



**DO IT
YOURSELF**

NO MORE LEAKS

 Scott Taylor

Sick of leaking hose clamps? Want the leakproof way to tidy up your engine bay? Get some braided lines and fittings

There is no doubt about it, hose clamps suck. They never seem to do up tight enough to stop whatever it is they are trying to seal from weeping out. When you do want to tighten them up even further, the worm drive fails and then it's another trip down to the parts store for some more hose clamps that may or may not do the exact same thing.

No hose clamps might be fine for your mum's car, but when you are talking about sealing in the good fluids for your modified beast, you need to get serious about your lines and fittings. There is nothing better than braided lines and aluminium fittings.

Okay, so they aren't cheap, especially when you are talking about the big stuff, but once they are done, you shouldn't have to touch them ever again. If the circumstances change and you do need to re-modify, then you can always reuse the braided fittings elsewhere as long as you don't damage them while you're doing them up.

When selecting the sizes you require for braided lines, you need to become versed with the correct vernacular because they measure braided line the same as they do normal tubing. Instead of having a 1/2 tube, for example, you would be asking for a dash-eight hose (-8), which is how they refer to AN fittings.

AN fittings were created for military applications just prior to the Second World War, as line pressures were increasing beyond the limits of contemporary lines. With war on the horizon, the race was on to build bigger and better planes, so they needed reliability that would keep those warplanes in the air.

Thus the Air Force-Navy Aeronautical Standard (AN) was created, and while there have been a few variations on the theme, along with some close clones, it is a standard that has done the job for more than 50 years. Unfortunately, the American Military is now moving away for these standards as they replace them with Aerospace Standards (AS), but the good news is that for us street car guys, AN will handle anything we need.


Generally, you can get AN hoses in any size from -4 (7/32in) through to -32 (1 3/4in), but for automotive stuff, you want anything from -6 (11/32in) through to -16 (7/8in).

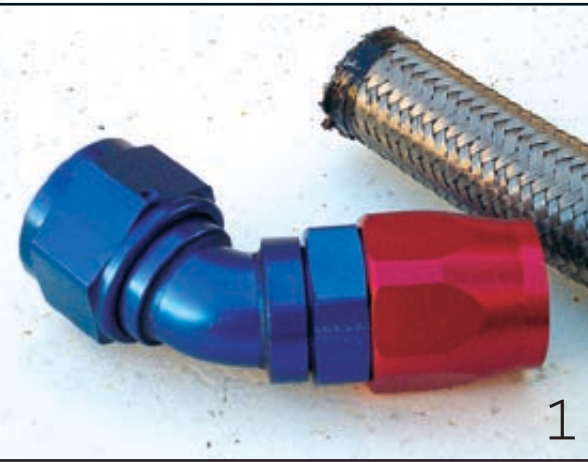
So, how do you get them onto your car? Well, it's going to take a lot of money and a fair amount of time and patience, but if you have access to a bench vice and a couple of big spanners or adjustable wrenches, you can tackle it at home yourself.

We've mentioned cost a couple of times already, but you have no idea of how quickly this stuff adds up. To do all your oil, fuel and water lines in a typically modified street car will leave you with no change from \$4000, so think about that next time you check out those show cars with their perfect braided lines and fittings.

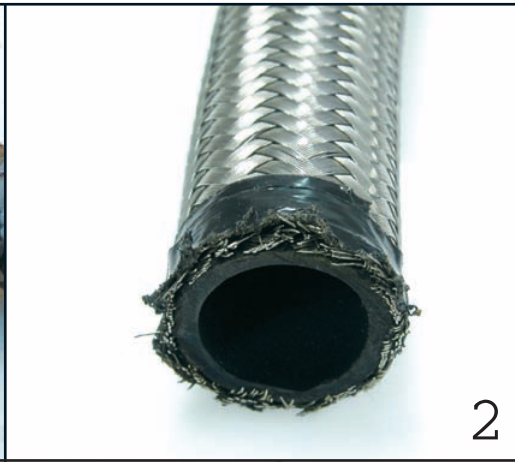
However, don't let that put you off; sometimes it's worth using braided line just for that peace of mind. Don't want that trans cooler line coming off the auto and spraying transmission fluid all over your nice hot extractors? Use braided lines. Don't want your fuel hose splitting and spraying fuel all over the engine bay? Use braided lines.

