

## Introduction

Pipe swivel connections are one of the most traditional types of hydraulic connections. NPSM swivel adapters add versatility to male NPT hose and adapter connections. They are especially suited for manufacturers and end users that rely on this versatility. As a result, equipment manufacturers can simplify their hose assembly requirements by specifying NPSM adapters. See Fig. H1 for an illustration of this product flexibility.

Parker offers a full line of NPSM pipe swivel adapters. Fourteen configurations are available as standard, many of which are available in steel and stainless steel. Parker's pipe swivels are designed for use with male NPT/NPTF hose fittings and adapters with a 30° machined seat.

## Design and Construction

Pipe swivel adapters are manufactured in accordance to SAE J514 specifications, and thus are designed to work in conjunction with several manufacturers' hose and adapter products. Unlike most pipe thread connections, NPSM swivel adapters do not seal on the threads. NPSM swivel connections incorporate parallel threads, as opposed to tapered. Sealing is accomplished between the nose of the swivel and the mating seat of the NPT pipe thread. This creates a metal-to-metal seal as shown in Fig H2. Thus, a mating NPT male connector must have this 30° seat to ensure proper sealing. A full internal 30° seat with surface finish requirements of 125 Ra or better is required. See SAE J516 for specific requirements of the 30° seat.

**Construction:** Shaped pipe swivels are manufactured from a hot forged construction. Straight adapters and crimp nuts are manufactured from cold drawn barstock. All Parker pipe swivels with male NPT ends include a 30° machined seat for NPSM swivel connections.

**Not all male NPT ends have the 30° seat. Parts that have this seat will include a note in the catalog.**

### Threads:

NPTF: ANSI B1.20.1, FED-STD-H28/7  
 NPT: SAEJ476, ANSI B1.20.3, FED-STD-H28/8  
 NPSM: ANSI B1.20.1, FED-STD-H28/7  
 \*UN/UNF: ANSI B1.1, FED-STD-H28/2 (\*Class 2A or 2B)

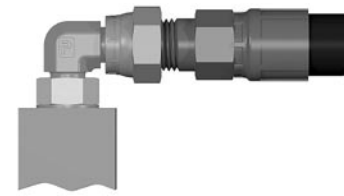
## Assembly and Installation

Please refer to [Section T](#) for the assembly and installation instructions for Pipe Swivels.

## Materials Specifications

Pipe swivels are manufactured using state-of-the-art equipment and manufacturing technologies to assure construction integrity, long service life and the highest strength & quality. These materials are shown in Table H1.

Upon request, pipe swivels can be furnished in materials, sizes and configurations other than Parker's standard offering.



Adapter Port Connection



NPSM / NPT Union

Fig. H1 — Illustration of the flexibility of the NPT Port and Hose Adapter system

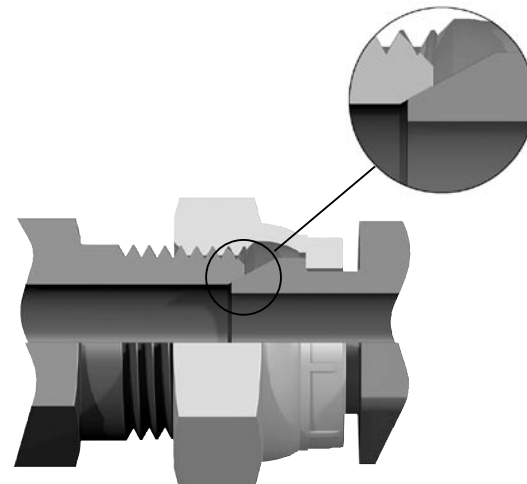


Fig. H2 — Illustration showing how NPSM swivel adapters seal on mating chamfer in male pipe thread

07 Adapters	Carbon Steel		Stainless Steel	
	ASTM	Type	ASTM	Type
Forged Bodies	A576	1214/1215	A182	316
Bar Stock Bodies	A108	12L14	A479	316
Crimp Swivel Nuts	A108	12L14	A479	316

**Note:** On request, 07 adapters can be furnished in materials other than those shown above.

**Finish:** Zinc with yellow chromate (being changed to zinc chromium 6 free) is used on all standard steel products. Stainless steel fittings are passivated.

Table H1 — Standard Materials

Dimensions and pressures for reference only, subject to change.