



***ULTRAPRO* SERIES**

Crimp-On Hose End Assembly Instructions

Step 1

- 1.1) In order to prep the hose for assembly, it must be cut to length with PTFE tape (plumber's tape) wrapped around the cut location to prevent the polyester braids from excessive fraying. Only use duct tape or other adhesive industrial tapes for the Stainless Steel Ultra-Pro Hose.



1.2A) Polyester

Using a sharp box cutter cut the hose at the location you marked using the PTFE tape, once cut is made 90% of the way through the hose, a pair of scissors can be used to finish the cut. If needed, use the scissors to trim the braid flush to the end of the hose. DO NOT remove the PTFE tape at this point. It is important the braid should not be allowed to fray apart during assembly. It should remain in its braided state so the hose-end compression stack up is correct.



1.2B) Stainless Steel

Chopping or shearing convoluted PTFE hose is not recommended. Earl's recommends a professional model band saw. This is the most effective method to cut stainless steel convoluted PTFE hose. Never use a hack saw or place convoluted hose of any type in a vise to perform a cut.



Step 2

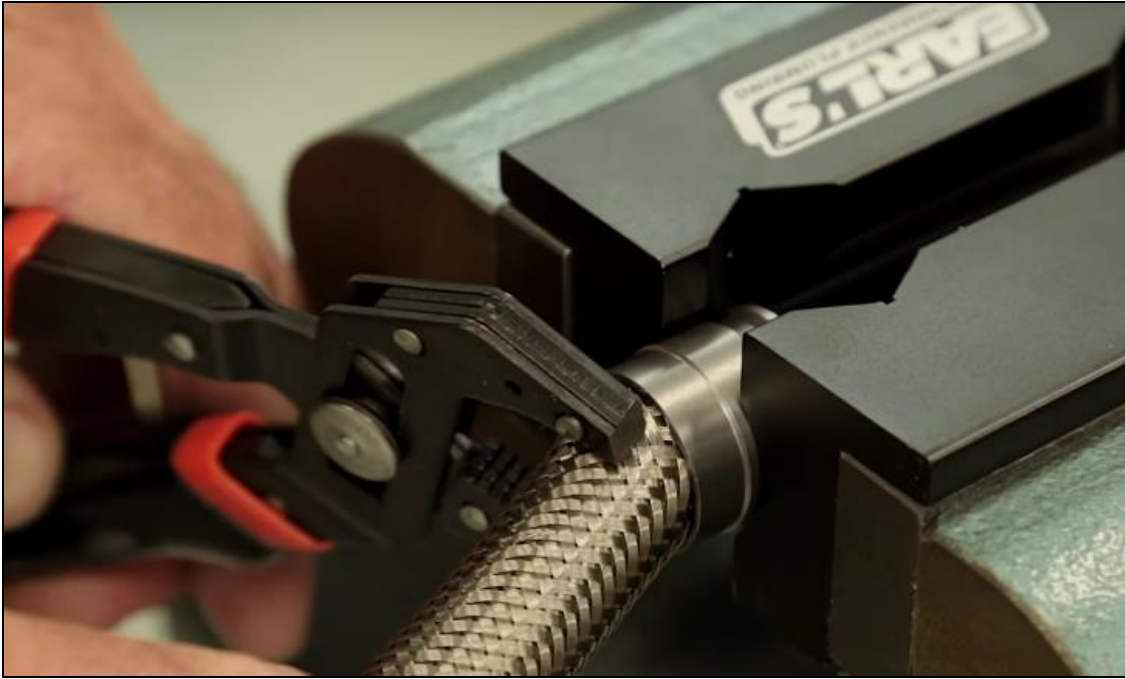
2.1A) Polyester

Once the hose has been cut to length and the tape is still in place, slide the crimp collar onto the hose with the chamfer end facing out toward the hose end.



