

# Rubbernek®

HYDRAULIC &  
PNEUMATIC TUBE  
FITTINGS

A Series of  
Specialty  
Tube Fittings  
with  
*exceptional*  
sealing  
under high  
pressure,  
designed for  
applications  
sensitive to  
shock and  
vibration.

# Rubbernek®

## The problem solving tube fitting



Rubbernek® Tube Fittings incorporate a unique and proven circumferential sealing principle that meets systems designers' and users' requirements for a fitting that will assure leak-resistant connections on standard, medium, and thin wall steel tubing.

The sealing action is based on rubber-to-metal contact between the tubing and the connector. For this reason, Rubbernek® Tube fittings can better absorb impulse shocks, pressure surges and vibration.

### FEATURES

1. Leak Resistant Design
2. RUBBERNEK® design
3. Ease of Assembly
4. Rubber seal
5. Special tube end preparation is not necessary
6. Bottoming nuts (positive stop)
7. Blue zinc plated

### BENEFITS

1. Rubber seal under compression resists costly leaks
2. Compensates for minor tube misalignment
3. No presetting is required saving assembly time and cost
4. Helps isolate noise, vibration, and shock
5. RUBBERNEK® fittings do not require special finishing of the tube ends
6. Need for torque measurement reduced by self-seating design
7. Impedes corrosion

# THE Rubbernek® PRINCIPLE



CONNECTOR



SEAL



GUIDE



ANCHOR



RETAINER



NUT

The principle is a bellville type frustroconical washer that is deflected in the assembly by the pressure of the rubber seal against the guide and in turn against the I.D. of the washer, resulting in a straightening of the washer and contact and penetration into the tube surface. As the nut is further tightened, the seal is displaced and compressed to a pressure of approximately 3000 psi around the tube to form a more effective seal against leaks or seepage. Surface imperfections on the tube do not affect the sealing efficiency of the fitting. Rubbernek® Tube Fittings also may be disconnected and reconnected at the same tube end.\*

## NO TUBE PREPARATION REQUIRED

When using Rubbernek® Tube Fittings, no tube flaring or other special preparation is necessary -- beyond a clean cut and normal deburring. Tube ends need not be perfectly square and exact tube lengths are not necessary, as Rubbernek® Tube Fittings require a minimum grip on the circumference of the tube.

## FASTER SYSTEM ASSEMBLY

Rubbernek® Tube Fittings permit faster assembly of hydraulic and pneumatic systems because leak-resistant connections can be made by merely tightening the nut until it bottoms on the connector. No guesswork, no "feel" is necessary, because the connection is sure when the nut is tight. The risk of over-torquing or under torquing is reduced because the nut comes to a positive stop at a predetermined point.

## RESISTANT TO TEMPERATURE EXTREMES, SOLVENTS, CHEMICALS

The Rubbernek® Tube Fittings Seal is precision molded from synthetic rubber compounds designed to function within wide temperature ranges. The standard seal has excellent resistance to hydro-carbons, fuels, oils, gases and water, and is highly resistant to oxidation. Special seals to meet specific requirements and special applications can be supplied.

## COST ADVANTAGE

Rubbernek® Tube Fittings offer savings in overall costs:

1. The simplified assembly allows anyone -- even inexperienced labor -- to install proper joints.
2. No tube preparation is required.
3. No presetting is required.
4. Leak-resistant design; rubber under compression minimizes costly leaks and weeping.
5. Fast assembly inspection ... visual check can determine proper assembly.

## SPECIAL APPLICATIONS

Rubbernek® Tube Fittings are recommended for use on low alloy steel tubing. All data in this catalog was determined on low alloy steel tubing. For applications on tubing material other than this or applications on thinner wall tubing, consult factory.

*\*NOTE: To assure proper installation, replace nut assembly.*



# TESTS PROVE Rubbernek® RELIABILITY

These tests were conducted by the Fluid Power Institute at Milwaukee School of Engineering in accordance with NFPA Std. T2.6.1 and NFPA T3.8.3 R2

FITTING SIZE	AVERAGE BURST PRESSURE (PSI)	RATED PRESSURE (PSI)	CYCLIC* TEST PRESSURE (PSI)
R500-4	27,000	6750	5750
R500-5	21,700	5400	5750
R500-6	24,220	6000	4300
R500-8	21,260	5300	4300
R500-10	14,200	3500	4300
R500-12	22,280	5500	4300
R500-14	14,120	3500	3600
R500-16	14,800	3700	3600
R500-20	13,840	3450	3600



\*Fittings completed 10<sup>6</sup> cycles from 0 cyclic test pressure. Pressure was cycled at 3 Hz and 160°F using ISO grade 32 petroleum hydraulic fluid. Fittings were assembled to the thickest wall steel tubing commercially available in accordance with S.A.E.J526, 1980.

#### NOTE:

Due to the variety of applications for Rubbernek® Tube Fittings, please contact the factory for pressure data relating to your applications.

Modern, well-equipped laboratory and test facilities are maintained to ensure quality and performance of Rubbernek® Tube Fittings.

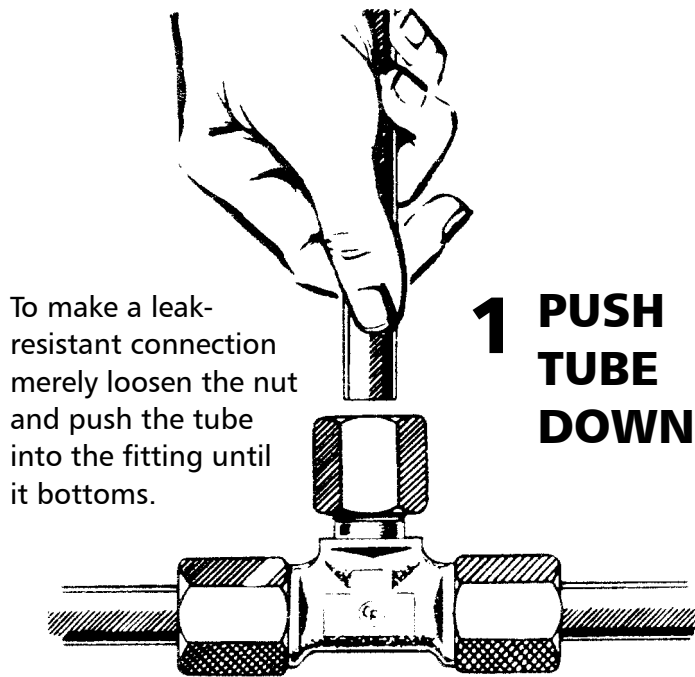
## TEST THEM YOURSELF.

**PROVE THEIR SUPERIOR QUALITY TO YOUR OWN SATISFACTION.**



# Rubbernek® EASY INSTALLATION

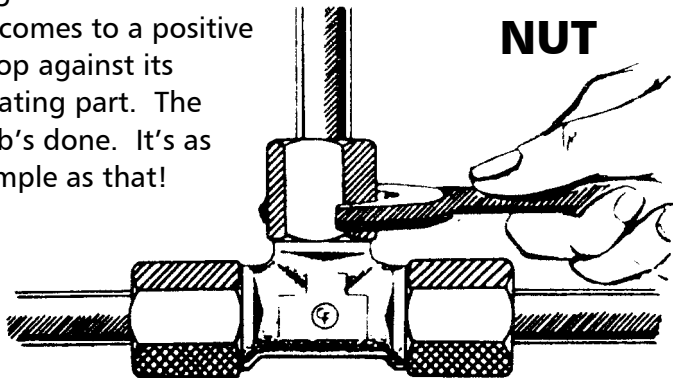
**1 ... 2 ... and you're through**



To make a leak-resistant connection merely loosen the nut and push the tube into the fitting until it bottoms.

**1 PUSH TUBE DOWN**

Tighten the nut until it comes to a positive stop against its mating part. The job's done. It's as simple as that!

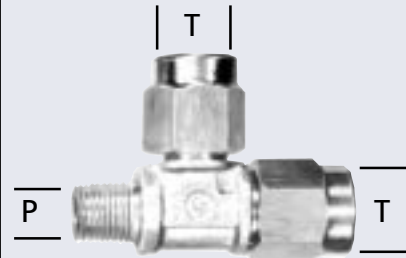


**2 THEN TIGHTEN NUT**

**NOTE:** Rubbernek® Tube Fittings are precisely designed to "bottom" when assembled. This provides a visual guide for checking the completed installation and an aid to the assembler by reducing need to judge torque or count turns. To benefit from these unique advantages, Rubbernek® Tube Fittings must be assembled so that the nut and shoulder connector are bottomed to a hard, positive stop.

## HOW TO ORDER

Each fitting is furnished as a complete assembly, ready to use. Please refer to the following pages for Rubbernek® Tube Fittings to meet your requirements. Each type is numbered and dimensioned according to standard catalog practice. For ordering Tees, indicate the catalog number first, then specify the size of the tube outlets, followed by the size of the pipe thread, where applicable.

