

Lightweight Swivel Hose Ends for Teflon Hose

Because today's fuels contain a wide variety of unpublished additives and increasing amounts of alcohol, accelerated hose degradation including: vapor, weeping, and swelling can occur with traditional rubber based hose products. This issue is best addressed by using PTFE (Teflon) lined hose which is inert to all fluids used in motor vehicles. This type of hose has long been the standard for -3AN and -4AN high pressure brake and hydraulic applications, however in the larger -6AN and -8AN sizes it lacks popularity due to a limited range of hose fittings (usually heavy steel non-swivel industrial type fittings). This is why we are happy to announce the immediate availability of our range of -4AN, -6AN and -8AN light alloy swivel hose ends specific for industry standard PFTE (Teflon) lined stainless steel braided exterior hose. We are currently stocking fittings in our house color (black/silver) and will likely have (red/blue) in the near future. [Link to Hose](#)



Straight Hose End For Teflon Hose



-AN size	part #	price \$
-4AN	TS-4T	\$6.65
-6AN	TS-6T	\$6.95
-8AN	TS-8T	\$8.20

45 Degree Hose End For Teflon Hose



-AN size	part #	price \$
-4AN	T45-4T	\$13.75
-6AN	T45-6T	\$16.80
-8AN	T45-8T	\$20.55

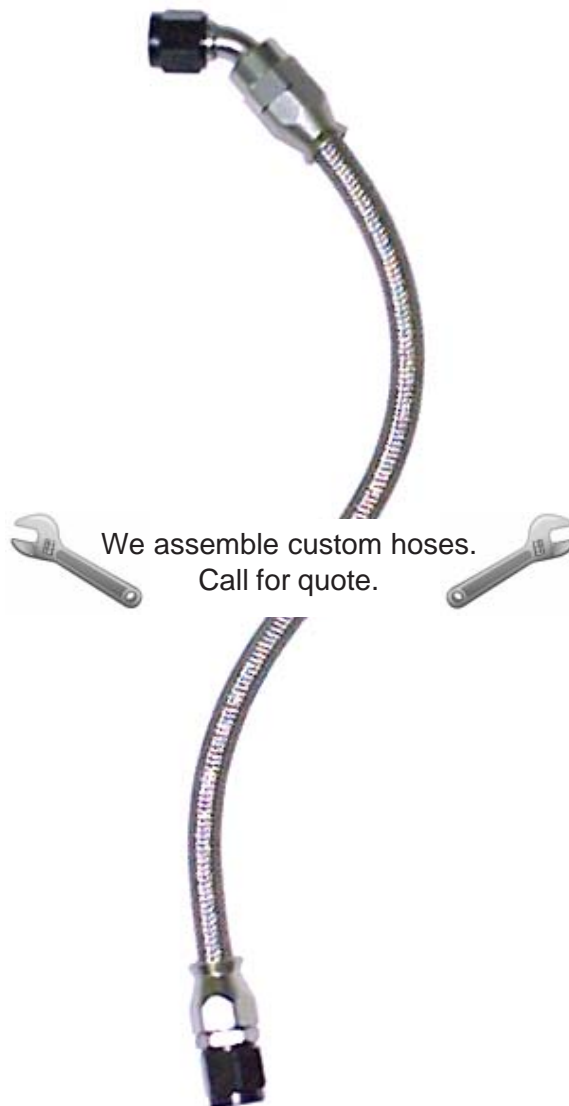
swivel type hose end

90 Degree Hose End For Teflon Hose



-AN size	part #	price \$
-4AN	T90-4T	\$13.75
-6AN	T90-6T	\$16.80
-8AN	T90-8T	\$20.55

swivel type hose end



We assemble custom hoses.
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Importer/Distributor- BAT Inc. 7630 Matoaka Road. Sarasota, FL 34243
phone (941) 355-0005 fax (941) 355-4683

00° Straight Female to -AN Hose



-A-	-B-	Part #
-3AN	-3AN	FS-3T
-4AN	-4AN	FS-4T
-6AN	-6AN	FS-6T
-8AN	-8AN	FS-8T
-3AN	1/8BSP	ABS3ST
-3AN	1/8 Smiths*	ABS3STF
-4AN	1/4BSP	ABS4ST
-6AN	-6AN	FS-6T
-8AN	-8AN	FS-8T
-3AN	M10 x 1.0	FS-1013T
-4AN	M12 x 1.5	

*Refers to the special sealing surface found on Smiths brand gauges. Thread is BSP, but seal is flat with a raised "tit".