2.1B) Stainless Steel

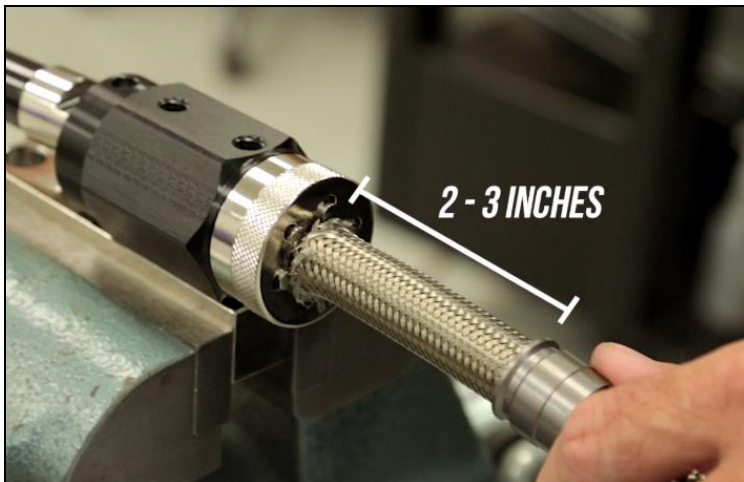
If the hose isn't too frayed, press the braids in lightly with your thumb and twist the collar onto the hose with the tape still in place, **being careful not to cut yourself**. If the braid is too frayed, remove the tape and use a pair of pliers to lightly press the braids and twist the collar until the hose is completely through the collar. **Note:** Spring loaded pliers are preferred, but not required.



Step 3

3.1) For -10 AN and larger hoses, expand the hose using the Earl's Hose Expander (600ERL).

NOTE: NEVER EXPAND THE HOSE WITH THE CRIMP COLLAR IN PLACE.

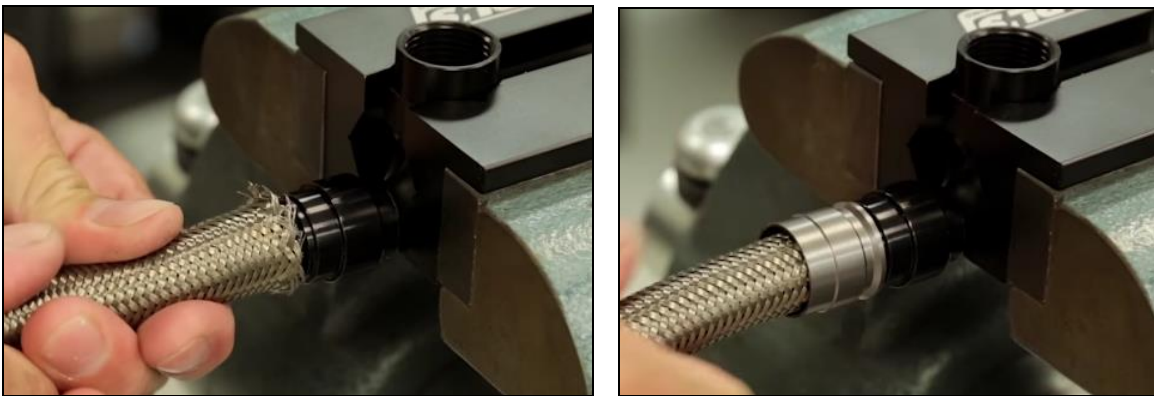


STEP 4

4.1) Secure the hose end using one of the methods below:



4.2) Next, apply a light coat of Earl's Assembly Lubricant (184004ERL) onto the nipple. Push the hose onto the nipple until the inner liner is fully seated on the step of the nipple. Then, push the collar all the way forward.



NOTE: ENSURE THAT THE BRAID IS NOT TWISTED OR BUNCHED IN ANY LOCATON AS THIS WILL COMPROMISE THE MAXIMUM PRESSURE HOLDING CAPABILITES OF THE HOSE.



4.3) If the hose liner protrudes past the crimp collar, then you may trim the excess braid being careful not to trim off too much. The key to strength of the Ultra Pro Hose is a tight, straight braid.

STEP 5

- 5.1) Crimp all Ultra Pro hose using the Earl's D100 Series Crimp Machine (D105M1101ERL). Set up machine according to the instructions included with the machine.

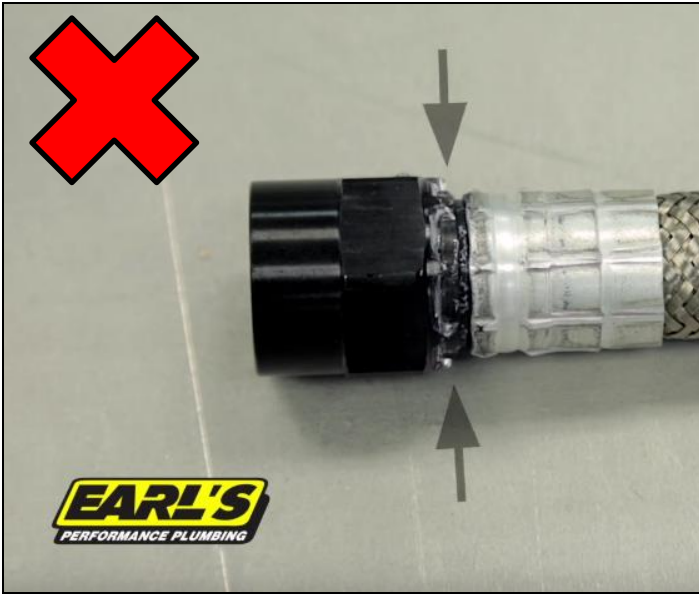


Note: it may be necessary to calibrate the micrometer on the machine due to manufacturing variations.