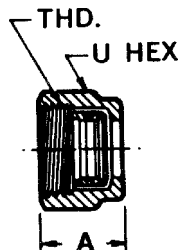


## MINIMUM STEEL TUBE WALL THICKNESS REQUIRED

TUBE O.D.	DASH NO.	MIN. TUBE WALL
$\frac{1}{8}$ "	-4	.035"
$\frac{1}{4}$ "	-5	.042"
$\frac{3}{8}$ "	-6	.042"
$\frac{1}{2}$ "	-8	.049"
$\frac{3}{4}$ "	-10	.049"
$\frac{1}{2}$ "	-12	.065"
$\frac{3}{4}$ "	-14	.065"
1"	-16	.065"
1 $\frac{1}{4}$ "	-20	.083"
1 $\frac{1}{2}$ "	-24	.083"

## R375

### NUT ASSEMBLY

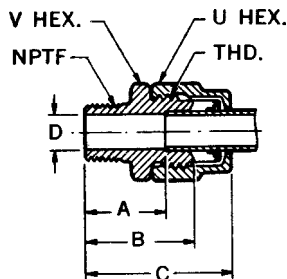


Part No.	Tube O.D.	Thd.	A	U Hex.
R375-4	1/4	9/16-20	.719	11/16
R375-5	5/16	5/8-20	.782	3/4
R375-6	3/8	11/16-20	.874	13/16
R375-8	1/2	7/8-18	.968	1
R375-10	5/8	1-18	1.065	1 1/8
R375-12	3/4	1 3/16-14	1.164	1 5/16
R375-14	7/8	1 3/8-14	1.216	1 1/2
R375-16	1	1 1/2-14	1.331	1 11/16
R375-20	1 1/4	1 3/4-14	1.500	2
R375-24	1 1/2	2 1/16-14	1.609	2 3/8

## R500

### CONNECTOR

Tube to male pipe thread



Part No.	Tube O.D.	Pipe Thd	Thd.	A	B	C	D Dia.	U Hex.	V Hex.
R500-4	1/4	1/8-27	9/16-20	.703	.984	1.295	.203	11/16	5/8
R500-4-4	1/4	1/4-18	9/16-20	.891	1.172	1.483	.203	11/16	5/8
R500-5	5/16	1/8-27	5/8-20	.703	.993	1.344	.234	3/4	11/16
R500-5-4	5/16	1/4-18	5/8-20	.891	1.181	1.532	.234	3/4	11/16
R500-6-2	3/8	1/8-27	11/16-20	.768	1.069	1.459	.234	13/16	3/4
R500-6	3/8	1/4-18	11/16-20	.956	1.257	1.647	.312	13/16	3/4
R500-6-6	3/8	3/8-18	11/16-20	.956	1.257	1.647	.312	13/16	3/4
R500-8-4	1/2	1/4-18	7/8-18	.938	1.313	1.765	.312	1	1
R500-8	1/2	3/8-18	7/8-18	.938	1.313	1.765	.438	1	1
R500-8-8	1/2	1/2-14	7/8-18	1.125	1.500	1.952	.438	1	1
R500-10-6	5/8	3/8-18	1-18	1.094	1.438	1.910	.438	1 1/8	1 1/8
R500-10	5/8	1/2-14	1-18	1.281	1.625	2.097	.531	1 1/8	1 1/8
R500-12-8	3/4	1/2-14	1 3/16-14	1.286	1.708	2.232	.531	1 5/16	1 5/16
R500-12	3/4	3/4-14	1 3/16-14	1.286	1.708	2.232	.687	1 5/16	1 5/16
R500-14	7/8	3/4-14	1 3/8-14	1.185	1.708	2.284	.719	1 1/2	1 1/2
R500-16-12	1	3/4-14	1 1/2-14	1.187	1.812	2.424	.687	1 11/16	1 11/16
R500-16	1	1-11 1/2	1 1/2-14	1.375	2.000	2.612	.875	1 11/16	1 11/16
R500-20	1 1/4	1 1/4-11 1/2	1 3/4-14	1.460	2.085	2.812	1.093	2	2
R500-24	1 1/2	1 1/2-11 1/2	2 1/16-14	1.480	2.105	2.985	1.344	2 3/8	2 3/8

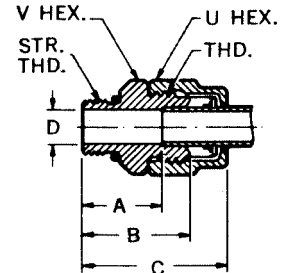


# Rubbernek® HYDRAULIC & PNEUMATIC TUBE FITTINGS

## R544

Part No.	Tube O.D.	Str Thd	Thd.	A	B	C	D Dia.	U Hex.	V Hex.
R544-4	1/4	7/16-20	9/16-20	.687	.968	1.279	.203	11/16	5/8
R544-5	5/16	1/2-20	5/8-20	.705	.995	1.346	.234	3/4	11/16
R544-6	3/8	9/16-18	11/16-20	.859	1.160	1.550	.312	13/16	3/4
R544-8	1/2	3/4-16	7/8-18	.909	1.284	1.736	.438	1	1
R544-10	5/8	7/8-14	1-18	1.087	1.431	1.903	.531	1 1/8	1 1/8
R544-12	3/4	1 1/16-12	1 3/16-14	1.198	1.620	2.144	.687	1 5/16	1 5/16
R544-14	7/8	1 3/16-12	1 3/8-14	1.087	1.610	2.186	.719	1 1/2	1 1/2
R544-16	1	1 5/16-12	1 1/2-14	1.186	1.811	2.423	.875	1 11/16	1 11/16
R544-20	1 1/4	1 5/8-12	1 3/4-14	1.242	1.867	2.694	1.093	2	2
R544-24	1 1/2	1 7/8-12	2 1/16-14	1.262	1.887	2.728	1.344	2 3/8	2 3/8

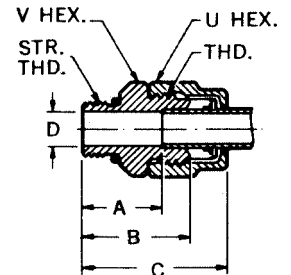
**CONNECTOR**  
Tube to straight thread w/"O" ring



Part No.	Tube O.D.	Pipe Thd	Thd.	A	B	C	D Dia.	U Hex.	V Hex.
R575-4	1/4	1/8-27	9/16-20	1.756	2.037	2.348	.203	11/16	5/8
R575-4-4	1/4	1/4-18	9/16-20	1.994	2.225	2.536	.203	11/16	5/8
R575-5	5/16	1/8-27	5/8-20	1.805	2.095	2.446	.234	3/4	11/16
R575-5-4	5/16	1/4-18	5/8-20	1.993	2.283	2.634	.234	3/4	11/16
R575-6-2	3/8	1/8-27	11/16-20	1.985	2.286	2.676	.234	13/16	3/4
R575-6	3/8	1/4-18	11/16-20	2.173	2.474	2.864	.312	13/16	3/4
R575-6-6	3/8	3/8-18	11/16-20	2.173	2.474	2.864	.312	13/16	3/4
R575-8-4	1/2	1/4-18	7/8-18	2.276	2.651	3.103	.312	1	1
R575-8	1/2	3/8-18	7/8-18	2.276	2.651	3.103	.438	1	1
R575-8-8	1/2	1/2-14	7/8-18	2.526	2.901	3.353	.438	1	1
R575-10-6	5/8	3/8-18	1-18	2.576	2.920	3.392	.438	1 1/8	1 1/8
R575-10	5/8	1/2-14	1-18	2.826	3.170	3.642	.531	1 1/8	1 1/8
R575-12-8	3/4	1/2-14	1 3/16-14	2.979	3.401	3.925	.531	1 5/16	1 5/16
R575-12	3/4	3/4-14	1 3/16-14	2.979	3.401	3.925	.687	1 5/16	1 5/16
R575-14	7/8	3/4-14	1 3/8-14	2.941	3.464	4.040	.719	1 1/2	1 1/2
R575-16-12	1	3/4-14	1 1/2-14	3.088	3.713	4.325	.687	1 11/16	1 11/16
R575-16	1	1-11 1/2	1 1/2-14	3.339	3.964	4.576	.875	1 11/16	1 11/16
R575-20	1 1/4	1 1/4-11 1/2	1 3/4-14	3.810	4.435	5.162	1.093	2	2
R575-24	1 1/2	1 1/2-11 1/2	2 1/16-14	3.980	4.605	5.421	1.344	2 3/8	2 3/8

## R575

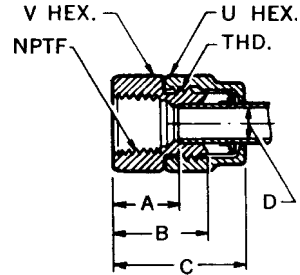
**CONNECTOR**  
Tube to extended male pipe thread



