

Assembly Instructions

Pipe and Tubing Preparation and Flexmaster Joint Installation Instructions

1. Pipe (Tube) End Preparation

- Deburr and clean pipe (tube) ends.
- Surface should be free of deep scratches, gouges, dents, dirt, etc.

2. Joint Installation

- Install retainer (1), gasket* (2) and sleeve (3) on one side of pipe in sequence shown in Figure 1.

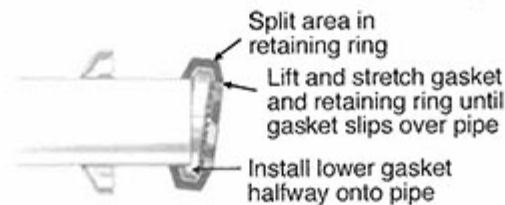
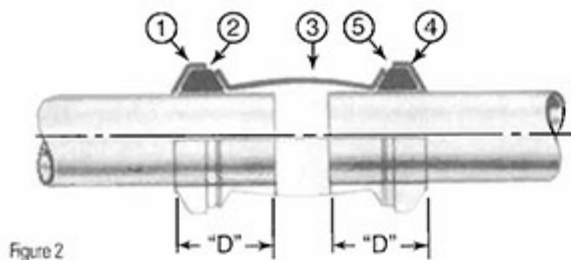
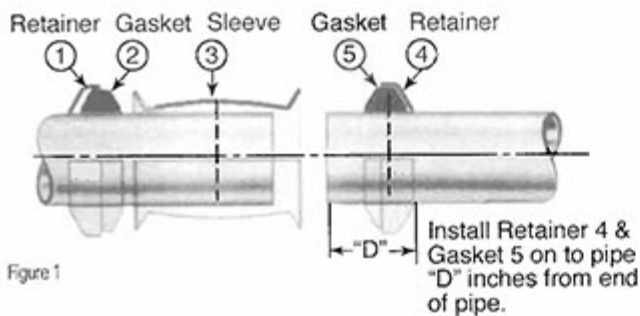
- Install remaining retainer (4) and gasket (5) on other pipe end.
- Position retainer (4) and gasket (5) to proper pipe insertion depth ("D") as shown in Table 1.
- Slide sleeve (3) to gasket (5) and move gasket (2) and retainer (1) into position as shown in Figure 2. Pipe must be inserted to proper depth ("D") into both gaskets as shown in Table 1.

*3. Special Notes

- Assembly of gaskets can be made easier by dipping gaskets in water or the fluid to be sealed. The use of other rubber lubricants can be detrimental to the life of the gaskets. Never lubricate the metal parts.
- Self-restrained gasket installation. To simplify installation of a self-restrained gasket, install lower gasket halfway onto the pipe first, leaving the split area in the steel retaining ring free at the top. See Figure 3. Then, stretch the gasket and split area of the retaining ring until they slip over the tube or pipe and into position. Refer to Figure 3.

4. Coupler Installation

Install both V-couplings, encompassing the retainer, gasket and sleeve as shown in Figure 4. Do not tighten either coupling until the entire joint is assembled (See Figure 2). Tighten nuts to the torque specified in Table 2. Do NOT lubricate the nut or bolt before assembly. The gap method outline in Table 3 may be used for standard gaskets only.

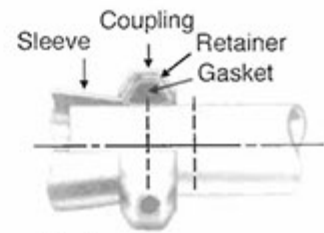


in notched retention ring sket is shown cut-away for clarity)



Lower gasket and retention ring

Figure 3



WARNING Maximum temperature ratings are meant as a guide only. For extreme temperature conditions, consult factory. Improper installation, use or selection of the Flexmaster joints can result in personal injury, property damage or death.

