle** – The Corvair uses the 45 degree flare fitting. The washers must be 45 degree, not concave (or convex depending on the side viewed) flare type washers.
- **Seating the flare** – The flare nut should “hand tighten” easily. If it doesn’t, then check tube alignment and the fitting threads for damage or debris. When tightening the flare nut against the tube flare do NOT use excessive force or you may split the flare which ruins the line. Tighten the flare nut, back off a half turn, and tighten again to “seat” the flare.

Flare fitting leaks – Leaks can be considerable or very minor. Leaking brake fluid or gasoline is a dangerous situation. Ensure it is the flare fitting that is leaking before installing a gasket. Sometimes the carburetor inlet nut to carburetor seal is the problem.

Flare gasket – Flare gaskets were commonly used on older cars that were made in England. They have a proven history. It is recommended that they should be replaced every time a flared line is disconnected.

Sizes – Flare washer sizes are labeled with respect to the metal line size which are stated as OD (outside diameter). Sizes available are for 3/16”, 1/4”, and 5/16” OD lines.

- **Material** – Brass (copper and zinc alloy).
- **Where to find them?** - At this time, they are available from Parker Hannifin who sell them online, or can be purchased on Amazon.

See the following illustration, publicly posted by Dave Wenslick, for part numbers.

