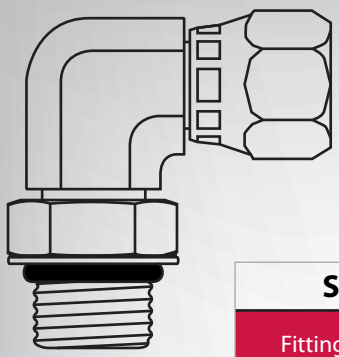

SAE O-Ring Fitting Guide

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SAE O-Ring Thread Identification

Fitting Size	Dash Size	Thread Size
SAE 2	-02	5/16-24
SAE 3	-03	3/8-24
SAE 4	-04	7/16-20
SAE 5	-05	1/2-20
SAE 6	-06	9/16-18
SAE 8	-08	3/4-16
SAE 10	-10	7/8-14
SAE 12	-12	1 1/16-12
SAE 14	-14	1 3/16-12
SAE 16	-16	1 5/16-12
SAE 20	-20	1 5/8-12
SAE 24	-24	1 7/8-12
SAE 32	-32	2 1/2-12

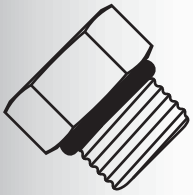
SAE O-ring (O-Ring Boss) are straight thread fittings that seal using a O-ring between the thread and the wrench flats of the fitting. The O-ring seals against the machined seat on the female port.

O-ring fittings can be either adjustable or non-adjustable. Non adjustable fittings are screwed into a port where no alignment is needed. Adjustable fittings can be oriented in a specific direction.

Fittings with O-rings offer advantages over metal-to-metal fittings. Under or over-tightening any fitting can allow leakage, but all-metal fittings are more susceptible to leakage because they must be tightened to a higher and narrower torque range. This makes it easier to strip threads or crack or distort fitting components, which prevents proper sealing.

Leaks can also result from vibration, thermal cycling and from loads being supported by the connection (i.e. using the fitting in the connection to support mechanical loads).

Whenever possible, we highly recommend using SAE O-ring or JIC fittings. Both of these provide a highly reliable, reusable connection. Since these fittings don't rely on mechanical deformation to create a seal, the risk of a broken fitting or port is virtually eliminated.



Recommended SAE O-Ring Non-Adjustable Stud Assembly Instructions

STEP 1: Inspect all components for damage or contamination.

STEP 2: Lubricate o-ring and threads on fitting with your hydraulic sytems fluid.

STEP 3: Turn fitting into port until finger tight, then torque to the value shown in the following table.

Recommended SAE O-Ring Adjustable Stud Assembly Instructions

STEP 1: Follow steps 1 and 2 from the foregoing instructions, then proceed to the following steps below.

STEP 2: Looking at fitting from end with nut/washer/o-ring assembly, turn nut clockwise as far as possible by hand.

STEP 3: Using wrench, turn fitting into port until the washer touches thread nearest wrench pad.

STEP 4: Back off fitting counterclockwise not exceeding one revolution until it is oriented in the correct position.

STEP 5: Place wrench on the wrench pad of fitting to prevent fitting from turning, and torque nut to the value shown in the following table.

Wet Torque

Wet torquing is the practice of using your systems hydraulic fluid to lubricate the threads and o-ring of the fittings before installation. Due to differences in materials, plating types and thickness, 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 threads. Over tightening causes threads to yield, deform, and therefore 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. To not wet torque is to compromise consistency and quality for convenience. Use the lowest torque value from the chart when wet torquing.

