

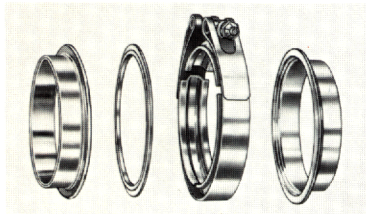


LJ11 and J11 JOINTS

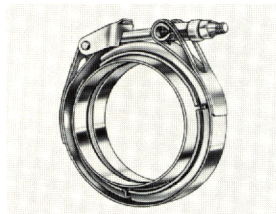
LJ11 and J11 Joints were designed primarily to join standard tubing for fuel, hot air and gas systems. The substitution of couplings other than the coupling part numbers specified for each joint can seriously impair the effectiveness of the joint.

Although these joints are basically the same configu-

ration, the LJ11 flange skirts are lighter and the gasket is thinner, except at the sealing point. Therefore, the LJ11 Joint should be used when weight savings is an important factor. The J11 Joint is a heavier joint with a high safety factor.



Joint consists of one coupling, two flanges and an all-metal gasket.



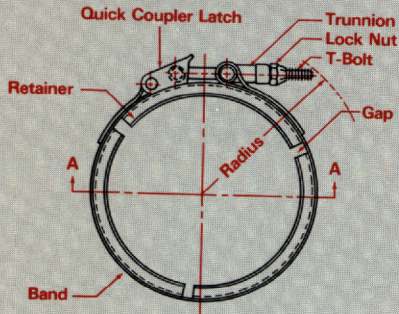
Quick Coupler Latch can be connected or disconnected without removal of nut.



LJ11 Joint is available with T-Bolt Latch only. This latch is also used on the large sizes of the J11 Joint.

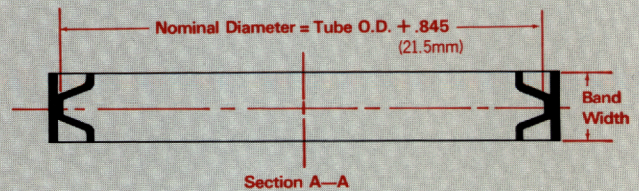
LJ11 and J11 Joint Specifications and Dimensions

QUICK COUPLER LATCH COUPLING

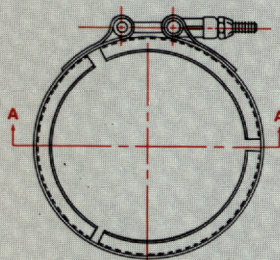


Band Width: .750 (19.05mm) for dias. 1.00 (25.4mm) through 2.75 (69.85mm)
.875 (22.23mm) for dias. 3.00 (76.2mm) through 5.50 (139.7mm)

Section A—A

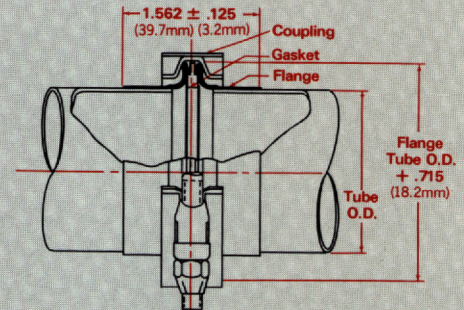


T-BOLT LATCH COUPLING



Band Width: .750 (19.05mm) for dias. 1.00 (25.4mm) through 5.00 (127mm)
1.125 (28.58mm) for dias. 6.00 (152.4mm) through 9.00 (228.66mm)

JOINT



inches in bold face; mm in light face type

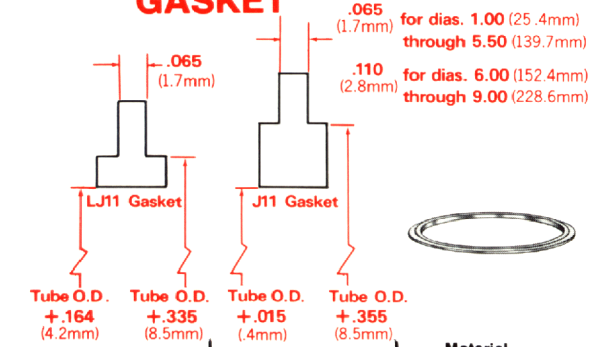
How to Order

ORDER BY COMPONENT PART NUMBERS

One coupling, one gasket and two flanges are required to make a complete joint. (T-Bolt and nut are furnished with coupling.)

