

**Assembly Instructions for Adapter Unions/
Female NPSM Pipe Swivel Ends**

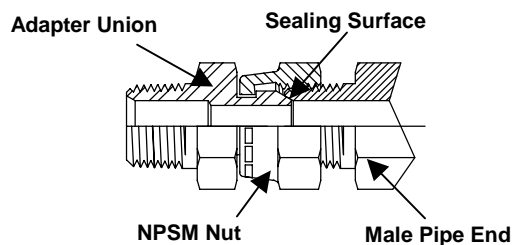


Fig.A11 Adapter Union Assembly

1. Inspect components for damage or contamination.
2. Check for 30° female seat on male pipe end.
3. Lubricate assembly.
4. Align tube/hose to mating swivel allowing hand connection. To assure proper alignment, two to three turns of nut should be easily permitted.
5. Tighten swivel nut to recommended torque listed in Table A6.

Notes: 1. Refer to the appropriate assembly instruction for adapter union port ends, i.e.: male pipe, female pipe or O-ring straight thread.
 2. Female NPSM pipe swivels seal on the male nose of the female swivel end and the 30° female seat on the male pipe end. The NPSM swivel nut uses a straight mechanical pipe thread and is not a sealing member.
 3. Ensure that the male pipe end to be assembled has been machined with the optional 30° female seat. A standard 45° chamfer will not seal properly.

Pipe Size	Adapter Unions		Pipe		
	Ft. Lbs. Max.	Nm. Max.	Ft. Lbs. Max.	Nm. Max.	Tapered Pipe T.F.F.T. ² (Turns)
1/8	13	18	12	16	3/4-1 3/4
1/4	20	27	25	34	3/4-1 3/4
3/8	25	34	40	54	3/4-1 3/4
1/2	47	64	54	73	1/2-1 1/2
3/4	84	114	78	106	1/2-1 1/2
1	129	175	112	152	1/2-1 1/2
1-1/4	152	206	154	209	1/2-1 1/2
1-1/2	152	206	211	286	1/2-1 1/2
2	300	407	300	407	1/2-1 1/2

1) Lubricated assembly.
 2) Tapered pipe connections use turns from finger tight. Turn past minimum for alignment of shape fittings.

