

<b>Carrier Transicold</b> <b>Engineering Requirement</b>	No: 57-00580 Rev: A	
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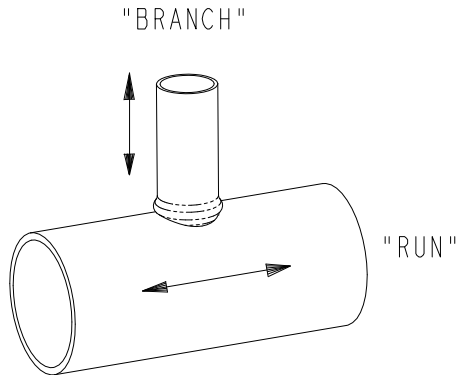
## 1.0 PURPOSE:

This Engineering Requirement was developed to illustrate the design standards and drawing dimensioning techniques required for beading copper tubing. It is the function of this Engineering Requirement to show the dimensional capabilities of the tooling.

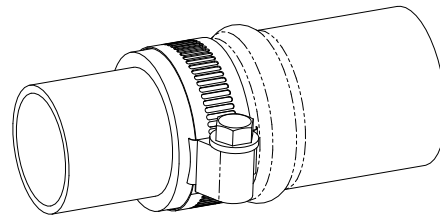
## 2.0 SCOPE:

Rev

Tube beading has two major purposes. The first allows a branch 90° connection of one tube to another tube of greater diameter primarily for fin coil header applications (fig. 1). The second allows for a hose connection secured by an automotive worm gear clamp such as on a radiator coil or radiator fill tubing (fig. 2). This Engineering Requirement does not cover formed tubes used in ORFS or O-Ring applications consult with local manufacturing engineering for tooling capabilities.



TEE CONNECTION  
Figure 1



HOSE CONNECTION  
Figure 2

## 3.0 APPLICABILITY:

This Engineering Requirement is applicable for all CTD Engineering/Design centers globally. Consult with your local manufacturing and/or suppliers for availability of tooling. CTD manufacturing plants currently with these tooling capabilities are listed below.

CTD - Athens, GA  
CTD - Singapore  
CTD - Syracuse, NY

## 4.0 TOOL DESCRIPTION AND SUPPLIER:

Any supplier that meets the dimensional requirements stated in section 5.0 and section 6.0.

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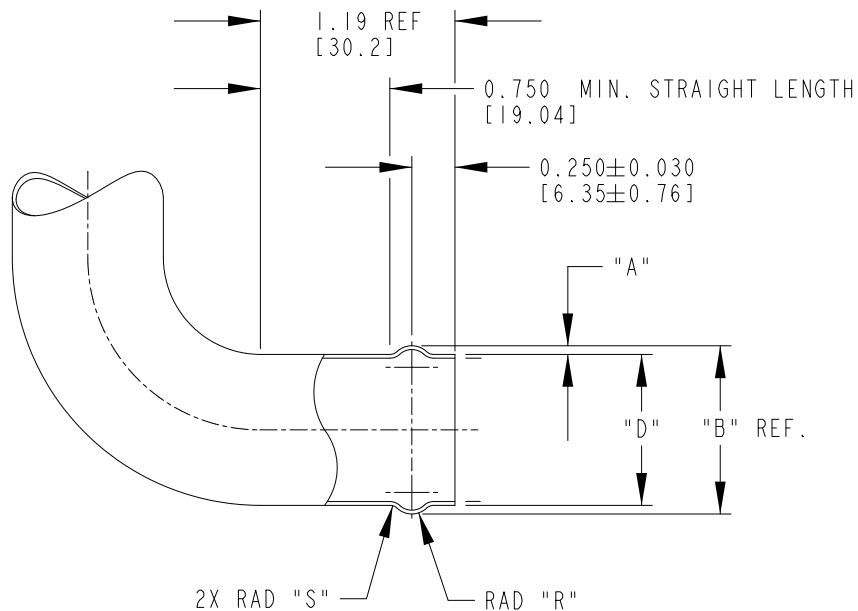
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## 5.0 TUBE BEADING TOOLING DIMENSIONS FOR HOSE CONNECTIONS:

Rev

D Nominal Tube O.D.	D Tolerances for treated end	A	B	R	S
1/4	+0.003 / -0.010	0.034 / 0.028	0.318 / 0.306	0.031 / 0.125	0.010 / 0.062
3/8	+0.003 / -0.010	0.038 / 0.032	0.451 / 0.439	0.031 / 0.125	0.010 / 0.062
1/2	+0.003 / -0.010	0.041 / 0.035	0.582 / 0.570	0.031 / 0.125	0.010 / 0.062
5/8	+0.003 / -0.010	0.041 / 0.035	0.707 / 0.695	0.031 / 0.125	0.010 / 0.062
3/4	+0.004 / -0.010	0.041 / 0.035	0.832 / 0.820	0.031 / 0.125	0.010 / 0.062
7/8	+0.004 / -0.010	0.053 / 0.047	1.080 / 1.020	0.031 / 0.125	0.010 / 0.062
1	+0.005 / -0.010	0.065 / 0.059	1.130 / 1.118	0.062 / 0.156	0.015 / 0.093
1 1/8	+0.005 / -0.010	0.065 / 0.059	1.255 / 1.243	0.062 / 0.156	0.015 / 0.093
1 3/8	+0.005 / -0.010	0.070 / 0.064	1.515 / 1.503	0.062 / 0.156	0.015 / 0.093