Flange skirt thickness code must be added to complete the Flange Part Number and gasket material code must be added to complete the Gasket Part Number.

GASKET



Gasket Material	Temperature	Material Ordering Code
Aluminum	+500°F. +260°C.	-A
Copper (Nickel Plated)	+750°F. +399°C.	-C
Nickel	+1000°F. +538°C.	-N

If a joint is disassembled after service operations, a new gasket should be used when reassembled to insure maximum sealing efficiency of the joint.

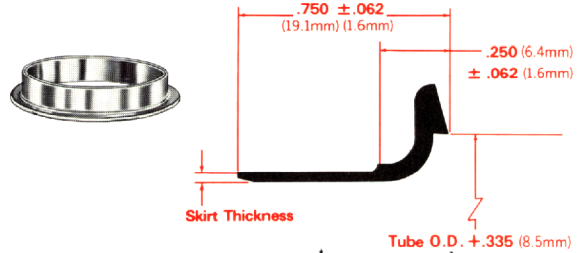
Sample Flange Part No.: 16933-100-6 (one inch dia. for J11 Joint with .050 skirt thickness).

Sample Gasket Part No.: 17189-400-N (four inch dia. for J11 Joint with nickel material).

Replacement T-Bolts can be ordered for Quick Coupler Latches only. They cannot be replaced on T-Bolt Latches. Last dash number indicates T-Bolt length in hundredths inches.

Tolerances on recommended torque are ±10%.

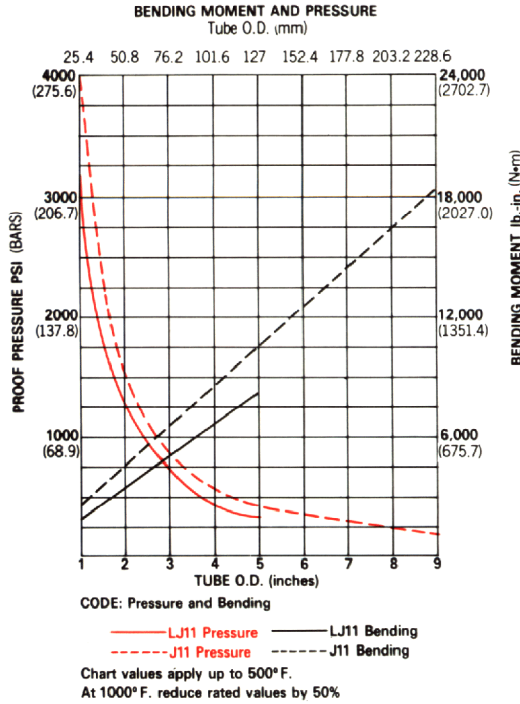
FLANGE



Tube Size O.D.	Skirt Thickness	Ordering Code
1.00—5.50 25.4—139.7	+ .005 (.030)—.010 + .127 (.762)—.254	-3*
1.00—9.00 25.4—228.6	(.050) ± .010 (1.27) ± .254	-6
6.00—9.00 152.4—228.6	(.080) ± .010 (2.03) ± .254	-6

*For LJ11 available in -3 only.

Performance Ratings for LJ11 and J11 Joints



The two principal types of loading experienced in this type of joint are pressure and bending. The chart shown at the left is designed to help you determine the ability of the LJ11 or J11 Joint to withstand a given load or combination of loads.

Step 1. If there is only one type of loading, the joint capability may be easily determined. Draw a vertical line upward from the joint size on the bottom scale until it intersects the appropriate curve for joint* and type of loading.

Step 2. Draw a horizontal line from this intersection to the appropriate loading scale and read load rating. Adjust for temperature conditions by multiplying with the correction factor. Compare this with your design load to determine suitability of the joint.

Step 3. If a combined loading exists (bending and pressure) determine joint capabilities for each load separately as in Steps 1 and 2 above.