## R600

### CONNECTOR

tube to female pipe thread

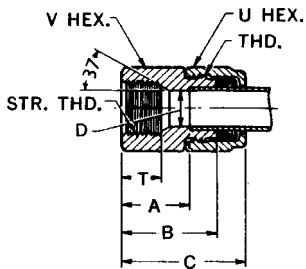


Part No.	Tube O.D.	Pipe Thd	Thd.	A	B	C	D Dia.	U Hex.	V Hex.
R600-4	1/4	1/8-27	9/16-20	.594	.875	1.186	.203	11/16	5/8
R600-4-4	1/4	1/4-18	9/16-20	.812	1.093	1.404	.203	11/16	11/16
R600-5	5/16	1/8-27	5/8-20	.600	.890	1.241	.234	3/4	11/16
R600-5-4	5/16	1/4-18	5/8-20	.819	1.109	1.460	.234	3/4	11/16
R600-6-2	3/8	1/8-27	11/16-20	.464	.765	1.155	.328	13/16	3/4
R600-6	3/8	1/4-18	11/16-20	.714	1.015	1.405	.312	13/16	3/4
R600-6-6	3/8	3/8-18	11/16-20	.840	1.141	1.531	.312	13/16	13/16
R600-8-4	1/2	1/4-18	7/8-18	.625	1.000	1.452	.438	1	1
R600-8	1/2	3/8-18	7/8-18	.703	1.078	1.530	.438	1	1
R600-8-8	1/2	1/2-14	7/8-18	1.015	1.390	1.842	.438	1	1
R600-10-6	5/8	3/8-18	1-18	.656	1.000	1.472	.562	11/8	11/8
R600-10	5/8	1/2-14	1-18	.968	1.312	1.784	.531	11/8	11/8
R600-12-8	3/4	1/2-14	13/16-14	.796	1.218	1.742	.703	15/16	15/16
R600-12	3/4	3/4-14	13/16-14	1.093	1.515	2.039	.687	15/16	15/16
R600-14	7/8	3/4-14	13/8-14	1.029	1.552	2.128	.719	11/2	11/2
R600-16-12	1	3/4-14	11/2-14	.812	1.437	2.049	.906	111/16	111/16
R600-16	1	1-111/2	11/2-14	1.156	1.781	2.393	.875	111/16	111/16
R600-20	11/4	11/4-111/2	13/4-14	1.312	1.937	2.664	1.093	2	2
R600-24	11/2	11/2-111/2	21/16-14	1.358	1.983	2.799	1.344	23/8	23/8

## R637

### ADAPTER

Tube to 37° flared female connector



Part No.	Tube O.D.	Str Thd	Thd.	A	B	C	D Dia.	T	U Hex.	V Hex.
R637-4	1/4	7/16-20	9/16-20	.533	.814	1.125	.172	.328	11/16	5/8
R637-5	5/16	1/2-20	5/8-20	.549	.839	1.190	.234	.344	3/4	11/16
R637-6	3/8	9/16-18	11/16-20	.551	.852	1.242	.297	.344	13/16	3/4
R637-8	1/2	3/4-16	7/8-18	.633	1.008	1.460	.391	.375	1	1
R637-10	5/8	7/8-14	1-18	.774	1.118	1.590	.484	.469	11/8	11/8
R637-12	3/4	11/16-12	13/16-14	.838	1.260	1.784	.609	.500	15/16	15/16
R637-14	7/8	13/16-12	13/8-14	.880	1.403	1.979	.718	.531	11/2	11/2
R637-16	1	15/16-12	11/2-14	.912	1.537	2.149	.844	.563	111/16	111/16
R637-20	11/4	15/8-12	13/4-14	.995	1.620	2.447	1.078	.563	2	2
R637-24	11/2	17/8-12	21/16-14	1.101	1.726	2.567	1.312	.656	23/8	23/8



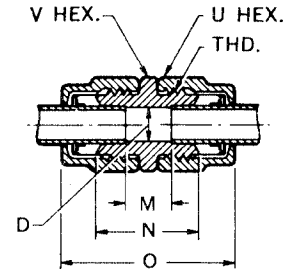


# Rubbernek® HYDRAULIC & PNEUMATIC TUBE FITTINGS

## R700

Part No.	Tube O.D.	Thd.	D Dia.	M	N	O	U Hex.	V Hex.
R700-4	1/4	9/16-20	.203	.406	.968	1.590	11/16	5/8
R700-5	5/16	5/8-20	.234	.416	.996	1.698	3/4	11/16
R700-6	3/8	11/16-20	.312	.576	1.178	1.958	13/16	3/4
R700-8	1/2	7/8-18	.438	.479	1.229	2.133	1	1
R700-10	5/8	1-18	.531	.744	1.432	2.376	11/8	11/8
R700-12	3/4	13/16-14	.687	.687	1.531	2.579	15/16	15/16
R700-14	7/8	13/8-14	.719	.516	1.562	2.714	11/2	11/2
R700-16	1	11/2-14	.875	.578	1.828	3.052	111/16	111/16
R700-20	11/4	13/4-14	1.093	.671	1.921	3.375	2	2
R700-24	11/2	21/16-14	1.344	.711	1.961	3.593	23/8	23/8

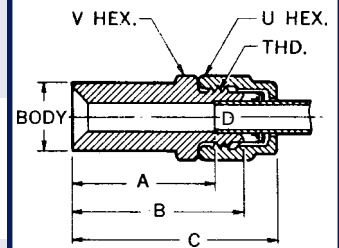
### CONNECTOR Tube to tube



## R705

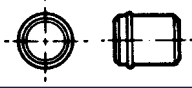
Part No.	Tube O.D.	Pipe Thd.	Thd.	A	B	C	D Dia.	U Hex.	V Hex.
R705-5-4	5/16	1/4	5/8-20	1.214	1.495	1.806	.203	11/16	5/8
R705-6-4	3/8	1/4	11/16-20	1.267	1.548	1.859	.203	11/16	5/8
R705-8-4	1/2	1/4	7/8-18	1.402	1.683	1.991	.203	11/16	5/8
R705-8-5	1/2	5/16	7/8-18	1.416	1.706	2.054	.234	3/4	11/16
R705-8-6	1/2	3/8	7/8-18	1.458	1.759	2.146	.312	13/16	3/4
R705-10-4	5/8	1/4	1-18	1.402	1.683	1.992	.203	11/16	11/16
R705-10-5	5/8	5/16	1-18	1.416	1.706	2.055	.234	3/4	11/16
R705-10-6	5/8	3/8	1-18	1.458	1.759	2.147	.312	13/16	3/4
R705-10-8	5/8	1/2	1-18	1.416	1.791	2.244	.438	1	1
R705-12-5	3/4	5/16	13/16-14	1.551	1.841	1.977	.234	3/4	13/16
R705-12-6	3/4	3/8	13/16-14	1.593	1.894	2.269	.312	13/16	13/16
R705-12-8	3/4	1/2	13/16-14	1.551	1.926	2.366	.438	1	1
R705-12-10	3/4	5/8	13/16-14	1.659	2.003	2.462	.531	11/8	11/8
R705-14-6	7/8	3/8	13/8-14	1.754	2.055	2.419	.312	13/16	15/16
R705-14-8	7/8	1/2	13/8-14	1.712	2.087	2.216	.438	1	1
R705-14-10	7/8	5/8	13/8-14	1.820	2.164	2.612	.531	11/8	11/8
R705-14-12	7/8	3/4	13/8-14	1.789	2.211	2.724	.687	15/16	15/16
R705-16-6	1	3/8	11/2-14	1.898	2.199	2.558	.312	13/16	11/16
R705-16-8	1	1/2	11/2-14	1.856	2.231	2.655	.438	1	11/16
R705-16-10	1	5/8	11/2-14	1.856	2.231	2.655	.531	11/8	11/8
R705-16-12	1	3/4	11/2-14	1.933	2.355	2.863	.687	15/16	15/16
R705-16-14	1	7/8	11/2-14	1.832	2.355	2.926	.719	11/2	11/2
R705-20-10	11/4	5/8	13/4-14	2.289	2.633	3.115	.531	11/8	15/16
R705-20-12	11/4	3/4	13/4-14	2.258	2.680	3.227	.687	15/16	15/16
R705-20-14	11/4	7/8	13/4-14	2.157	2.680	3.290	.719	11/2	11/2
R705-20-16	11/4	1	13/4-14	2.134	2.759	3.410	.875	111/16	111/16
R705-24-12	11/2	3/4	21/16-14	2.258	2.680	3.236	.687	15/16	19/16
R705-24-14	11/2	7/8	21/16-14	2.157	2.680	3.299	.719	11/2	19/16
R705-24-16	11/2	1	21/16-14	2.134	2.759	3.419	.875	111/16	111/16
R705-24-20	11/2	11/4	21/16-14	2.188	2.813	3.549	1.093	2	2

### REDUCER



## R710

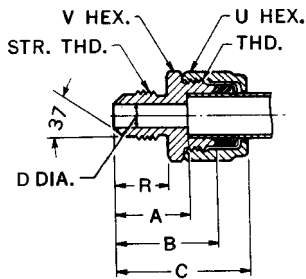
PLUG



Part No.	710-4	710-5	710-6	710-8	710-10	710-12	710-14	710-16	710-20	710-24
Tube O.D.	1/4	5/16	3/8	1/2	5/8	3/4	7/8	1	1 1/4	1 1/2