The fact is that once they are done properly in braided lines and fittings, you should never have to touch them again, and if you do have to work on them, they are a breeze to work with. AN fittings seal with a minimum of force and are extremely easy to line up for reattaching, can you say the same about your factory transmission cooler lines?

Check out our little how-to on doing your own braided lines and fittings, while we make an easy-fit oil return line for our newly turbocharged V6 Vengeance. 



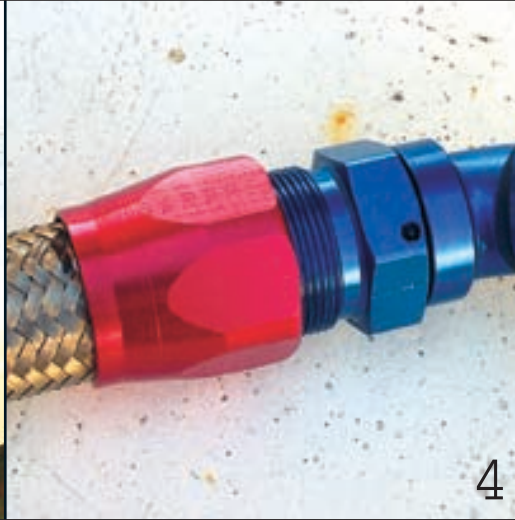
1



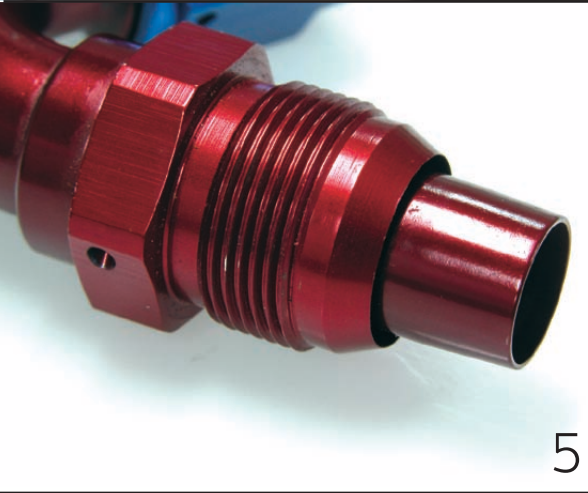
2



3



4



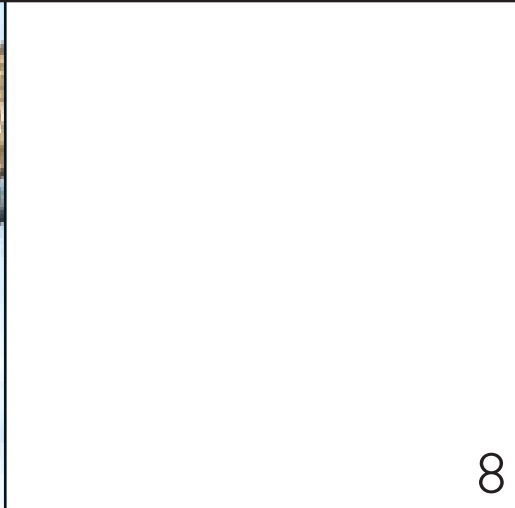
5



6



7



8

- 1 We are going to use this -16 AN 45° fitting to connect to a bung that we have welded onto the sump of V6 Vengeance
- 2 Note that the end of the hose has tape on it, this is to keep the braids together when you cut the hose. Use electrical tape and a 32-teeth/inch blade in the trusty hacksaw to complete the cut
- 3 Remove the tape carefully (those braids are razor sharp), trim any loose braids with a pair of side cutters, and then slide the socket end of the fitting over the hose until it is just below the threads
- 4 Mark the hose with a marking pen just at the end of the socket fitting. This will let you know if the hose has slipped inside the fitting when it is completed
- 5 Lubricate the nipple end of the fitting with some new engine oil and insert the nipple into the hose. Screw the fitting together by hand as far as you can go. Do not use tools to start the thread, as there is a good chance you will cross-thread the fitting and ruin it
- 6 You will need to lock the socket end of the fitting into a vice. If you don't want to scratch the fitting, wrap a cloth or rag around it
- 7 Use a large spanner or adjustable wrench to screw the fitting into the socket. Keep an eye on the mark. If it moves out too much (more than 3mm), you will have to start again. Take your time and be careful so you don't scratch the anodising on the fitting
- 8 Once it's done up tight, you can either do the other end or cut the hose to length and flush the hose out with high-pressure water from the tap and then drain the water out. It is now ready to use