45° Degree Female to -AN Hose



-A-	-B-	Part #
-3AN	-3AN	F45-3T
-4AN	-4AN	F45-4T
-6AN	-6AN	F45-6T
-8AN	-8AN	F45-8T
-3AN	1/8BSP	ABS345
-3AN	1/8 Smiths*	ABS345F
-4AN	1/4BSP	ABS445
-6AN	-6AN	F45-6T
-8AN	-8AN	F45-8T
-3AN	M10 x 1.0	F45-1013T

*Refers to the special sealing surface found on Smiths brand gauges. Thread is BSP, but seal is flat with a raised "tit".

90° Degree Female to -AN Hose



-A-	-B-	Part #
-3AN	-3AN	F90-3T
-4AN	-4AN	F90-4T
-6AN	-6AN	F90-6T
-8AN	-8AN	F90-8T
-3AN	1/8BSP	ABS390
-3AN	1/8 Smiths*	ABS390F
-4AN	1/4BSP	ABS490
-6AN	-6AN	F90-6T
-8AN	-8AN	F90-8T
-3AN	M10 x 1.0	F90-1013T

*Refers to the special sealing surface found on Smiths brand gauges. Thread is BSP, but seal is flat with a raised "tit".

Fittings for Teflon Interior Hose

We stock a variety of reusable hose end fittings suitable for (TFE) Teflon interior hose. Reusable TFE hose ends are 3 piece construction consisting of: nipple (main fitting part), sleeve (olive), and socket (nut). Most are constructed in mild STEEL with a plated sliver or gold finish.

Applications for TFE hose are: hydraulic brake & clutch, fuel & oil pressure gauges, power steering, nitrous oxide, suspension shock, and fire system plumbing. Hose and fittings are available in AN -3, -4, -6, -8 sizes, with AN -3 and -4 being most popular.

[Link to Hose](#)

45° Degree Forged Swivel to -AN Hose



-A-	-B-	Part #
-3AN	-3AN	F45-3FT
-4AN	-4AN	F45-4FT

90° Degree Forged Swivel to -AN Hose



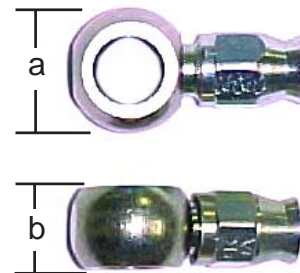
-A-	-B-	Part #
-3AN	-3AN	F90-3FT
-4AN	-4AN	F90-4FT



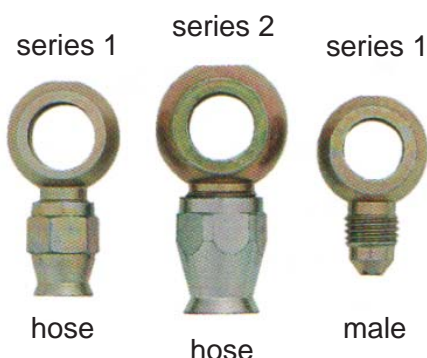
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Speciality Banjo Fittings for -3AN / -4AN TFE Hose

We can supply a wide range of banjo fittings for teflon lined (TFE) hose. Common applications include: high pressure hydraulic brake & clutch lines, turbo oil feed lines, fuel & oil pressure gauge lines, nitrous lines. Banjos are available in male (to connect to female hose ends) or direct to hose versions. The "series" refers to the "ball" end size: series 1 ball end diameter (a) = .650-700" and profile across flats (b) = .325"-.400"; series 2 ball end diameter (a) = .750" and profile across flats (b) = .450"-.500". [Link to Hose](#)

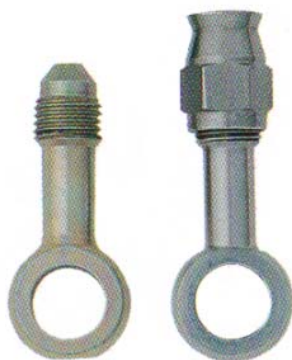


Banjo - Short Neck



Bolt Size	Series	End Fitting	Part#
10mm, 3/8"	1	-3 hose	BJ103HS
10mm, 3/8"	1 or 2	-3 male	BJ103MS
7/16"	2	-3 hose	BJ7/163HS
7/16"	2	-3 male	BJ7/163MS
7/16"	2	-4 hose	BJ7/164HS
7/16"	2	-4 male	BJ7/164MS
12mm	2	-3 hose	BJ123HS
12mm	2	-3 male	BJ123MS
12mm	2	-4 hose	BJ124HS
12mm	2	-4 male	BJ124MS

Banjo - Extended Neck



Bolt Size	Series	End Fitting	Part#
10mm, 3/8"	1	-3 hose	BJ103HE
10mm, 3/8"	1	-3 male	BJ103ME
10mm, 3/8"	1	-4 hose	BJ104HE
10mm, 3/8"	1	-4 male	BJ104ME
7/16"	2	-3 hose	BJ7/163HE
7/16"	1 or 2	-3 male	BJ7/163ME
7/16"	2	-4 hose	BJ7/164HE
7/16"	2	-4 male	BJ7/164ME
12mm	1*	-3 male	BJ123ME