## R737

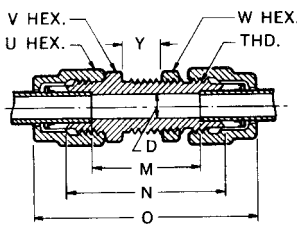
**ADAPTER**  
tube to  
37° flared male connector



Part No.	Tube O.D.	Str Thd	Thd.	A	B	C	D Dia.	R	U Hex.	V Hex.
R737-4	1/4	1/16-20	9/16-20	.878	1.159	1.470	.172	.550	11/16	5/8
R737-5	5/16	1/2-20	5/8-20	.878	1.168	1.519	.234	.550	3/4	11/16
R737-6	3/8	9/16-18	11/16-20	.949	1.250	1.640	.297	.556	13/16	3/4
R737-8	1/2	3/4-16	7/8-18	1.032	1.407	1.859	.391	.657	1	1
R737-10	5/8	7/8-14	1-18	1.289	1.633	2.105	.484	.758	1 1/8	1 1/8
R737-12	3/4	1 1/16-12	1 3/16-14	1.400	1.822	2.346	.609	.864	1 5/16	1 5/16
R737-14	7/8	1 3/16-12	1 3/8-14	1.325	1.848	2.424	.718	.890	1 1/2	1 1/2
R737-16	1	1 5/16-12	1 1/2-14	1.349	1.974	2.586	.844	.911	1 11/16	1 11/16
R737-20	1 1/4	1 5/8-12	1 3/4-14	1.481	2.106	2.933	1.078	.958	2	2
R737-24	1 1/2	1 7/8-12	2 1/16-14	1.689	2.314	3.155	1.312	1.083	2 3/8	2 3/8

## R750

**BULKHEAD CONNECTOR**



Part No.	Tube O.D.	Thd	D Dia.	M	N	O	Y Max.	U Hex.	V Hex.	W Hex.
R750-4	1/4	9/16-20	.203	1.169	1.731	2.353	.513	11/16	11/16	11/16
R750-5	5/16	5/8-20	.234	1.199	1.779	2.481	.543	3/4	3/4	3/4
R750-6	3/8	11/16-20	.312	1.361	1.963	2.743	.575	13/16	13/16	13/16
R750-8	1/2	7/8-18	.438	1.364	2.114	3.018	.618	1	1	1
R750-10	5/8	1-18	.531	1.774	2.462	3.406	.710	1 1/8	1 1/8	1 1/8
R750-12	3/4	1 3/16-14	.687	1.781	2.625	3.673	.720	1 5/16	1 5/16	1 5/16
R750-14	7/8	1 3/8-14	.719	1.604	2.650	3.802	.730	1 1/2	1 1/2	1 1/2
R750-16	1	1 1/2-14	.875	1.608	2.858	4.082	.732	1 11/16	1 11/16	1 11/16
R750-20	1 1/4	1 3/4-14	1.093	1.809	3.059	4.513	.763	2	2	2
R750-24	1 1/2	2 1/16-14	1.344	1.911	3.161	4.793	.788	2 3/8	2 3/8	2 3/8

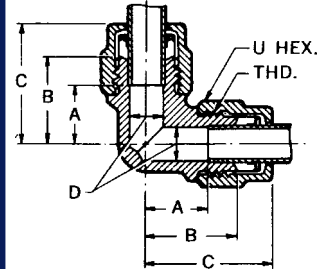


# Rubbernek® HYDRAULIC & PNEUMATIC TUBE FITTINGS

## R800

Part No.	Tube O.D.	Thd.	A	B	C	D Dia.	U Hex.
R800-4	1/4	9/16-20	.570	.851	1.162	.203	11/16
R800-5	5/16	5/8-20	.561	.851	1.202	.234	3/4
R800-6	3/8	11/16-20	.637	.938	1.328	.312	13/16
R800-8	1/2	7/8-18	.813	1.188	1.640	.438	1
R800-10	5/8	1-18	.969	1.313	1.785	.531	1 1/8
R800-12	3/4	1 3/16-14	1.156	1.578	2.102	.687	1 5/16
R800-14	7/8	1 3/8-14	1.247	1.770	2.346	.719	1 1/2
R800-16	1	1 1/2-14	1.255	1.880	2.492	.875	1 11/16
R800-20	1 1/4	1 3/4-14	1.365	1.990	2.717	1.093	2
R800-24	1 1/2	2 1/16-14	1.635	2.260	3.076	1.344	2 3/8

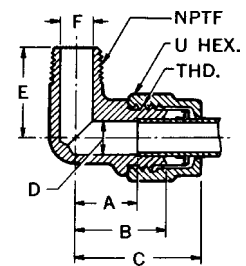
**ELBOW**  
tube to tube



## R900

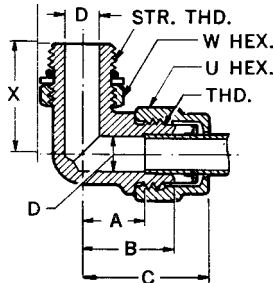
Part No.	Tube O.D.	Pipe Thd.	Thd.	A	B	C	D Dia.	E	F Dia.	U Hex
R900-4	1/4	1/8-27	9/16-20	.570	.851	1.162	.203	.828	.203	11/16
R900-4-4	1/4	1/4-18	9/16-20	.570	.851	1.162	.203	1.063	.203	11/16
R900-5	5/16	1/8-27	5/8-20	.561	.851	1.202	.234	.828	.234	3/4
R900-5-4	5/16	1/4-18	5/8-20	.561	.851	1.202	.234	1.063	.234	3/4
R900-6-2	3/8	1/8-27	11/16-20	.637	.938	1.328	.312	1.037	.234	13/16
R900-6	3/8	1/4-18	11/16-20	.637	.938	1.328	.312	1.063	.312	13/16
R900-6-6	3/8	3/8-18	11/16-20	.887	1.188	1.578	.312	1.063	.312	13/16
R900-8-4	1/2	1/4-18	7/8-18	.813	1.188	1.640	.438	1.234	.312	1
R900-8	1/2	3/8-18	7/8-18	.813	1.188	1.640	.438	1.234	.438	1
R900-8-8	1/2	1/2-14	7/8-18	.813	1.188	1.640	.438	1.437	.438	1
R900-10-6	5/8	3/8-18	1-18	.969	1.313	1.785	.531	1.375	.438	1 1/8
R900-10	5/8	1/2-14	1-18	.969	1.313	1.785	.531	1.437	.531	1 1/8
R900-12-8	3/4	1/2-14	1 3/16-14	1.156	1.578	2.102	.687	1.500	.531	1 5/16
R900-12	3/4	3/4-14	1 3/16-14	1.156	1.578	2.102	.687	1.563	.687	1 5/16
R900-14	7/8	3/4-14	1 3/8-14	1.247	1.770	2.346	.719	1.875	.687	1 1/2
R900-16-12	1	3/4-14	1 1/2-14	1.255	1.880	2.492	.875	1.880	.687	1 11/16
R900-16	1	1-11 1/2	1 1/2-14	1.255	1.880	2.492	.875	2.031	.875	1 11/16
R900-20	1 1/4	1 1/4-11 1/2	1 3/4-14	1.365	1.990	2.717	1.093	2.188	1.093	2
R900-24	1 1/2	1 1/2-11 1/2	2 1/16-14	1.635	2.260	3.076	1.344	2.434	1.344	2 3/8

**ELBOW**  
tube to male pipe thread



## R944

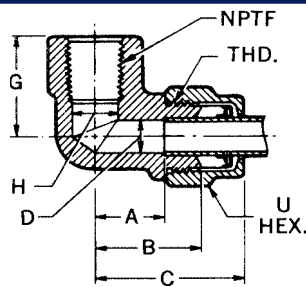
**ELBOW**  
tube to  
straight thread w/"O" ring



Part No.	Tube O.D.	Str Thd	Thd.	A	B	C	D Dia.	X	U Hex.	W Hex.
R944-4	1/4	7/16-20	9/16-20	.570	.851	1.162	.203	1.125	11/16	9/16
R944-5	5/16	1/2-20	5/8-20	.561	.851	1.202	.234	1.155	3/4	5/8
R944-6	3/8	9/16-18	11/16-20	.637	.938	1.328	.312	1.281	13/16	11/16
R944-8	1/2	3/4-16	7/8-18	.813	1.188	1.640	.438	1.453	1	7/8
R944-10	5/8	7/8-14	1-18	.969	1.313	1.785	.531	1.703	1 1/8	1
R944-12	3/4	1 1/16-12	1 3/16-14	1.156	1.578	2.102	.687	2.000	1 5/16	1 1/4
R944-14	7/8	1 3/16-12	1 3/8-14	1.247	1.770	2.346	.719	2.156	1 1/2	1 3/8
R944-16	1	1 5/16-12	1 1/2-14	1.255	1.880	2.492	.875	2.171	1 11/16	1 1/2
R944-20	1 1/4	1 5/8-12	1 3/4-14	1.365	1.990	2.717	1.093	2.351	2	1 7/8
R944-24	1 1/2	1 7/8-12	2 1/16-14	1.635	2.260	3.076	1.344	2.567	2 3/8	2 1/8

