

## HOSE ASSEMBLIES THE EASY WAY



Every time you look over a race engine you will notice most of the hoses are covered with a stainless braid. This stainless wrap protects the hoses from punctures or cuts. Very important in racing. Constant rubbing against body parts or even other hoses, tends to damage an unprotected one. Not only does this wrap work, it really looks cool.

There are two ways of fabricating these hose assemblies. One uses a swaged-on collar to fasten the hose to the fitting, while the other uses reusable AN fittings. The majority of these assemblies that you see on Hot Rod, boats etc. are made up with reusable AN fittings.

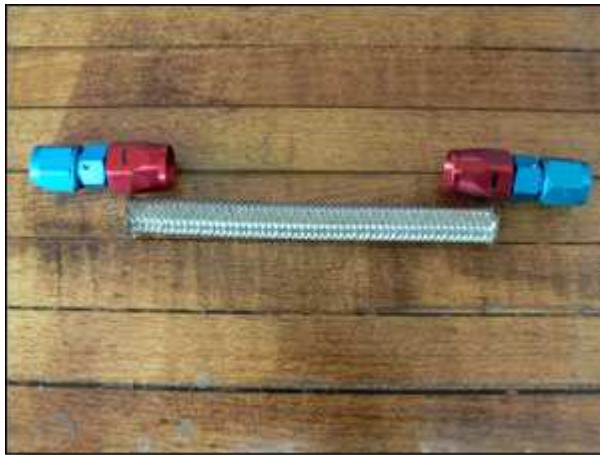
Until now, fabricating these hose assemblies has been a "pain in the end of your fingers". That's putting it lightly. Once you get the hose cut to size, it needs to be installed into the socket part of the fitting. This can become outright bloody. You see, during the cutting process, some of the braid wants to go off in another direction. This gives you the dreaded "fuzzy" end. You might as well get the Band-Aids out now. Well, you can keep the Band-Aids in the cabinet. A Lake Havasu AZ based company called KOUL tools LLC has come with an assembly kit that virtually makes the task a snap. The Koul tool funnels the fuzzy ends of the braided hose into the fitting in less than 10 seconds. Remember, this used to take several minutes or even a re-cut and start over. Making up a hose assembly can now be done in your garage, and you don't have to be a "hose pro."

## It's simple and here are a few tips on how to build a KOUL hose.

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After you carefully measure the length of hose you need, mark it. When calculating the length of the hose, don't forget the hose goes into the socket up to the threads. It's a good idea to double check yourself and take the hose over and hold it up to see if the length is correct. Remember the old saying, "measure twice, cut once". This hose doesn't come cheap, so it's not a bad idea.

**Photo 1**



**Photo 2**



**Photo 3**

Give a couple of wraps of black or gray tape around the hose using the mark as it's center.

**Photo 4**

I use an abrasive cutoff wheel to cut



my hoses. Line up the cutoff wheel so it's in the middle of the tape. Be gentle in the cutting process and cut the hose. You can also use a 32 tooth hacksaw, sharp chisel or Beverly shear to cut the hose. I have always used the cutoff wheel with pretty good success. If you do get some wild hairs, (stainless braid strands) cut them off.

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**Photo 5**

The hose on the right is a pretty good cut. The hose on the left is one I heard about, but never really experienced. The braid is delaminating from the hose. It is on the verge of unusable, even with the KOUL tool. Without the tool, it's scrap. We are going to show you how to save it.

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**Photo 6**

Stick a blowgun in the opposite end of the hose you just cut and clean it out. Don't blow it from the end you just cut.

Wear safety goggles during this step.

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Install the socket part of the fitting into the KOUL tool capsule. The socket needs to be snug in the capsule. All the sockets are a little different from the various manufactures, so some spacers are required to snug up the socket into the funnel. The spacers are included in the kits. (see photo 8) After the socket is resting properly in the capsule, attach the other side of the capsule and clamp it into a vise. You can install the hose into the socket without a vise, but you need to grip it tight enough to keep the socket from rotating. If the socket rotates, the tool will not perform. By the way, you don't need to worry about vise marks. This is just not another plastic tool. The composite material the tool is made from is the same material used in sprockets and

chain rollers. It's a glass filled nylon. A test tool has seen 800 installations **WITH VERY LITTLE WEAR.** It also won't mark up the fittings like aluminum would.

**Photo 7**



**Photo 8**



**Photo 9**



Before you install the hose, wipe your finger tip with a little grease and spread it into the funnel of the tool. It just makes it slide in that much easier. The next part is very important.

You need to twist or screw the hose into the socket. If you just push it straight in, it will fail. **TWIST THE HOSE IN.** If the hose delaminates like the one in Photo 6, help the wild ones into the funnel so the hose doesn't delaminate anymore. It will go in if the delamination doesn't spread too far into the hose.



**Photo 10**

Pull the assembly out of the capsule

and check if the hose is in the proper distance. It's not unusual to push it in too far with the KOUL tool. Just unscrew it back out till the threads are in the correct position.

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**Photo 11**



Lube the threads of the fitting.

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**Photo 12**

Mark the hose with a reference point to be sure you don't push it out during assembly. I use tape, but a marker will work.



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**Photo 13**



Screw in the fitting till your about a 1/16" from the bottom. Don't get to carried away with over powering it. Make sure that the mark on the hose hasn't moved out during the assembly. If it did, unscrew the fitting and start over. If everything looks good, run some solvent thru the hose and blow it out again. Be sure it's clean. If you can pressure check it, all the better. Oil the threads and you are ready to install the assembly. It's

not that hard anymore.

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**The KOUL tools come in two different kits.**

The 468 kit covers the -4-6-8 hose ends.



The 1016 kit covers -10-12-16 hose sizes.