- 5.2) Using the Crimping Machine Setting Chart found at the end of this document, determine your correct setting. Ensure that the correct die and micrometer setting are chosen before proceeding. **NOTE: THE DIE MUST BE SEATED FLAT ON THE CRIMPING PLATE OTHERWISE DAMAGE WILL OCCUR TO THE DIE AND MACHINE.**
- 5.3) Apply a light film of Earl's Assembly Lubricant to the crimp collar exterior. This will help prevent galling and discoloration of the crimp collar.
- 5.4) Insert the hose assembly into the crimp die, ensuring that the crimp collar is flush with the top of the die.



WARNING! DO NOT PLACE THE COLLAR ANY DEEPER IN THE DIE, DAMAGE WILL OCCUR TO THE COLLAR AND BODY!



A shallow depth will result in an assembly that is under crimped and will leak.

- 5.5) For Ultra Pro -6 fitting, the collar must be double crimped. After the initial crimp is complete rotate the collar until the newly formed ridges are centered of the die teeth and re-crimp using the same settings.



Step 6

- 6.1) After the hose has been crimped, remove the assembly. With a pair of calipers, measure the final crimp outside diameter. Make sure to measure the O.D. of the crimp collar at the low points. Measuring on the ridges will result in inaccurate readings. Refer to the Crimping Machine Settings Chart for correct final crimp O.D.



NOTE: If your measured O.D. is larger than the specified range you will need to adjust the micrometer stop and crimp again. If your measured O.D. is more than 0.015” smaller than the specified range then you have over-crimped the collar and will need to discard the assembly and start over.

Step 7

- 7.1) Finally, all Ultra Pro hose assemblies need to be pressure tested using the Earl's Pressure Test Kit (D016ERL) to ensure a leak free seal.

After hose is assembled:

- Pressure test the assembly to 1.5 times the **maximum application** working pressure, max rated operating pressures are as follows:

-6 Polyester 250 psi	-6 Stainless Steel 500 psi
-8 Polyester 250 psi	-8 Stainless Steel 500 psi
-10 Polyester 250 psi	-10 Stainless Steel 500 psi
-12 Polyester 250 psi	-12 Stainless Steel 500 psi
-16 Polyester 250 psi	-16 Stainless Steel 500 psi
-20 Mono Filament 125 psi	-20 Stainless Steel 250 psi

General notes:

- Use EARL'S Aluminum AN wrenches for installation. Standard wrenches have longer handle lengths that allow too much torque on hose-ends.

Crimp Dimensions:

HOSE	DESCRIPTION	DIE SIZE	STOPPER SETTING	FINAL CRIMP O.D. RANGE
680006ERL	-6 ULTRA PRO POLYESTER	14 MM	1.75	.584 - .588 DOUBLE CRIMP
680008ERL	-8 ULTRA PRO POLYESTER	16 MM	2.00	.670 - .674
680010ERL	-10 ULTRA PRO POLYESTER	19 MM	3.05	.848 - .852
680012ERL	-12 ULTRA PRO POLYESTER	22 MM	3.05	.982 - .986
680016ERL	-16 ULTRA PRO POLYESTER	29 MM	1.25	1.179 - 1.183
680020ERL	-20 ULTRA PRO MONOFILAMENT	34 MM	3.50	1.513 - 1.517
690006ERL	-6 ULTRA PRO STAINLESS	14 MM	1.75	.584 - .588 DOUBLE CRIMP
690008ERL	-8 ULTRA PRO STAINLESS	16 MM	2.00	.670 - .674
690010ERL	-10 ULTRA PRO STAINLESS	19 MM	3.10	.848 - .852
690012ERL	-12 ULTRA PRO STAINLESS	22 MM	3.40	.982 - .986
690016ERL	-16 ULTRA PRO STAINLESS	29 MM	1.50	1.179 - 1.183
690020ERL	-20 ULTRA PRO STAINLESS	34 MM	3.50	1.513 - 1.517