J514 & J1926/3 Torque Values

Fitting Size	Dash Size	Turns Past Finger Tight	Torque ft/lbs
SAE 2	-02	1.5 - 3.0	12
SAE 4	-04	1.5 - 3.0	25
SAE 6	-06	1.5 - 3.0	40
SAE 8	-08	1.5 - 3.0	54
SAE 12	-12	1.5 - 3.0	78
SAE 16	-16	1 - 2.5	112
SAE 20	-20	1 - 2.5	154
SAE 24	-24	1 - 2.5	211
SAE 32	-32	1 - 2.5	300

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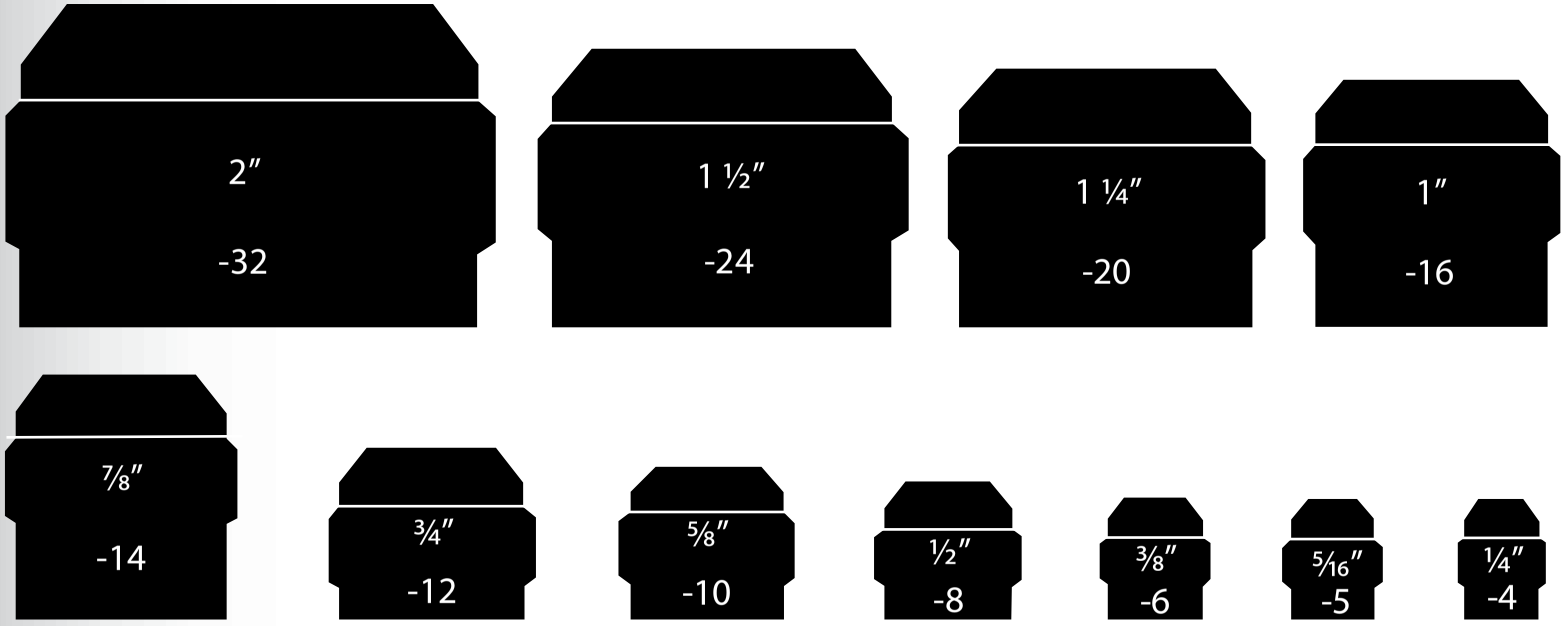
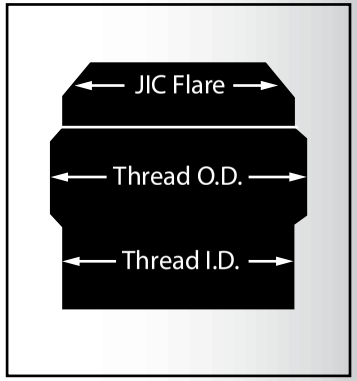
Thread Size Chart (Male)

For most accurate sizing results when printing, change the page scaling setting to 'None'.

NPT / BSPT / BSPP

JIC 37° / SAE O-Ring





ORFS (O-Ring Face Seal)

REV 111209