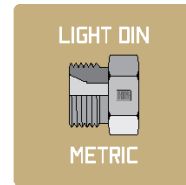
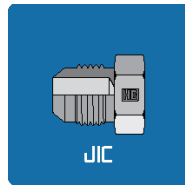
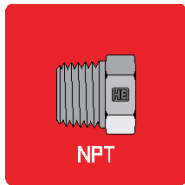


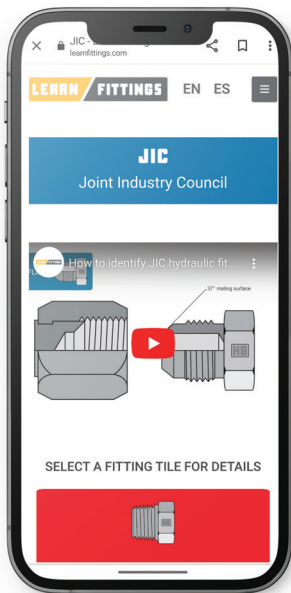
# LEARN / FITTINGS

www.LearnFittings.com

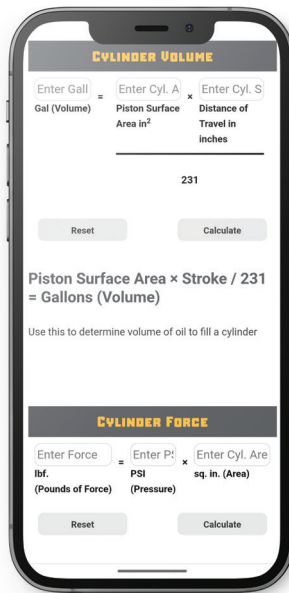


## LearnFittings.com

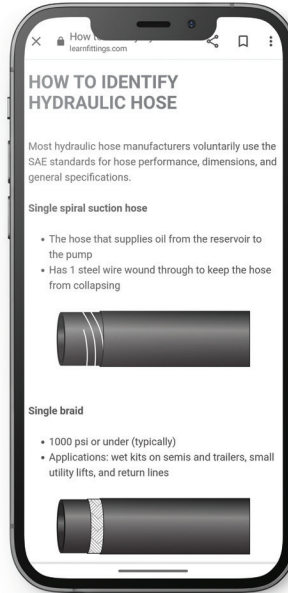
- Hydraulic Oil Basics
- How to Identify Hydraulic Hose
- Fitting Torque Specifications
- Dash Size (Learning Chart)
- Port Identification
- Tutorial Book
- Hydraulic Calculator and Formulas
- Hydraulic Safety



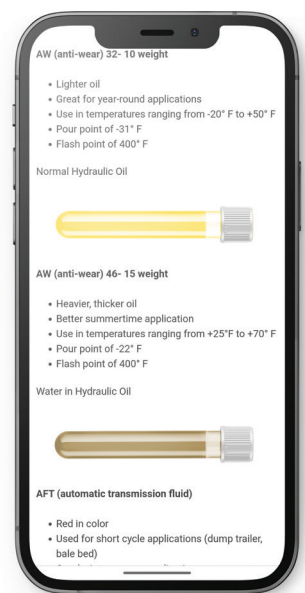
Fitting Identification



Hydraulic Calculators



Hose Identification



Fluid Identification

## COMMON MANUFACTURERS

Caterpillar  
Bobcat  
Komatsu

John Deere  
CASE  
New Holland

Kubota  
Sky Jack  
Ditch Witch

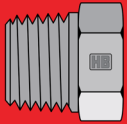
## INDUSTRIES

Construction  
Farm & Ranch

Forestry  
Railroad

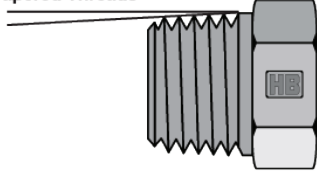
Landscaping  
Utilities



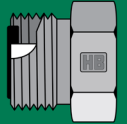


**NPT**

Tapered Threads

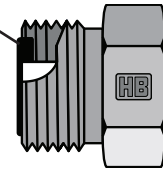


National pipe tapered threads have been widely used for over 100 years. NPT is a U.S. standard for tapered threads used on pipes and fittings. They are used to effectively seal pipes for fluid and gas transfer. The nominal pipe size can be identified by physically measuring the thread diameter, then subtracting 1/4. They are available in iron or brass for low-pressure applications and carbon steel and stainless steel for high-pressure.