## R1000

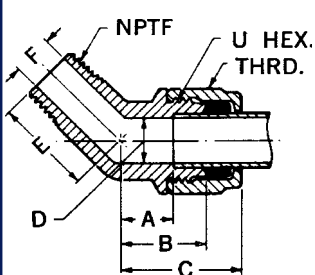
**ELBOW**  
tube to  
female pipe thread



Part No.	Tube O.D.	Pipe Thd.	Thd.	A	B	C	D Dia.	E	F Dia.	U Hex
R1000-4	1/4	1/8-27	9/16-20	.570	.851	1.162	.203	.812	.327	11/16
R1000-4-4	1/4	1/4-18	9/16-20	.570	.851	1.162	.203	.812	.438	11/16
R1000-5	5/16	1/8-27	5/8-20	.561	.851	1.202	.234	.851	.327	3/4
R1000-5-4	5/16	1/4-18	5/8-20	.561	.851	1.202	.234	.851	.438	3/4
R1000-6-2	3/8	1/8-27	11/16-20	.637	.938	1.328	.312	.625	.327	13/16
R1000-6	3/8	1/4-18	11/16-20	.637	.938	1.328	.312	.938	.438	13/16
R1000-6-6	3/8	3/8-18	11/16-20	.887	1.188	1.578	.312	.938	.562	13/16
R1000-8-4	1/2	1/4-18	7/8-18	.813	1.188	1.640	.438	1.000	.438	1
R1000-8	1/2	3/8-18	7/8-18	.813	1.188	1.640	.438	1.188	.562	1
R1000-8-8	1/2	1/2-14	7/8-18	.813	1.188	1.640	.438	1.188	.703	1
R1000-10-6	5/8	3/8-18	1-18	.969	1.313	1.785	.531	1.188	.562	1 1/8
R1000-10	5/8	1/2-14	1-18	.969	1.313	1.785	.531	1.313	.703	1 1/8
R1000-12-8	3/4	1/2-14	1 3/16-14	1.156	1.188	2.102	.687	1.375	.703	1 5/16
R1000-12	3/4	3/4-14	1 3/16-14	1.156	1.578	2.102	.687	1.578	.906	1 5/16
R1000-14	7/8	3/4-14	1 3/8-14	1.247	1.770	2.346	.719	1.625	.906	1 1/2
R1000-16-12	1	3/4-14	1 1/2-14	1.255	1.880	2.492	.875	1.500	.906	1 11/16
R1000-16	1	1-11 1/2	1 1/2-14	1.255	1.880	2.492	.875	1.880	1.140	1 11/16
R1000-20	1 1/4	1 1/4-11 1/2	1 3/4-14	1.365	1.990	2.717	1.093	1.990	1.484	2
R1000-24	1 1/2	1 1/2-11 1/2	2 1/16-14	1.635	2.260	3.076	1.344	2.260	1.719	2 3/8

## R1100

**ELBOW - 45°**  
tube to  
male pipe thread



Part No.	Tube O.D.	Pipe Thd.	Thd.	A	B	C	D Dia.	E	F Dia.	U Hex
R1100-4	1/4	1/8-27	9/16-20	.570	.851	1.162	.203	.828	.203	11/16
R1100-5	5/16	1/8-27	5/8-20	.561	.851	1.202	.234	.828	.234	3/4
R1100-6	3/8	1/4-18	11/16-20	.637	.938	1.328	.312	1.063	.312	13/16
R1100-8	1/2	3/8-18	7/8-18	.490	.865	1.317	.438	.938	.438	1
R1100-10	5/8	1/2-14	1-18	.771	1.115	1.587	.531	1.250	.531	1 1/8
R1100-12	3/4	3/4-14	1 3/16-14	.743	1.165	1.689	.687	1.250	.687	1 5/16
R1100-14	7/8	3/4-14	1 3/8-14	.702	1.225	1.801	.719	1.250	.719	1 1/2
R1100-16	1	1-11 1/2	1 1/2-14	.760	1.385	1.997	.875	1.470	.875	1 11/16

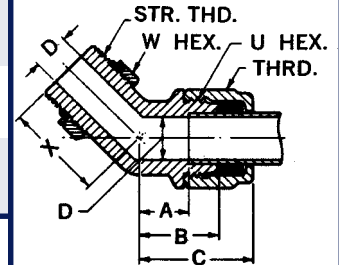


# Rubbernek® HYDRAULIC & PNEUMATIC TUBE FITTINGS

Part No.	Tube O.D.	Str Thd	Thd.	A	B	C	D Dia.	X	U Hex.	W Hex.
R1144-4	1/4	7/16-20	9/16-20	.570	.851	1.162	.203	1.050	11/16	9/16
R1144-5	5/16	1/2-20	5/8-20	.561	.851	1.202	.234	1.050	3/4	5/8
R1144-6	3/8	9/16-18	11/16-20	.637	.938	1.328	.312	1.140	13/16	11/16
R1144-8	1/2	3/4-16	7/8-18	.490	.865	1.317	.438	1.300	1	7/8
R1144-10	5/8	7/8-14	1-18	.771	1.115	1.587	.531	1.520	1 1/8	1
R1144-12	3/4	1 1/16-12	1 3/16-14	.743	1.165	1.689	.687	1.730	1 5/16	1 1/4
R1144-14	7/8	1 3/16-12	1 3/8-14	.702	1.225	1.801	.719	1.800	1 1/2	1 3/8
R1144-16	1	1 5/16-12	1 1/2-14	.760	1.385	1.997	.875	1.860	1 11/16	1 1/2

## R1144

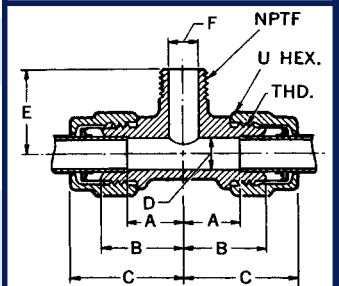
ELBOW - 45°  
tube to  
straight thread w/"o" ring



Part No.	Tube O.D.	Pipe Thd.	Thd.	A	B	C	D Dia.	E	F Dia.	U Hex.
R1200-4	1/4	1/8-27	9/16-20	.570	.851	1.162	.203	.828	.203	11/16
R1200-4-4	1/4	1/4-18	9/16-20	.570	.851	1.162	.203	1.063	.312	11/16
R1200-5	5/16	1/8-27	5/8-20	.561	.851	1.202	.234	.828	.234	3/4
R1200-5-4	5/16	1/4-18	5/8-20	.561	.851	1.202	.234	1.063	.312	3/4
R1200-6-2	3/8	1/8-27	11/16-20	.637	.938	1.328	.312	1.037	.234	13/16
R1200-6	3/8	1/4-18	11/16-20	.637	.938	1.328	.312	1.063	.312	13/16
R1200-6-6	3/8	3/8-18	11/16-20	.637	.938	1.328	.312	1.063	.312	13/16
R1200-8-4	1/2	1/4-18	7/8-18	.813	1.188	1.640	.438	1.234	.312	1
R1200-8	1/2	3/8-18	7/8-18	.813	1.188	1.640	.438	1.234	.438	1
R1200-8-8	1/2	1/2-14	7/8-18	.813	1.188	1.640	.438	1.437	.438	1
R1200-10-6	5/8	3/8-18	1-18	.969	1.313	1.785	.531	1.375	.438	1 1/8
R1200-10	5/8	1/2-14	1-18	.969	1.313	1.785	.531	1.437	.531	1 1/8
R1200-12-8	3/4	1/2-14	1 3/16-14	1.156	1.578	2.102	.687	1.640	.531	1 5/16
R1200-12	3/4	3/4-14	1 3/16-14	1.156	1.578	2.102	.687	1.640	.687	1 5/16
R1200-14	7/8	3/4-14	1 3/8-14	1.247	1.770	2.346	.719	1.875	.719	1 1/2
R1200-16-12	1	3/4-14	1 1/2-14	1.255	1.880	2.492	.875	1.880	.687	1 11/16
R1200-16	1	1-11 1/2	1 1/2-14	1.255	1.880	2.492	.875	2.031	.875	1 11/16
R1200-20	1 1/4	1 1/4-11 1/2	1 3/4-14	1.365	1.990	2.717	1.093	2.188	1.093	2
R1200-24	1 1/2	1 1/2-11 1/2	2 1/16-14	1.635	2.260	3.076	1.344	2.434	1.344	2 3/8