Step 4. Divide load rating into actual load condition for each type of loading and express answer as a percent. Add percentage of load rating for each type of loading. If your answer is less than 100%, the difference represents your safety margin.

*If joint weight is a consideration, it is recommended that the LJ11 be checked against the applied conditions first. If the margin of safety is not satisfactory, then steps 1 through 4 may be repeated using the J11 curves.

Example:
3.00 dia. joint to operate at 200°F.
300 psi proof pressure
2000 lb in. bending moment

Steps 1-3.
Rated loads for LJ11 are as follows:
642 psi proof pressure @ 200°F.
4400 lb in. bending moment @ 200°F.

Step 4.
 $\frac{300}{642} = 46.7\%$ of pressure load rating
 $\frac{2000}{4400} = 45.4\%$ of bending load rating

Loads are 92.1% of joint capacity

Temperature	+70°F. +21.1°C.	+200°F. +93°C.	+400°F. +204°C.	+500°F. +260°C.	+600°F. +316°C.	+800°F. +427°C.
Correction	1.00	.88	.76	.73	.70	.63

Tube Size O. D.	Quick Coupler Latch	T-Bolt Latch
1.50	25.4	25.4
1.25	31.37	31.37
1.50	38.1	38.1
1.75	44.45	44.45
2.00	50.8	50.8
2.25	57.15	57.15
2.50	63.5	63.5
2.75	69.85	69.85
3.00	76.2	76.2
3.50	88.9	88.9
4.00	101.6	101.6
4.50	114.3	114.3
5.00	127.	127.
1.00	25.4	25.4
1.25	31.37	31.37
1.50	38.1	38.1
1.75	44.45	44.45
2.00	50.8	50.8
2.25	57.15	57.15
2.50	63.5	63.5
2.75	69.85	69.85
3.00	76.2	76.2
3.50	88.9	88.9
4.00	101.6	101.6
4.50	114.3	114.3
5.00	127.	127.
5.50	139.7	139.7
6.00	152.4	152.4
7.00	177.8	177.8
8.00	203.2	203.2
9.00	228.6	228.6

LJ11 JOINT

inches, lbs. and lb.-in. in **bold** face type
mm, kg, and N-m in light face type

COUPLING				FLANGE					GASKET							
Part Number	Weight each	Radius Max.	T-Bolt*		Recommended Torque	Part Number	Skirt Thickness Code (Specify One)		Weight Each	Part Number	Mat'l. Code (Specify One)			Weights Each (lbs.)		
			Part Number And Length	Thread							Alum.	Copper or Nickel				
18276-100	.177 .060	2.093 .949	* -200	10-32 UNJF -3A	50 5.65	16933-100	-3		.050 .022	24346-100	-A	-C	-N	.008 .003	.033 .014	
18276-125	.196 .088	2.187 .992	* -200		50 5.65	16933-125	-3		.058 .026	24346-125	-A	-C	-N	.010 .004	.038 .017	
18276-150	.217 .098	2.531 1.148	* -250		80 9.04	16933-150	-3		.071 .032	24346-150	-A	-C	-N	.012 .005	.045 .020	
18276-175	.250 .113	2.625 1.190	* -250		80 9.04	16933-175	-3		.083 .037	24346-175	-A	-C	-N	.014 .063	.050 .022	
18276-200	.348 .158	2.687 1.218	* -250		80 9.04	16933-200	-3		.094 .042	24346-200	-A	-C	-N	.016 .007	.056 .025	
18276-225	.370 .167	3.093 1.402	* -275		115 12.99	16933-225	-3		.103 .046	24346-225	-A	-C	-N	.018 .008	.051 .023	
18276-250	.387 .171	3.125 1.417	* -275		115 12.99	16933-250	-3		.113 .051	24346-250	-A	-C	-N	.020 .009	.067 .030	
18276-275	.415 .190	3.400 1.542	* -300		115 12.99	16933-275	-3		.124 .056	24346-275	-A	-C	-N	.022 .010	.074 .033	
18276-300	.570 .258	3.562 1.615	* -300		1/4-28 UNJF -3A	115 12.99	16933-300	-3		.137 .062	24346-300	-A	-C	-N	.024 .011	.078 .035
18276-350	.624 .283	3.593 1.629	* -300			165 18.64	16933-350	-3		.158 .071	24346-350	-A	-C	-N	.028 .012	.091 .041
18276-400	.688 .312	3.781 1.715	* -300	165 18.64		16933-400	-3		.180 .081	24346-400	-A	-C	-N	.032 .014	.102 .046	
18276-450	.752 .341	4.000 1.814	* -300	165 18.64		16933-450	-3		.215 .079	24346-450	-A	-C	-N	.036 .016	.114 .051	
18276-500	.825 .374	4.250 1.927	* -300	165 18.64		16933-500	-3		.223 .101	24346-500	-A	-C	-N	.038 .017	.126 .057	