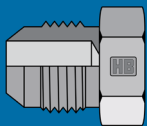


**FACE SEAL**

O-Ring on face

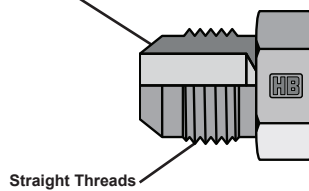


ORFS fittings incorporate an O-ring at the face of the male fitting that compresses against a flat face inside the female fitting. O-ring face seal fittings are widely used on very high pressure hydraulic applications and are popular in agricultural applications, construction, mining and offshore. The connection on the O-ring face seal is made when the fittings are tightened and the O-ring compresses against the flat face sleeve.



**JIC**

37° Flare



Straight Threads

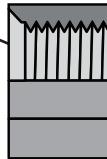
The 37° JIC (Joint Industrial Council) and the SAE O-Ring Boss (ORB) adapter fittings share the same thread specifications, the difference comes in the sealing style. The JIC thread is very popular and used worldwide. The seal on the JIC fitting is achieved by a metal-to-metal interference fit along the 37° angle on the male and female fittings.



**O-RING BOSS**

Chamfer to accept o-ring

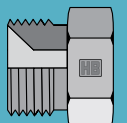
O-Ring Boss Port



\*Commonly mistaken for NPT/Pipe Thread port.  
DO NOT USE Pipe thread fittings in O-Ring Boss ports!

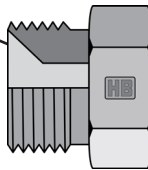
SAE Straight Thread O-Ring Boss (ORB) is recommended for medium to high pressure hydraulic systems and is commonly referred to as simply O-Ring Boss. The male connector has an O-ring at the base of the threads that forms a very effective seal with the machined seat on the face of the female fitting.

**BSPP 60°**



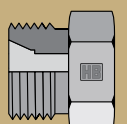
**BRITISH**

60° Chamfer



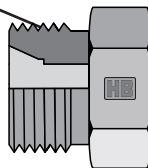
BSPP is very similar in appearance to American National Pipe Straight Mechanical (NPSM) fitting but the two are NOT interchangeable. While both NPSM and BSPP seal on the cone seat of the male / tapered nose of the female, the threads are different in most sizes.

**LIGHT DIN**



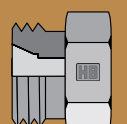
**METRIC**

Fine Threads



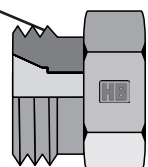
DIN tube fittings have a 24° chamfered seat on the inside of the male fitting that identifies the fitting as DIN, that 24° seat is where the seal takes place when joining a DIN male to a DIN female fitting. DIN fittings employ an identification system used by most manufacturers, this system combines the tube O.D. size and the tube Series, for example, a fitting that is 8mm and heavy duty would be marked "S08". There are two different types of Metric DIN fittings. Light Duty and Heavy Duty. Light Duty Metric Din fittings have a fine pitch thread.

**HEAVY DIN**



**METRIC**

Coarse Threads



DIN tube fittings have a 24° chamfered seat on the inside of the male fitting that identifies the fitting as DIN, that 24° seat is where the seal takes place when joining a DIN male to a DIN female fitting. DIN fittings employ an identification system used by most manufacturers, this system combines the tube O.D. size and the tube Series, for example, a fitting that is 8mm and heavy duty would be marked "S08". There are two different types of Metric DIN fittings. Light Duty and Heavy Duty. Heavy Duty Metric Din fittings have a coarse pitch thread.