**Note:** These beading sizes are not suitable for insertion into a run tube.



**HOSE CONNECTION TOOLING  
DIMENSIONAL CAPABILITIES**

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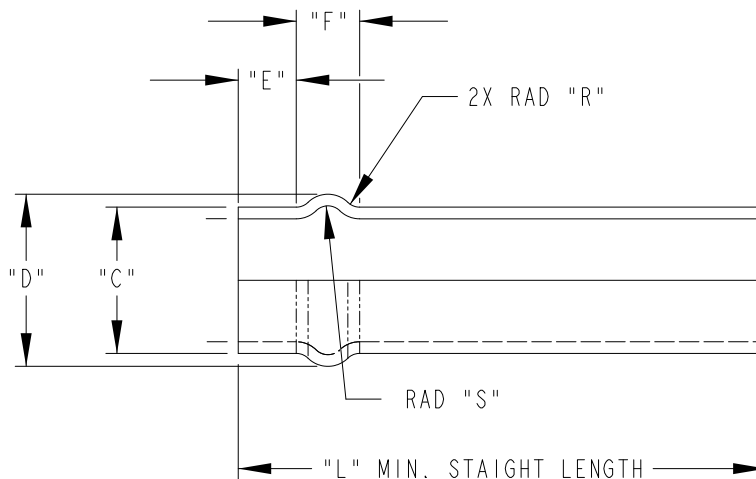
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## 6.0 TUBE BEADING TOOLING DIMENSIONS FOR TEE BRANCH CONNECTIONS:

New

Nominal Tube O.D.	C Tolerances for treated end	E	D	F	R Min.	L Min.	S Min.	Run Tube Dia. Min.
1/4	+0.003 / -0.010	0.21 / 0.16	0.318 / 0.306	0.190	0.032	3.00	0.032	1/2
7mm (0.276 in)	+0.003 / -0.010	0.12 / 0.08	0.328 / 0.308	0.120	0.032	2.42	0.032	1/2
3/8	+0.003 / -0.010	0.21 / 0.16	0.450 / 0.395	0.120	0.032	0.75	0.032	1/2
1/2	+0.003 / -0.010	0.21 / 0.16	0.576 / 0.550	0.156	0.046	0.75	0.046	5/8
5/8	+0.003 / -0.010	0.21 / 0.16	0.701 / 0.675	0.156	0.046	0.75	0.046	7/8

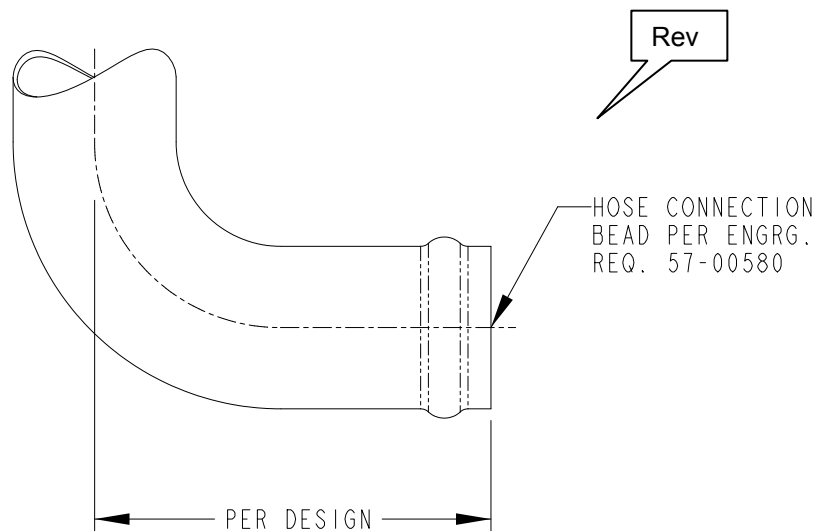
Note: 1/4 and 7mm tube bead sizes are externally formed.



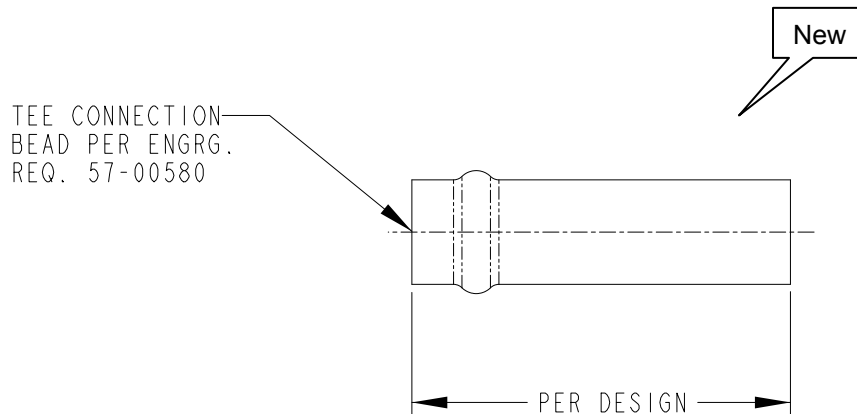
TEE CONNECTION TOOLING  
DIMENSIONAL CAPABILITIES

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HOSE CONNECTION  
DRAWING REPRESENTATION



TEE CONNECTION  
DRAWING REPRESENTATION

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