Banjo - 20 Degree Side Bent Neck



Bolt Size	Series	End Fitting	Part#
10mm, 3/8"	1	-3 hose	CALL
10mm, 3/8"	1	-3 male	CALL



Speciality Banjo Fittings for -3AN / -4AN TFE Hose (continued)

Banjo - Bent Neck 20 Degree, 35/40 Degree, 90 Degree



Banjo to -AN Hose

	Bolt Size	Series	End Fitting	Part#
20 degree	10mm, 3/8'	1	-3 hose	BJ103HE2
	10mm, 3/8"	1	-3 male	BJ103ME2
	10mm, 3/8'	1	-4 hose	BJ104HE2
	10mm, 3/8'	1	-4 male	BJ104ME2
	7/16	2	-3 hose	BJ7/163HE2
	7/16	2	-3 male	BJ7/163ME2
	7/16	2	-4 hose	BJ7/164HE2
	7/16	2	-4 male	BJ7/164ME2



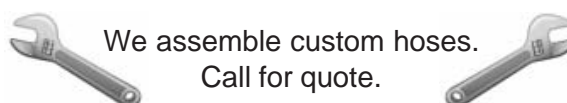
Banjo to -AN Male

	Bolt Size	Series	End Fitting	Part#
35/40 degree	10mm, 3/8"	1	-3 hose	BJ103HE3
	10mm, 3/8"	1	-3 male	BJ103ME3
	10mm, 3/8"	1	-4 hose	BJ104HE3
	10mm, 3/8"	1	-4 male	BJ104ME3
	7/16"	1*	-3 hose	BJ7/163HE3
	7/16"	1*	-3 male	BJ7/163ME3
	12mm	1*	-3 male	BJ123ME3

Note: (1*) ball diameter .750", flat to flat .400"

	Bolt Size	Series	End Fitting	Part#
90 degree	10mm, 3/8"	1	-3 hose	BJ103HE9
	10mm, 3/8"	1	-3 male	BJ103ME9
	10mm, 3/8"	1	-4 hose	BJ104HE9
	10mm, 3/8"	1	-4 male	BJ104ME9
	7/16"	1*	-3 hose	BJ7/163HE9
	7/16"	1*	-3 male	BJ7/163ME9
	12mm	1*	-3 male	BJ123ME9

Note: (1*) ball diameter .750", flat to flat .400"



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Speciality Banjo Fittings for -3AN / -4AN TFE Hose (continued)

Banjo Bolt (STEEL)

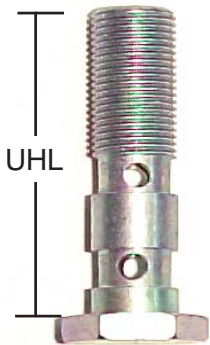


UHL= under head length

Thread	Series	UHL	Part#
1/8" BSP	1, 2	.975"	BJB1/8
3/8"-24	1, 2	.950"	BJB3/8
3/8"-24	1	.775"	BJB3/8S
7/16"-20	2	1.150"	BJB7/16
M10x1.5	1	.775"	BJBM10
M8x1.0*	1	.775"	BJBM10/8*
M10x1.0	1	.775"	BJBM101
M10x1.25	1	.775"	BJB1012
M10x1.0	2	.945"	BJBM101L
M10x1.5	2	.945"	BJBM10L
M12x1.25	2	.950"	BJBM1212S
M12x1.0	2	.950"	BJBM121S
M12x1.5	2	.950"	BJBM12S

*special bolt for 3/8", 10mm banjos with 8mm 1.0 thread.

Banjo Bolt Double (STEEL)



UHL= under head length

Thread	Series	UHL	Part#
1/8" BSP	2	1.550"	BJB1/8D
3/8"-24	1	1.175"	BJB3/8D
3/8"-24	2	1.550"	BJB3/8DL
7/16"-20			BJB7/16D
M10x1.0	2	1.550"	BJBM101D
M10x1.25	2	1.550"	BJB1012D
M12x1.5			BJBM12SD
M14x1.5			BJBM14SD



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Things to Know

Before getting into the next section of hose fittings and adaptors, it would be a good idea to review the terms and specifications listed below.

Under Head Length Distance from under hex to end of fitting or flair- important when threading into (female) ports so the fitting does not "bottom" on the hex prior to contacting the flair sealing surface.

Seals on Thread Taper contact seal with sealant or tape (NPT).

Seals on Flair -using one of each (concave & convex) flair to seal- angle may vary, but needs to be consistent between both sealing surfaces.