## R1200

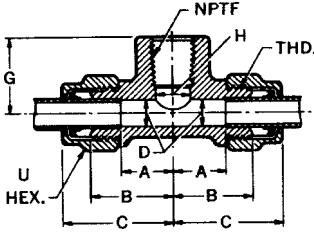
TEE  
male branch





## R1300

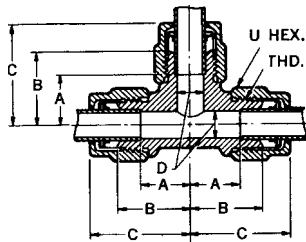
### TEE female branch



Part No.	Tube O.D.	Pipe Thd.	Thd.	A	B	C	D Dia.	E	F Dia.	U Hex
R1300-4	1/4	1/8-27	9/16-20	.570	.851	1.162	.203	.812	.327	1 1/16
R1300-4-4	1/4	1/4-18	9/16-20	.570	.851	1.162	.203	.812	.438	1 1/16
R1300-5	5/16	1/8-27	5/8-20	.561	.851	1.202	.234	.851	.328	3/4
R1300-5-4	5/16	1/4-18	5/8-20	.561	.851	1.202	.234	.851	.438	3/4
R1300-6-2	3/8	1/8-27	1 1/16-20	.637	.938	1.328	.312	.938	.328	13/16
R1300-6	3/8	1/4-18	1 1/16-20	.637	.938	1.328	.312	.938	.438	13/16
R1300-6-6	3/8	3/8-18	1 1/16-20	.887	1.188	1.578	.312	.938	.562	13/16
R1300-8-4	1/2	1/4-18	7/8-18	.813	1.188	1.640	.438	1.000	.438	1
R1300-8	1/2	3/8-18	7/8-18	.813	1.188	1.640	.438	1.188	.562	1
R1300-8-8	1/2	1/2-14	7/8-18	.813	1.188	1.640	.438	1.188	.703	1
R1300-10-6	5/8	3/8-18	1-18	.969	1.313	1.785	.531	1.188	.562	1 1/8
R1300-10	5/8	1/2-14	1-18	.969	1.313	1.785	.531	1.313	.703	1 1/8
R1300-12-8	3/4	1/2-14	1 3/16-14	1.156	1.578	2.102	.687	1.375	.703	1 5/16
R1300-12	3/4	3/4-14	1 3/16-14	1.156	1.578	2.102	.687	1.578	.906	1 5/16
R1300-14	7/8	3/4-14	1 3/8-14	1.247	1.770	2.346	.719	1.625	.906	1 1/2
R1300-16-12	1	3/4-14	1 1/2-14	1.255	1.880	2.492	.875	1.500	.906	1 11/16
R1300-16	1	1-11 1/2	1 1/2-14	1.255	1.880	2.492	.875	1.880	1.140	1 11/16
R1300-20	1 1/4	1 1/4-11 1/2	1 3/4-14	1.365	1.990	2.717	1.093	1.990	1.484	2
R1300-24	1 1/2	1 1/2-11 1/2	2 1/16-14	1.635	2.260	3.076	1.344	2.260	1.719	2 3/8

## R1400

### TEE tube to tube to tube



Part No.	Tube O.D.	Thd.	A	B	C	D Dia.	U Hex.
R1400-4	1/4	9/16-20	.570	.851	1.162	.203	1 1/16
R1400-5	5/16	5/8-20	.561	.851	1.202	.234	3/4
R1400-6	3/8	1 1/16-20	.637	.938	1.328	.312	13/16
R1400-8	1/2	7/8-18	.813	1.188	1.640	.438	1
R1400-10	5/8	1-18	.969	1.313	1.785	.531	1 1/8
R1400-12	3/4	1 3/16-14	1.156	1.578	2.102	.687	1 5/16
R1400-14	7/8	1 3/8-14	1.247	1.770	2.346	.719	1 1/2
R1400-16	1	1 1/2-14	1.255	1.880	2.492	.875	1 11/16
R1400-20	1 1/4	1 3/4-14	1.365	1.990	2.717	1.093	2
R1400-24	1 1/2	2 1/16-14	1.635	2.260	3.076	1.344	2 3/8

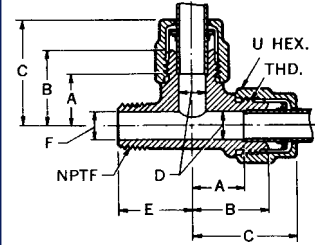


# Rubbernek® HYDRAULIC & PNEUMATIC TUBE FITTINGS

## R1500

Part No.	Tube O.D.	Pipe Thd.	Thd.	A	B	C	D Dia.	E	F Dia.	U Hex
R1500-4	1/4	1/8-27	9/16-20	.570	.851	1.162	.203	.828	.203	11/16
R1500-4-4	1/4	1/4-18	9/16-20	.570	.851	1.162	.203	1.063	.203	11/16
R1500-5	5/16	1/8-27	5/8-20	.561	.851	1.202	.234	.828	.234	3/4
R1500-5-4	5/16	1/4-18	5/8-20	.561	.851	1.202	.234	1.063	.234	3/4
R1500-6-2	3/8	1/8-27	11/16-20	.637	.938	1.328	.312	1.037	.234	13/16
R1500-6	3/8	1/4-18	11/16-20	.637	.938	1.328	.312	1.063	.312	13/16
R1500-6-6	3/8	3/8-18	11/16-20	.637	.938	1.328	.312	1.063	.312	13/16
R1500-8-4	1/2	1/4-18	7/8-18	.813	1.188	1.640	.438	1.234	.312	1
R1500-8	1/2	3/8-18	7/8-18	.813	1.188	1.640	.438	1.234	.438	1
R1500-8-8	1/2	1/2-14	7/8-18	.813	1.188	1.640	.438	1.437	.438	1
R1500-10-6	5/8	3/8-18	1-18	.969	1.313	1.785	.531	1.375	.438	11/8
R1500-10	5/8	1/2-14	1-18	.969	1.313	1.785	.531	1.437	.531	11/8
R1500-12-8	3/4	1/2-14	13/16-14	1.156	1.578	2.102	.687	1.640	.531	15/16
R1500-12	3/4	3/4-14	13/16-14	1.156	1.578	2.102	.687	1.640	.687	15/16
R1500-14	7/8	3/4-14	13/8-14	1.247	1.770	2.346	.719	1.875	.719	11/2
R1500-16-12	1	3/4-14	11/2-14	1.255	1.880	2.492	.875	1.880	.687	111/16
R1500-16	1	1-111/2	11/2-14	1.255	1.880	2.492	.875	2.031	.875	111/16
R1500-20	11/4	11/4-111/2	13/4-14	1.365	1.990	2.717	1.093	2.188	1.093	2
R1500-24	11/2	11/2-111/2	21/16-14	1.635	2.260	3.076	1.344	2.434	1.344	23/8

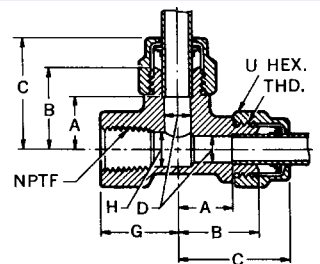
TEE  
male run



## R1600

Part No.	Tube O.D.	Pipe Thd.	Thd.	A	B	C	D Dia.	E	H Dia.	U Hex
R1600-4	1/4	1/8-27	9/16-20	.570	.851	1.162	.203	.812	.327	11/16
R1600-4-4	1/4	1/4-18	9/16-20	.570	.851	1.162	.203	.812	.438	11/16
R1600-5	5/16	1/8-27	5/8-20	.561	.851	1.202	.234	.851	.328	3/4
R1600-5-4	5/16	1/4-18	5/8-20	.561	.851	1.202	.234	.851	.438	3/4
R1600-6-2	3/8	1/8-27	11/16-20	.637	.938	1.328	.312	.938	.328	13/16
R1600-6	3/8	1/4-18	11/16-20	.637	.938	1.328	.312	.938	.438	13/16
R1600-6-6	3/8	3/8-18	11/16-20	.887	1.188	1.578	.312	.938	.562	13/16
R1600-8-4	1/2	1/4-18	7/8-18	.813	1.188	1.640	.438	1.000	.438	1
R1600-8	1/2	3/8-18	7/8-18	.813	1.188	1.640	.438	1.188	.562	1
R1600-8-8	1/2	1/2-14	7/8-18	.813	1.188	1.640	.438	1.188	.703	1
R1600-10-6	5/8	3/8-18	1-18	.969	1.313	1.785	.531	1.188	.562	11/8
R1600-10	5/8	1/2-14	1-18	.969	1.313	1.785	.531	1.313	.703	11/8
R1600-12-8	3/4	1/2-14	13/16-14	1.156	1.578	2.102	.687	1.375	.703	15/16
R1600-12	3/4	3/4-14	13/16-14	1.156	1.578	2.102	.687	1.578	.906	15/16
R1600-14	7/8	3/4-14	13/8-14	1.247	1.770	2.346	.719	1.625	.906	11/2
R1600-16-12	1	3/4-14	11/2-14	1.255	1.880	2.492	.875	1.500	.906	111/16
R1600-16	1	1-111/2	11/2-14	1.255	1.880	2.492	.875	1.880	1.140	111/16
R1600-20	11/4	11/4-111/2	13/4-14	1.365	1.990	2.717	1.093	1.990	1.484	2
R1600-24	11/2	11/2-111/2	21/16-14	1.635	2.260	3.076	1.344	2.260	1.719	23/8

TEE  
female run



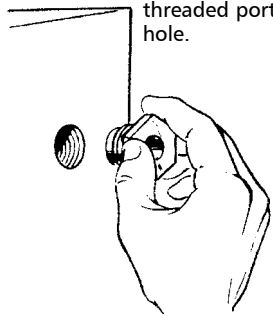
**FAST, LOW COST TUBE CONNECTIONS  
to ports in castings, forgings, manifolds, etc.**

- Fast, easy connections
- No "connector" required ... lower costs, reduced inventory
- Closer bend radii
- Highly leak-resistant; helps absorb shock and vibration
- 11 sizes: 1/4" to 2" OD tubing

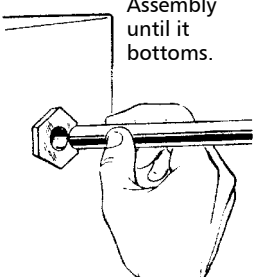
It's as simple as this ...