J11 JOINT

24502-100	.277 .125	2.125 .963	18462-75-250	1/4-28 UNJF -3A	70 7.91	16933-100	-3	-6	.061 † .027	17189-100	-A	-C	-N	.012 .005	.039 .017	
24502-125	.293 .132	2.187 .992	18462-75-250		70 7.91	16933-125	-3	-6	.075 † .034	17189-125	-A	-C	-N	.015 .006	.050 .022	
24502-150	.325 .147	2.500 1.133	18289-75-250		100 11.32	16933-150	-3	-6	.089 † .040	17189-150	-A	-C	-N	.017 .007	.058 .026	
24502-175	.344 .156	2.562 1.162	18289-75-250		100 11.32	16933-175	-3	-6	.100 † .045	17189-175	-A	-C	-N	.020 .009	.070 .031	
24502-200	.372	2.875 1.304	18289-75-275		130 14.69	16933-200	-3	-6	.119 † .053	17189-200	-A	-C	-N	.022 .010	.073 .033	
24502-225	.387 .175	2.937 1.332	18289-75-275		130 14.69	16933-225	-3	-6	.128 † .058	17189-225	-A	-C	-N	.024 .011	.087 .039	
24502-250	.402 .182	3.062 1.388	18289-75-275		130 14.69	16933-250	-3	-6	.144 † .065	17189-250	-A	-C	-N	.028 .012	.098 .044	
24502-275	.433 .196	3.187 1.445	18289-75-275		130 14.69	16933-275	-3	-6	.156 † .070	17189-275	-A	-C	-N	.031 .014	.110 .049	
24503-300	.775 .351	3.687 1.672	18289-75-350		220 24.86	16933-300	-3	-6	.172 † .078	17189-300	-A	-C	-N	.035 .015	.112 .050	
24503-350	.835 .378	3.875 1.757	18448-88-350		220 24.86	16933-350	-3	-6	.208 † .094	17189-350	-A	-C	-N	.037 .016	.120 .054	
24503-400	.895 .405	4.062 1.842	18448-88-350	220 24.86	16933-400	-3	-6	.226 † .102	17189-400	-A	-C	-N	.043 .019	.147 .066		
24503-450	.960 .435	4.250 1.927	18448-88-350	5/16-24 UNJF -3A	240 27.12	16933-450	-3	-6	.268 † .121	17189-450	-A	-C	-N	.048 .021	.170 .077	
24503-500	1.030 .467	4.437 2.012	18448-88-350		240 27.12	16933-500	-3	-6	.290 † .131	17189-500	-A	-C	-N	.053 .024	.180 .081	
24503-550	1.080 .488	4.625 2.097	18448-88-350		240 27.12	16933-550	-3	-6	.320 † .145	17189-550	-A	-C	-N	.059 .026	.210 .095	
24504-600	1.633 .740	5.125 2.324	* -400		280 31.64	24249-600		-6	-8	.449 † .203	24189-600	-A	-C	-N	.090 .040	.317 .143
24504-700	1.793 .813	5.500 2.494	* -400		280 31.64	24249-700		-6	-8	.507 † .229	24189-700	-A	-C	-N	.107 .048	.386 .175
24504-800	2.005 .910	5.937 2.692	* -400	300 33.90	24249-800		-6	-8	.565 † .256	24189-800	-A	-C	-N	.125 .056	.432 .195	
24504-900	2.190 .993	6.375 2.891	* -400	300 33.90	24249-900		-6	-8	.623 † .282	24189-900	-A	-C	-N	.140 .063	.477 .216	

*Replacement T-Bolts can be ordered for Quick Coupler Latches only. They cannot be replaced on T-Bolt Latches. Last dash number indicates T-Bolt length in hundredths inches.

