

# TORQUE VALUES & ULTRA-FLEX 650™ CRIMP DIMENSIONS

## TECHNICAL SECTION

### TORQUE VALUES



The table below gives the torque tightening values for JIC (AN) fittings in both stainless steel and aluminum. When a combination of aluminum and stainless steel fittings are being mated always use the aluminum fitting torque values

DASH SIZE	ALUMINUM		STAINLESS STEEL	
	INCH/LVS MIN-MAX	NEWTON/m MIN-MAX	INCH/LBS MIN-MAX	NEWTON/m MIN-MAX
-02	50 - 80	5.64 - 9.03	75 - 120	8.47 - 13.55
-03	70 - 105	7.90 - 11.86	95 - 140	10.73 - 15.81
-04	100 - 104	11.29 - 15.81	135 - 190	15.25 - 21.46
-05	130 - 180	14.68 - 20.33	170 - 240	19.20 - 27.11
-06	150 - 195	16.94 - 22.03	215 - 280	24.29 - 31.63
-08	270 - 350	30.50 - 39.54	470 - 550	53.08 - 62.14
-10	360 - 430	40.67 - 48.58	620 - 745	70.05 - 84.17
-12	460 - 550	51.97 - 62.14	855 - 1055	96.60 - 119.18
-16	700 - 840	79.08 - 94.90	1140 - 1370	128.80 - 154.78
-20	850 - 1020	96.03 - 115.24	1520 - 1825	171.73 - 206.19
-24	900 - 1080	101.68 - 122.02	1900 - 2280	214.67 - 257.60
-32	1800 - 2000	203.37 - 255.97	2660 - 2940	300.54 - 332.17

The torque values apply to machined fitting connections only, not flared tube or compression. Fitting mating faces and threads should be lubricated prior to assembly. Generally the system working fluid (engine oil, hydraulic etc.) is used. If another lubricant is used, insure it is compatible with the working fluid and system. Dry assembly should be avoided if all possible.

It is important not to over tighten hose fittings to their mating adapters. Over tightening causes permanent deformation of the fitting seat (37° AN flare) and will result in the mating adapter sealing face to be made concave, this will inhibit repeated reliable use of both the fitting and the adapter.

### ULTRA-FLEX 650™ CRIMP DIMENSIONS

The target settings for the Earl's Ultra-Flex 650™ Kevlar & Stainless Steel covered hose, to be applied when using the Earl's Ultra-Flex Crimper and dies, are provided to aid in establishing actual diameters. While the Earl's Ultra-Flex crimper and dies for our Ultra-Flex hose will give crimp diameters close to, or at, specified diameters, the machine operator must check to verify actual dimensions.

SIZE	Dia. after Crimp (in.)	Dia. After Crimp (mm)
-4	Ø 0.465 +/- .005	Ø11.81mm +/- .12mm
-6	Ø 0.606 +/- .005	Ø15.39mm +/- .12mm
-8	Ø 0.800 +/- .005	Ø20.32mm +/- .12mm
-10	Ø 0.930 +/- .005	Ø23.6mm +/- .12mm
-12	Ø 1.151 +/- .005	Ø29.23mm +/- .12mm
-16	Ø 1.345 +/- .005	Ø33.63mm +/- .12mm

Failure to follow these instructions could result in serious injury or property damage during crimping. Improperly crimped fittings can be dangerous to the user of the hose assembly.

- Do not crimp Earl's hose or fittings with another manufacturer's hose or fitting.
- These dimensions are for Earl's Ultra-Flex Kevlar & Stainless covered hose and Ultra-Flex hose ends only.
- Wear safety glasses and keep hands away from moving objects.
- Always check for proper crimping dimensions

Always test assemblies for leakage prior to installation.

### ULTRA-FLEX™ HOSE ENDS WITH ULTRA-FLEX 650™ HOSE



1. Prepare to cut UltraFlex 650 hose. Wrap hose tightly with thin packing tape to prevent Kevlar braid from fraying during cutting.



2. Use the Earl's UltraFlex Hand Hose Cutter to cut hose. Use a sharp blade as to not crush the Teflon® hose during the cutting process.



3. Cut hose square or perpendicular to centerline of hose. No loose or fraying Kevlar braids are to be present.



4. Insert crimp collar onto UltraFlex hose. Do not remove thin tape as adhesive from tape might unravel Kevlar braid.



5. Push UltraFlex hose into crimp collar and verify that hose end bottoms inside of collar.



6. Insert UltraFlex fitting nipple into collar and hose assembly as shown.



7. Prepare the UltraFlex Crimper for operation.



8. Verify correct size crimp die. When inserting die into crimper insure that the bottom of die (shown) mates correctly with die bowl and diamond shaped features in die bowl.



9. Top of crimp die shown in die bowl. Verify die sets correctly in die bowl!

# ASSEMBLY INSTRUCTIONS

## TECHNICAL SECTION

### ULTRA-FLEX™ HOSE ENDS WITH ULTRA-FLEX 650™ HOSE - (CONT'D)



10. Gently push down onto crimp die to insert and center die ring on top of crimp die below pusher. Verify that bottom of crimp die is seated correctly in die bowl. Prepare to install pusher onto crimper.



11. Insert and position the hose and fitting assembly into crimp from below. Verify that crimp collar seats correctly in crimp die.



12. While holding hose and fitting into position, begin pumping hand pump until die ring contacts crimper base plate. Release pressure by turning triangular knob on valve.



13. Remove hose and fitting assembly through bottom of die ring and inspect crimp on hose assembly.



14. Measure crimp diameter to ensure proper crimp diameter has been achieved. Refer to crimp chart dimension chart.

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