Pipe Threads

There are several variations of pipe threads. Thread forms include the Dryseal American Standard Taper Pipe Thread (NPTF), the National Pipe Straight Threads for Mechanical Joints (NPSM) and the dryseal American Fuel Internal Straight Pipe Thread (NPSF). Each series is normally identified by the abbreviated letter designation.

The NPTF thread is recommended for hydraulic service. This thread series is used on both male and female ends and forms a seal by the interference fit at the root and crest of the mating threads. The NPTF male also has an internal chamfer of 30° which allows it to seal at the seat with female NPSM pipe swivels.

The NPSM is a straight pipe thread and sealing is obtained by the mating of the 30° seats of the male and female ends.

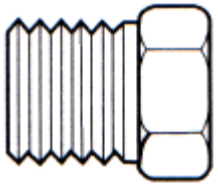
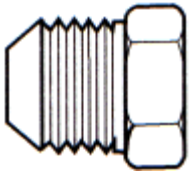
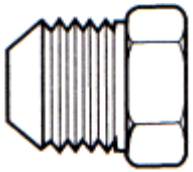
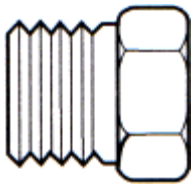
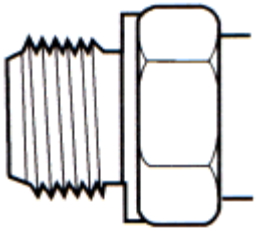
45° Flared Fittings (SAE): SAE flared fittings seal in the same manner as described for JIC, however the mating surfaces are machined at 45°. These couplings are usually used for low pressure applications such as refrigerant and fuel lines in conjunction with copper tubing which flares easily to 45°.

O-Ring Boss •| Straight Thread: The O-ring Boss fitting is a modification of the male JIC where the beveled 37° nose has been removed and a groove has been machined between the threads and the hex in which an O-ring is seated. The female is a port which has been tapped to the proper straight thread size and chamfered at the port face to provide an O-ring seat. The seal is made when the O-ring is trapped between port chamfer, thread under-cut, and the male.

O-Ring Face Seal (OFS): The O-ring Face Seal uses an O-ring (SAE J515) in a groove on the male face side. This is mated to flat face without an O-ring on the female swivel side, forming a seal without metal deformation much the same as an SAE four bolt split flange connection without the bolts. The O-ring face seal connection has been tested to SAE J343 tests and procedures and meets or exceeds SAE J1453 specifications. This connector has proven its superiority in leak resistance, ease of installation, high operating pressure, increased torque tolerance and reusability with regard to its ability to be connected and disconnected frequently.

SAE Threads

37° Flared Fittings (JIC): JIC (Joint Industry Conference) seals are obtained by the mating of two beveled metal surfaces. The function of the threads is simply to draw these two surfaces together. This style is used particularly in high pressure systems. As illustrated below, both the bevel on the male and the seat in the female are machined to 37°.

	NPTF	**37° Flare**	**45° Flare**		**O-Ring Boss**	**O-Ring Face Seal**
Dash	Fraction	Pipe	37 Flare	45 Flare	O-Ring Boss	O-Ring Face Sear
-2	1/8"	1/8 - 27	45428	45428	45428	*
-3	3/16"	*	3/8 - 24	3/8 - 24	3/8 - 24	*
-4	1/4"	1/4 - 18	44028	44028	44032	43359
-5	5/16"	*	1/2 - 20	1/2 - 20	1/2 - 20	*
-6	3/8"	3/8 - 18	43359	43228	43359	11/16 - 16
-7	*	*	*	11/16 - 16	*	*
-8	1/2"	1/2 - 14	3/4 - 16	3/4 - 16	3/4 - 16	13/16 - 16
-10	5/8"	*	41828	41828	41828	38000
-12	3/4"	3/4 - 14	11/16 - 12	11/16 - 14	11/16 - 12	13/16 - 12
-14	7/8"	*	13/16 - 12	11/4 - 12	13/16 - 12	*
-16	1"	1 - 111/2	15/16 - 12	13/8 - 12	15/16 - 12	17/16 - 12
-20	11/4"	11/4 - 111/2	15/8 - 12	*	15/8 - 12	111/16 - 12
-24	11/2"	11/2 - 111/2	17/8 - 12	*	17/8 - 12	38029
-32	2"	2 - 111/2	21/2 - 12	*	2 / - 12	*