



ASRF Australian Street Rod Federation - Technical Advisory Committee

Advice sheet 2/16 – Brake tube piping for Street Rods.

Recently one of our members contacted the ASRF TAC to ask what to do about his search for a suitable “through frame fitting” for his project; it seems everything he had seen was made in USA with 37 degree flare seats (called AN for Army/Navy)

He was aware that most common automotive flares were 45 degrees and he asked if a flare made on a 45 degree tool would seal on a 37 degree seat. Our first thoughts were that the better Bundy tube when correctly double flared would probably have enough compliance to take the 37 degree shape and it should be ok, and if it didn't seal there would be a brake fluid leak and he would soon know about it. If the owner was to try this with the less flexible stainless steel his chances would be a lot less.

A bit more research soon revealed that the professional brake flaring kits now include the 37 degree tools as well as the 45 degree but probably only the better brake specialists had these kits and it might not be possible at home.

We also note that there are still some through frame fittings made in 45 degree flare seats from Brakquip, and from time to time we had seen through frame fittings locally made that had 3/8” UNF female straight threads both ends which would take a banjo bolt and copper washers, so flare ends on the through frame were not required.

But to get to the point, please be aware that some brake fittings are made 37 degree AN and in theory if you choose to use these then best to find someone who can do 37 degree flares.

This opened up the next question and that was about brake tubes for cars in general.

Most automotive brake piping is 3/16-inch O/D or 1/4-inch O/D plated steel seamless tube with doubles flares or ball flares (drill point seats). Under no circumstances make automotive brake lines with singles flares. Copper or Aluminium lines are unsuitable due to fatigue hardening.

All approved automotive brake fluid connections are based on positive compression seals, flares, flat copper sealing washers and lately, positive o-ring quick connect seals. No new car was ever produced with brake connections requiring a taper thread fitting (ie. needing sealing compound or Teflon tape) because it would be necessary to reapply sealing compound each time the brakes were taken apart for repair, plus you can imagine the issues this would create on mass production assembly line work.

However, some aftermarket calipers and master cylinders are sold with taper thread connections so if you chose to use these be aware of the above and of course always check every connection for brake fluid leaks before driving the car.

On a newly built street rod one test is to “load” the brake pedal so that the system is pressurised overnight; the pedal should still be hard next morning and should not sink away.

Any questions as always please contact your State TAC Representative.

Regards

ASRF TAC Committee