Technical Data

TABLE 1. REQUIRED INSERTION DEPTH* OF PIPE AND TUBE

Pipe Size	"D" min.	"D" max.	Tube Size	"D" min.	"D" max.
.38	.71	1.00	.75	.74	1.10
	18	25.4		19.1	18.8
.50	.71	1.09	.88	.65	1.00
	18	27.7		22.3	16.5
.75	1.00	1.21	1.00	.72	1.21
	25.4	30.7		25.4	18.3
1.00	1.14	1.39	1.12	.93	1.21
	29	35.3		28.4	23.6
1.25	1.15	1.56	1.25	1.16	1.40
	29.2	39.6		31.8	29.5
1.50	1.16	1.62	1.38	1.20	1.46
	29.5	41.1		35.1	30.5
2.00	1.18	1.84	1.50	1.18	1.45
	30	46.7		38.1	30
2.50	1.68	2.38	1.75	1.22	1.69
	42.7	60.5		44.5	31
3.0	1.70	2.40	2.00	1.15	1.68
	43.2	61		50.8	29.2
3.50	1.72	2.42	2.25	1.24	1.84
	33.7	61.5		57.2	31.5
4.00	1.74	2.44	2.38	1.18	1.84
	44.2	62		60.3	30
5.00	2.08	2.24	2.50	1.17	1.83
	52.8	56.9		63.5	29.7
6.00	1.86	2.33	2.75	1.74	1.90
	47.2	59.2		69.9	44.2
			2.88	1.68	2.38
			73.0	42.7	60.5
			3.00	1.67	2.30
			76.2	42.4	58.4
			3.25	1.67	2.48
			82.6	42.4	63
			3.50	1.70	2.40
			88.9	43.2	61
			4.00	1.72	2.42
			101.6	33.7	61.5
			4.50	1.74	2.44
			114.3	44.2	62
			5.00	1.75	2.07
			127	44.5	52.6

*Dimensions shown are for standard, straight, bulged sleeves only. Elbow, tees and specials must meet the minimum insertion depths.

NOTE: inches and inch-lbs in bold, mm and N•m in light.

TABLE 2. FLEXMASTER JOINT ASSEMBLY TIGHTENING GUIDE. TORQUE METHOD OF INSTALLATION**

Size	Standard	Self-Restrained
.75" to 1.12" Tube (19.1 to 28.4 mm)	40-60 inch-lbs. (4.55-6.88 N•m)	40-60 inch-lbs. (4.55-6.88 N•m)
.38" to .75" Pipe		
1.25" to 2.75" Tube (31.8 to 69.9 mm)	90-100 inch-lbs. (10.14-12.39 N•m)	140-160 inch-lbs. (15.78-18.13 N•m)
1" to 2" Pipe		
2.88" to 3.50" Tube (73 to 88.9 mm)	180-200 inch-lbs. (20.27-22.52 N•m)	220-240 inch-lbs. (24.79-27.14 N•m)
2.50" to 3" Pipe		
4" to 5" Tube (101.6 to 127 mm)	240-260 inch-lbs. (27.14-29.28 N•m)	280-300 inch-lbs. (31.53-33.8 N•m)
3.50" to 4" Pipe		
6" Tube (152.4 mm)	300-360 inch-lbs. (33.8-36.15 N•m)	480-500 inch-lbs. (54.05-56.42 N•m)
5" to 6" Pipe		

**Note: the torque values specified are for an un-lubricated (dry) nut and bolt.



TABLE 3. OPTIONAL CLEARANCE METHOD FOR INSTALLATION OF STANDARD GASKETS.

(Self-restrained gaskets must be installed by Torque Method.)

Tube Size	Pipe Size	Dimension X ±.06
		1.5
.50, .63, .75	3/8, 1/2	.62
12.7, 16.0, 19.1		15.8
1.00, 1.13	3/4	.69
25.4, 28.7		17.5
1.25, 1.38	1	.94
31.8, 35.1		23.9
1.50, 1.75	1 1/4	.94
38.1, 44.5		23.9
	1 1/2	.94
		23.9
2.25	2	.88
57.2		22.4
2.50, 2.75	2 1/2	1.50
63.5, 69.9		38.1
3.00, 3.25	3	1.56
76.2, 82.6		39.6
	3 1/2	1.56
		39.6
	4	1.56
		39.6
5.00, 6.00	5, 6	Use Torque Method
127, 152.4		