†Weight is for largest flange size.

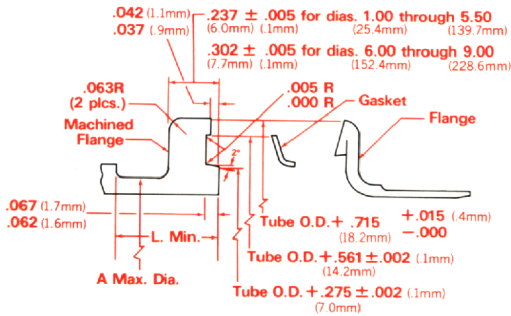
Assembly of LJ11 or J11 Joints to Machined Flange

Inches in **bold** face type.
Millimeters in light face type.

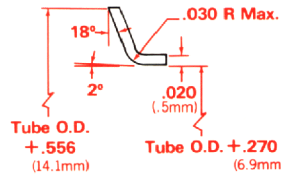
Tube Size O.D.	Part Number	Special Gasket Material Code (Specify one only)			A Max.	L Min.	Tube Size O.D.	Part Number	Special Gasket Material Code (Specify one only)			A Max.	L Min.
1.00 25.4	24096-100	-A	-C	-N	1.135 .514	.515 .233	3.50 88.9	24096-350	-A	-C	-N	3.635 1.648	.593 .268
1.25 31.37	24096-125	-A	-C	-N	1.385 .628	.515 .233	4.00 101.6	24096-400	-A	-C	-N	4.135 1.875	.593 .268
1.50 38.1	24096-150	-A	-C	-N	1.635 .741	.515 .233	4.50 114.3	24096-450	-A	-C	-N	4.635 2.102	.593 .268
1.75 44.45	24096-175	-A	-C	-N	1.885 .855	.515 .233	5.00 127.	24096-500	-A	-C	-N	5.135 2.329	.593 .268
2.00 50.8	24096-200	-A	-C	-N	2.135 .968	.515 .233	5.50 139.7	24096-550	-A	-C	-N	5.635 2.555	.593 .268
2.25 57.15	24096-225	-A	-C	-N	2.385 1.081	.515 .233	6.00 152.4	24096-600	-A	-C	-N	6.170 2.798	.718 .325
2.50 63.5	24096-250	-A	-C	-N	2.635 1.195	.515 .233	7.00 177.8	24096-700	-A	-C	-N	7.170 3.252	.718 .325
2.75 69.85	24096-275	-A	-C	-N	2.885 1.308	.515 .233	8.00 203.2	24096-800	-A	-C	-N	8.170 3.705	.718 .325
3.00 76.2	24096-300	-A	-C	-N	3.135 1.422	.593 .268	9.00 228.6	24096-900	-A	-C	-N	9.170 4.159	.718 .325

ORDER BY PART NUMBER

Material Code must be added to complete the Gasket Part Number.
Sample Part No.: 24096-400-C (four inch dia. with copper material).

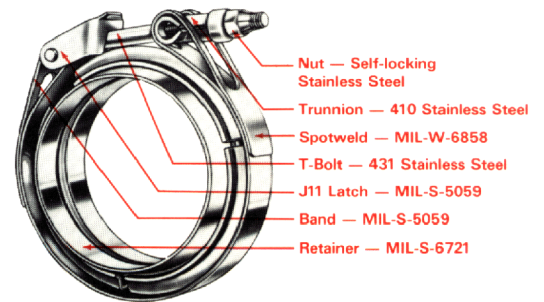


LJ11 or J11 Flanges and Couplings are to be used to complete the joint.



Gasket Material	Ordering Code	Temperature
Aluminum	-A	+500° F. +260° C.
Copper (Nickel plated)	-C	+750° F. +399° C.
Nickel	-N	+1000° F. +528° C.

COUPLING



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