1 ... 2 ... and you're through!

**1.** Start Male Nut Assembly into the threaded port hole.



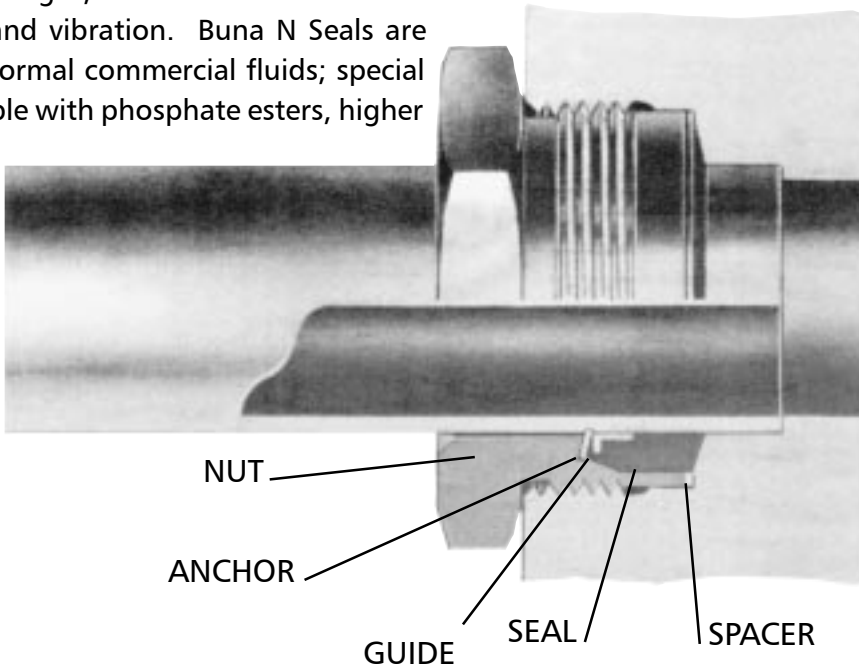
**2.** Push tube in the Nut Assembly until it bottoms.



Tighten the Nut until it comes to a hard, positive stop. The job's done.

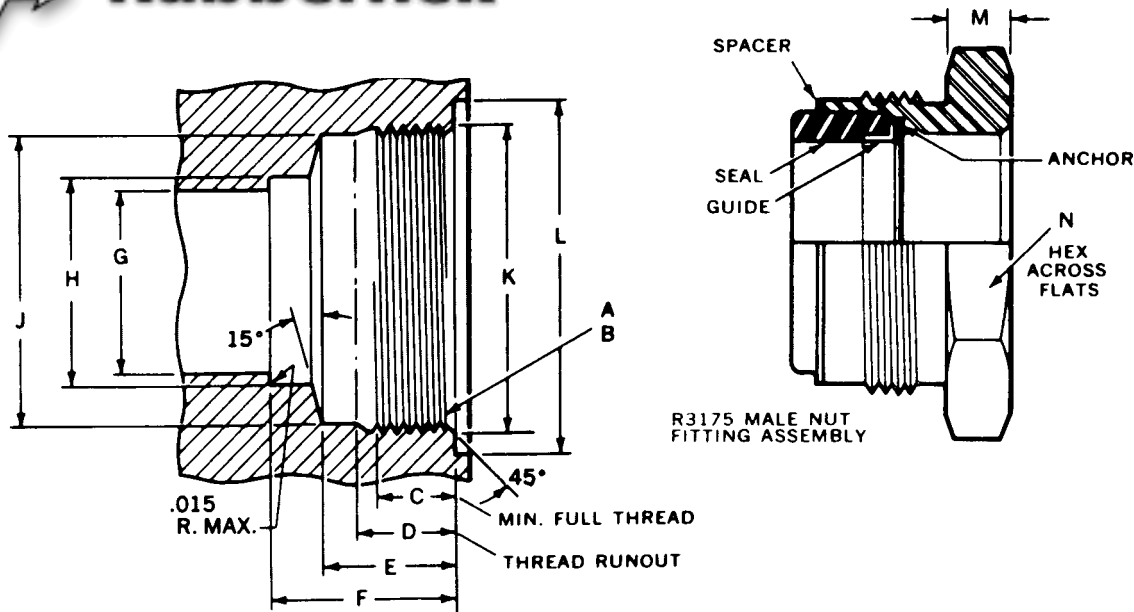
The Rubbernek® Male Nut Fitting Assembly is an integral male fitting which permits direct tube connections to ports in castings, forgings, pumps, manifolds, etc. It can be used with many types of tubing; no flaring or tube preparation is required beyond a clean cut-off and normal deburring.

The Rubbernek® Male Nut reduces the problem of crossed or stripped port threads due to misalignment of the tubing being connected. When the port is machined to dimensions (see next page) the Rubbernek® Male Nut threads quickly and accurately, with little danger of damaged threads. After inserting the tube, the nut is tightened until it bottoms. This automatically provides a leak-resistant seal. The Rubbernek® 360° sealing principle -- in which the seal is compressed against the entire circumference of the tube (by tightening the nut until it bottoms) -- helps provide a tight, leak-resistant connection under shock and vibration. Buna N Seals are supplied for normal commercial fluids; special seals compatible with phosphate esters, higher temperatures, or freons can be provided.





# Rubbernek® MALE NUT FITTING ASSEMBLY



## CAVITY MACHINING DIMENSIONS FOR MALE NUT FITTING ASSEMBLIES

Part No.	Tube O.D.	A Thd.	B P.D.	C +.060 -.000	D ±.030	E ±.003	F ±.010	G ±.010	H ±.003	J	K ±.010	L MIN.	M	N
R3175-4	1/4	5/8-24	.5979 .6031	.290	.380	.450	.790	.203	.256	.580 .590	.640	.800	.200	11/16
R3175-5	5/16	11/16-24	.6604 .6656	.290	.380	.450	.790	.234	.319	.633 .645	.710	.870	.220	3/4
R3175-6	3/8	3/4-20	.7175 .7232	.325	.420	.490	.850	.312	.381	.696 .707	.770	.940	.240	13/16
R3175-8	1/2	15/16-16	.8969 .9034	.400	.520	.610	.990	.438	.510	.870 .884	.960	1.160	.260	1
R3175-10	5/8	1 1/16-16	1.0219 1.0284	.400	.520	.310	.990	.531	.635	.995 1.009	1.080	1.300	.280	1 1/8
R3175-12	3/4	1 1/4-16	1.2094 1.2160	.400	.520	.610	.990	.687	.763	1.182 1.196	1.270	1.520	.300	1 5/16
R3175-14	7/8	1 7/16-16	1.3969 1.4037	.400	.520	.610	.990	.719	.889	1.370 1.384	1.460	1.740	.320	1 1/2
R3175-16	1	1 9/16-16	1.5219 1.5287	.400	.520	.610	.990	.875	1.014	1.495 1.509	1.580	1.880	.340	1 5/8
R3175-20	1 1/4	1 13/16-16	1.7719 1.7788	.400	.520	.610	.990	1.093	1.264	1.745 1.759	1.830	2.170	.380	1 7/8
R3175-24	1 1/2	2 1/8-12	2.0709 2.0788	.530	.685	.785	1.190	1.344	1.515	2.035 2.053	2.630	2.530	.420	2 1/4
R3175-32	2	2 3/4-12	2.6940 2.6879	.530	.685	.785	1.190	1.844	2.015	2.660 2.678	2.780	3.344	.500	2 7/8

**NOTES:** Adaptors for pipe thread ports & S.A.E. straight thread ports are available on request

Consult factory for counterbore tool to machine cavity.



