

CONFORMANCE

- SAE J514
- 30-Degree Chamfers - Most NPSM pipe swivel union fittings have 30-degree chamfers on NPTF male end of fittings. This chamfer is optional per SAE J514. If chamfer is mandatory, consult with our customer service department to verify chamfer exists on items you are requesting.
- Temperature Range: -65°F to +400°F

MATERIALS

- Steel - Carbon steel trivalent chrome plating per ASTM B633-98 (Type II SC-2).

Torque Values: The torque values provide benchmarks that we believe give optimum results for leak free connections. Actual torque values should be based on individual applications.

Caution: NPSM pipe swivel unions are not designed to provide structural support for other components

WORKING PRESSURES

The following table lists the recommended working pressures for steel NPSM pipe swivel union hydraulic fittings made in accordance with SAE standard J514. Many factors such as impulsing, vibration, mechanical shock and overtightening may affect the integrity of the fitting and swivel union connection. For these reasons, the recommended working pressures are actually lower than the capacity of the fittings. SAE recommends sufficient testing to be conducted to assure that performance levels will be safe and satisfactory, especially if installed in systems operating at elevated pressures or in severe conditions. When using fittings with different size or thread type, use the lower pressure rating of the two threads.

SAE J514 NPSM PRESSURE RATINGS

Dash Size	NPSM Thread Size	4 TO 1 Minimum Burst PSI
-2	1/8-27	5000
-4	1/4-18	5000
-6	3/8-18	4000
-8	1/2-14	3500
-12	3/4-14	2250
-16	1-11 1/2	2000
-20	1 1/4-11 1/2	1625
-24	1 1/2-11 1/2	1250
-32	2-11 1/2	1125

STEEL PIPE SWIVEL ASSEMBLY INSTRUCTIONS

RECOMMENDED

- Step 1.** Inspect male pipe fitting connecting to swivel and confirm that it has an internal 30-degree chamfer. Do not install into union if chamfer is missing.
- Step 2.** Lubricate the threads and the entire chamfered area of male fitting with hydraulic fluid or other light weight lubricant.
- Step 3.** Install lubricated pipe fitting into swivel nut and turn nut until finger tight.
- Step 4.** Place wrench on hex of male fitting to prevent male fitting from turning, and torque swivel nut to the values in the following table.

Caution: When torquing swivel nut on straight swivel union fittings, it may be necessary to also place a wrench on the fitting wrench pad to prevent the fitting from backing out of its port while torquing the swivel nut.

Dash Size	NPSM Thread Size	Torque Foot/LBS
-2	1/8-27	13
-4	1/4-18	20
-6	3/8-18	25
-8	1/2-14	47
-12	3/4-14	84
-16	1-11 1/2	129
-20	1 1/4-11 1/2	152
-24	1 1/2-11 1/2	152
-32	2-11 1/2	300

ALTERNATE ASSEMBLY METHOD

- Step 1.** If torque method not possible, follow steps 1-3 above, then proceed to the steps below.
- Step 2.** Place wrench on hex of male pipe fitting and consider this wrench in the 12 o'clock position.
- Step 3.** Lightly wrench tighten the swivel union nut so that the wrench is as near the 3 o'clock position as possible.
- Step 5.** Rotate wrench in 3 o'clock position counterclockwise to no less than the 1 o'clock position, but no more than the 12 o'clock position.

WHY WET TORQUE?

Due to the difference in plating types and thickness, materials, and thread quality of different components, the coefficient of friction varies greatly on any given assembly. Lubrication not only produces a more consistent coefficient of friction, it increases clamping force on sealing area with less torque on the threads. Overtightening causes threads to yield, deform and lose their ability to maintain an adequate load or clamping force on the seating area. Extended operation and severe conditions cause further yielding which results in leaks. Overtightening is the single greatest cause for leaks in metal to metal seat hydraulic connections. It is our firm position, that to not wet torque, is to compromise consistency and quality for convenience.