

Technical Information

AN THREAD (JIC)

AN stands for Army/Navy and is the standard for many hydraulic lines used in performance hoses and accessories. AN thread sizes start at -2 up to -32 , but the most common sizes are -3 to -20. The AN fittings are also known as JIC and have a UNF thread. These fittings are very popular to connect flexible hoses to accessories or hard line tube that carry different types of fluid. There are two common angles used in flare fittings, 37 degree and 45 degree. The fittings use these angle faces to form a seal and this must always be checked as they are not interchangeable. It is important to make sure these faces are not damaged to avoid leakage at the flare. All AN threads are parallel and are basically are a flare fitting with the 37 degree face machined off and a groove for the o ring machined. This o ring now seals the connection. The performance industry now uses a lot of AN-ORB ports in many applications due to it being higher flowing and better sealing than NPT.

NATIONAL PIPE THREAD (NPT)

The NPT thread has been popular for low pressure hydraulics for many years. Most NPT fittings and ports have a tapered thread and start loose and then tighten up as the wedging of the threads seals the connection. This style of union looks bulkier as the fitting does not screw all the way up. A thread sealant either liquid or tape is required to ensure the connection does no leak.

METRIC THREAD

Many vehicles today have metric threads and sometimes are a little confusing. Most have an o ring or a washer to seal the connection. Proflow have many metric adaptors and fittings for these applications.

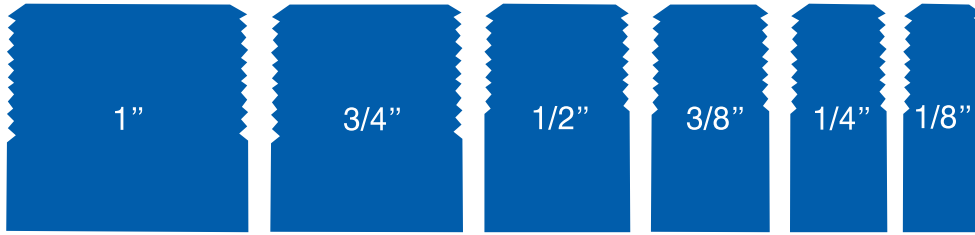
Make a plan of your project and this way you can make sure the correct size hose and fittings are used.

HOSE SIZE	100 & 450 SERIES*	200 SERIES	400 SERIES*	APPLICATION
-3		yes		brake, gauge lines & oil lines
-4	yes	yes	yes	oil lines, gauge lines and Vacuum lines
-5			yes	fuel and vacuum lines
-6	yes	yes	yes	water, fuel & oil lines
-8	yes	yes	yes	water, fuel & oil lines
-10	yes		yes	water, fuel & oil lines
-12	yes		yes	water, fuel & oil lines
-16	yes			water & oil lines
-20	yes			water

* Not recommended for E85 & exotic fuels

MALE NPT IDENTIFICATION CHART

The line drawings to the right depict actual sizes of the various common NPT thread sizes. Lay your fitting over the appropriate drawing to determine what size fitting you have.



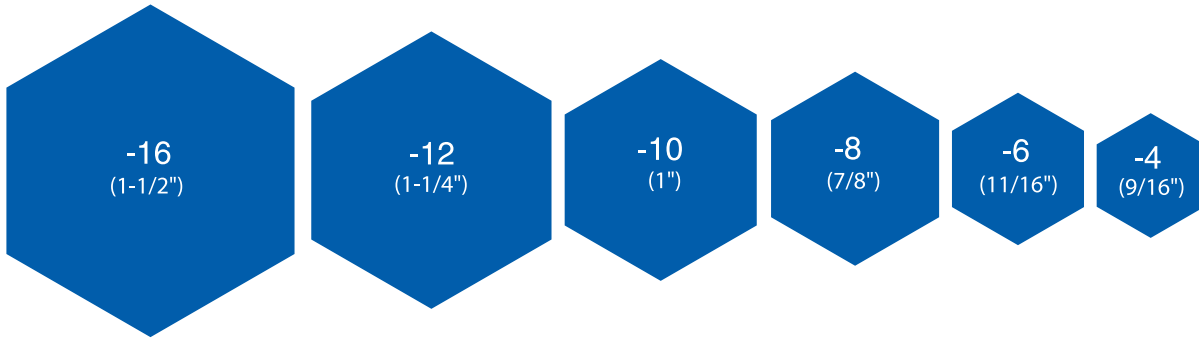
MALE AN ADAPTER IDENTIFICATION CHART

The line drawings to the right depict actual sizes of the various common AN thread sizes. Lay your fitting over the appropriate drawing to determine what size fitting you have.



B-NUT SIZE IDENTIFICATION CHART

The line drawings to the right depict actual sizes of the various common types of fittings, hose ends and adapters. The number in parenthesis is SAE wrench size equivalent.



• NPT (NATIONAL PIPE THREAD)

THREAD SIZE	THREADS PER INCH	CLOSEST AN SIZE
1/8"	27	-4
1/4"	18	-6
3/8"	18	-8
1/2"	14	-10
3/4"	14	-12
1"	11.5	-16
1-1/4"	11.5	-20

• AN THREAD (JIC)

THREAD SIZE	THREAD SIZE SAE	THREADS PER INCH	MAX TORQUE
-3	3/8"	24	8.75
-4	7/16"	20	11.5
-5	1/2"	20	14.3
-6	9/16"	18	16.25
-8	3/4"	16	29
-10	7/8"	14	35
-12	1 1/16"	12	45
-16	1 5/16"	12	70
-20	1 5/8"	12	85

• AN NUT (JIC)

HEX SIZES	B NUT AN SIDE	S NUT HOSE SIDE
-3	1/2"	
-4	9/16"	23/32"
-6	11/16"	7/8"
-8	7/8"	1 1/32"
-10	1"	1 7/32"
-12	1 1/4"	1 7/16"
-16	1 1/2"	1 3/4"
-20	2"	2 5/16"