1. **OFFER AND ACCEPTANCE:** Chicago Fittings Corporation (iSeller) acknowledges receipt of buyer's order and accepts same on the express condition that Buyer assent to the terms and conditions stated herein, including the **DISCLAIMER OF WARRANTY AND THE LIMITATION OF LIABILITY**, and no other terms or conditions. The terms and conditions herein stated shall be deemed accepted by the Buyer (1) If work is commenced or materials are ordered by Seller, unless Seller receives written notice with ten (10) days of the date hereof, or (2) If shipment is made or delivery accepted hereunder, or (3) If buyer otherwise indicates agreement, whichever first occurs.
2. **WARRANTY:** Seller warrants its goods to the original Buyer only against defects in material and workmanship for a period of six months after commencement of use of the product or for a period of twelve months after the invoice date, whichever period is less.  
**SELLER HEREBY DISCLAIMS AND EXCLUDES ALL OTHER WARRANTIES, EXPRESS OR IMPLIED, INCLUDING ANY IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE.**
3. **REMEDY:** Should there be any defects in the goods Buyer shall notify Seller and on receipt consent from Seller, Buyer shall return the defective goods to the factory for inspection with shipping prepaid. If inspection shows the goods to be defective Seller at its option, will repair or replace the goods without charge F.O.B. at the factory, or refund or credit the invoice price of the goods.  
**THIS REMEDY SHALL BE BUYER'S SOLE REMEDY, WHETHER BUYER'S CLAIMS AGAINST SELLER ARE IN CONTRACT, IN TORT, UNDER ANY WARRANTY, IN NEGLIGENCE, IN STRICT LIABILITY OR OTHERWISE, UNDER NO CIRCUMSTANCES SHALL SELLER BE LIABLE FOR SPECIAL, INCIDENTAL, INDIRECT OR CONSEQUENTIAL DAMAGES.**
4. **PRICE:** Prices listed herein are subject to raw material price change at time of shipment.
5. **PACKING:** The goods will be packed in accordance with Seller's then prevailing packaging. Buyer shall pay all costs for special packaging requested by the Buyer.
6. **DELIVERY:** Seller will make delivery as quoted, if reasonably possible. Dates of delivery are determined from the date of Seller's acknowledgment of any order or orders by Buyer and are estimates of approximate dates of delivery, not a guarantee of a particular day of delivery. Seller shall not be liable for failure or delay in shipping goods hereunder if such failure or delay is due to an act of God, war, labor difficulties, accidents, inability to obtain containers or raw materials at a commercially practicable price, delays by carriers or any other causes of any kind whatever beyond the reasonable control of Seller. Seller reserves the right to refuse delivery at any time, without liability on its part, when in Seller's opinion the Buyer's ability to pay for the goods on the Seller's terms and conditions is in doubt. Buyer will accept over-run or under-run on each individual item not exceeding 10% of quantities orders. Where closer control of quantities is required, special arrangements must be made.
7. **RETURN:** Buyer shall not return any products without the prior written consent of Seller. If Seller consents, Buyer shall return the products with freight prepaid. All products returned must be standard inventory items in reasonable condition. Such products are subject to inspection and a minimum handling charge of 25% of the net invoice price plus any prior freight or handling charges.
8. **TAX:** In addition to the purchase price quoted herein, Buyer shall pay any tax imposed by federal, state or other governmental authority of the sale or use of the product and service referred to herein or because of any value added to the product.
9. **TESTING:** In addition to the purchase price, Buyer shall pay all costs incurred in connection with any testing to determine whether the goods meet the particular specifications of the Buyer. Buyer must specify such special testing requirements at time or order.
10. **SPECIFICATIONS:** The products shall meet Seller's specifications unless Buyer, in placing the order, makes a written request for reasonable variations and Seller expressly agrees in writing to make such variations.
11. **TOOLING:** Buyer shall pay the cost of any new or additional tooling necessary to meet Buyer's specifications. Seller shall nevertheless retain all right, title and interest in and to such tooling with full authority to dispose of such tooling as it deems fit.
12. **ORDERS:** All orders are subject to the approval of Seller's Credit Department.
13. **PATENTS:** Buyer shall, in respect to goods packaged by Seller in accordance with designs, processes, or formulas supplied, determined, or requested by Buyer, defend, indemnify, and hold harmless Seller, its successors and assigns from and against any claim, loss, damage or expense, including attorney's fees arising out of any infringement or claim of infringement of any letters patent, trade name, trademark, copyright, or trade secrets by reason of the use of such designs, processes or formulas. Seller shall promptly notify Buyer of such claim of or suit for infringement. At Buyer's request, Seller shall give Buyer control of the defense of such suit, insofar as Seller has the authority to do so and shall furnish information and assistance for the same, all at Buyer's expense.
14. **INDEMNIFICATION:** (a) Buyer agrees at all times to indemnify and hold harmless Seller, its agents and employees from and against all loss, cost, damage, expense, claims, demands, suits and causes of action, whether in contract, in tort, under any warranty, in negligence, in strict liability or otherwise, whatsoever alleged or asserted by any person, firm or corporation, for, on account of, or in connection with the misuse, negligence, improper installation, improper storage, improper maintenance, accident or unauthorized repair or alteration of the products sold hereunder by the Buyer.  
(b) Buyer agrees at all times to indemnify and hold harmless Seller, its agents and employees from and against all loss, cost, damage, expense, claims, demands, suits, and causes of action, whether in contract, in tort, under any warranty, in negligence, in the installation, condition, maintenance, use or operation of the products sold hereunder including, but not limited to, all loss, damage, expense, claims, suits or liability which Seller or any of its employees or agents may sustain or incur at any time for or by reason of any injury to or death of any person or damage to any property arising out of any claimed improper design or manufacture of the products sold hereunder or of any claimed inadequate or insufficient safeguards or safety devices or any failure to warn of any such alleged defect or otherwise.
15. **RISK OF LOSS:** Risk of loss or damage to the goods shall be on the Buyer from the time Seller delivers the goods to a carrier for shipment to Buyer, without reference to the type of shipment. Buyer should make all claims for damage or losses in transit directly to the carrier.
16. **MODIFICATION OF CANCELLATION:** After the Buyer has accepted the terms and conditions herein, Buyer may not modify or cancel its contract with Seller except upon written agreement with the Seller in which case Buyer shall be liable for reasonable charges including, but not limited to, costs for any tools, molds, or materials purchased specifically for this contract, and indirect costs and profits, all as assessed in accordance with Seller's regular commercial practices. Minimum cancellation charges are 50% of the value of items cancelled.
17. **ACCEPTANCE:** Buyer's receipt of any goods delivered hereunder shall be an irrevocable acceptance of such goods unless Buyer give Seller notice of claims within ten (10) days after such receipt and, except as expressly provided herein, a waiver by Buyer of any and all claims with respect to such goods. No goods may be returned without the prior written approval of the Seller. If Seller gives such approval, Buyer shall pay all transportation costs for returned goods.
18. **ASSIGNMENT:** Buyer shall not assign this order or any interest herein including any performance which may become due hereunder, without Seller's written consent.
19. **GENERAL:** No waiver by the company of any breach or of any provision of this contract shall constitute a waiver of any subsequent breach of such provision or of any other provision. No modification or change in, or departure from, or waiver of the provisions of this agreement shall be valid or binding unless approved by Seller in writing. This agreement shall constitute the entire agreement between the parties. The laws of the State of Illinois shall govern this agreement.
20. **TERMS OF PAYMENT:** Net cash thirty (30) days. Any invoice not paid within thirty (30) days shall thereafter bear interest at the lesser of (1) 1% per month, or part thereof, or (2) the maximum rate prescribed by law.

***We hereby certify that these goods were produced in compliance with all applicable requirements of section 6, 7, and 12 of the Fair Labor Standards Act, as amended, and of regulations and order of the United States Department of Labor issued under Section 14 thereof.***



## Rubbernek® TUBE FITTINGS

Rubbernek® Tube Fittings incorporate a unique and proven circumferential sealing principle that meets systems designers' and users' requirements for a fitting that will provide exceptional sealing on standard-, medium-, and thin-wall steel tubing. The sealing action is based on rubber-to-metal contact between the tubing and the connector. For this reason, Rubbernek® Tube Fittings can more readily absorb impulse shocks, pressure surges, and vibration.

### RUBBERNEK® MALE NUT FITTING ASSEMBLY

The Rubbernek® Male Nut Fitting Assembly is an integral male fitting which permits direct tube connections to ports in castings, forgings, pumps, manifolds, etc. It can be used with many types of steel tubing; no flaring or tube preparation is required beyond a clean cut-off and normal deburring.

## Sealastic® TUBE FITTINGS

**SEALASTIC® TUBE FITTINGS PROVIDE A FLEXIBLE, LEAK-RESISTANT SEAL THAT COMPENSATES FOR MINOR TUBE MISALIGNMENT.**

Sealastic's® resilient rubber seal, which is securely locked in place by a spring steel ferrule and a compression nut, forms a leak-resistant cushion seal between the tube end and the fitting. This permits the tube to flex within the fitting and compensates for minor misalignment. Important time and labor savings can be achieved because of the Sealastic® feature.

### MALE NUT FITTING

Many types of metal tubing may be directly connected to threaded ports in castings, manifolds, pumps, etc. with a Sealastic® Male Nut Fitting. The Sealastic® Cushion Seal and Ferrule (supplied as an assembly) is placed into the cavity and the nut is threaded into the tapped port. Pushing the tube through the nut until it bottoms and tightening the nut the required number of turns compresses the seal and spring steel ferrule onto the tube end, providing a tight, leak-resistant seal. Sealastic® Male Nut Fittings are available for tube sizes from 3/16" to 1" O.D.

## V-S-P® TUBE FITTINGS

**... exceptional resistance to leakage under higher pressure and vibration conditions.**

V-S-P® Tube Fittings are a new idea in fittings for high pressure hydraulic service. They combine the resiliency and leak resistance of a rubber-to-metal seal with the ability to withstand higher pressures that is characteristic of brazed and welded fittings.

# Rubbernek

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**CHICAGO FITTINGS CORPORATION**

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