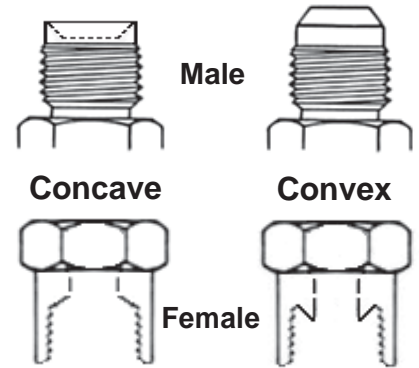
Convex Male flair seals common on -AN (male) and some metric (male) unions and some threaded ports. Convex male > seals on > Concave female

Concave Female flair seal common on -AN hose ends, most metric (male) unions and some threaded ports. Concave male < seals on < Convex female

Flat -no sealing surface; use crush-washer under hex head.

Inverted Flair (or reverse flair) is a term used in place of concave and convex, but always refers to- concave on male and convex on female.

Globe Seal BSP & Metric (female) hose ends- use a radius sealing surface designed seal on a range of fixed angles.



-AN/JIC (SAE 37)

O-Ring Boss (ORB)

Inch Size	Dash Size	Nominal Thread Size	Male Thread O.D. (A) (inches)	Female Thread O.D. (B) (inches)
1/8	2	5/16-24	.31	.27
3/16	3	3/8-24	.38	.34
1/4	4	7/16-20	.44	.39
5/16	5	1/2-20	.50	.45
3/8	6	9/16-18	.56	.51
1/2	8	3/4-16	.75	.69
5/8	10	7/8-14	.88	.81
3/4	12	1 1/16-12	1.06	.98
1	16	1 5/16-12	1.31	1.23
1 1/4	20	1 5/8-12	1.63	1.54

SAE 37 degree flair, aka -AN (Air Force/Navy) or JIC, is considered universal for aftermarket automotive plumbing. ORB version is similar thread but seals with o-ring rather than flair. SAE 45 seals on 45 degree flair and is similar in thread to SAE 37 (except -12 which is 14tpi). SAE45 is commonly used in automotive a/c plumbing.

British Standard Pipe (BSP)

Inch Size	Dash Size	Nominal Thread Size	Male Thread O.D. (A) (inches)	Female Thread I.D. (B) (inches)
1/8	2	1/8-28	.38	.35
1/4	4	1/4-19	.52	.47
3/8	6	3/8-19	.65	.60
1/2	8	1/2-14	.82	.75
5/8	10	5/8-14	.88	.80
3/4	12	3/4-14	1.04	.97

Very common British thread. The female could also have a 60 degree convex seat instead of globeseal.

National Pipe Tapered (NPT)

Inch Size	Dash Size	Nominal Thread Size	Male Thread O.D. (A) (inches)	Female Thread O.D. (B) (inches)
1/8	2	1/8-27	.41	.38
1/4	4	1/4-18	.54	.49
3/8	6	3/8-18	.68	.63
1/2	8	1/2-14	.84	.77
3/4	12	3/4-14	1.05	.98
1	16	1-11 1/2	1.32	1.24

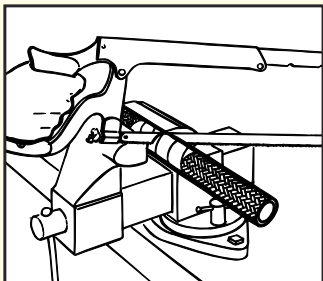
NPT or NPTF is a popular American thread type often referred to as "pipe thread". NPT fittings are designed to seal with some thread deformation and use of teflon liquid or tape.

Metric DIN 7631 Series

Metric Thread Size	Male Thread O.D. (A) mm / inch	Male Thread I.D. (B) mm / inch
M10 x 1.0	10 / .39	8.5 / .33
M12 x 1.5	12 / .47	10.5 / .41
M14 x 1.5	14 / .55	12.5 / .49
M16 x 1.5	16 / .63	14.5 / .57
M18 x 1.5	18 / .71	16.5 / .65
M20 x 1.5	20 / .78	18.5 / .73
M22 x 1.5	22 / .87	20.5 / .81
M26 x 1.5	26 / 1.02	24.5 / .96
M30 x 1.5	30 / 1.18	28.5 / 1.12

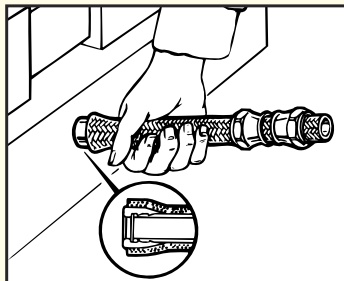
Used throughout European car fluid systems. Radius "Globeseal" on female adapts to a variety of sealing flair angles. Some male ends have convex flair, but concave is more common.

Teflon* Racing Hose with Reusable Fitting

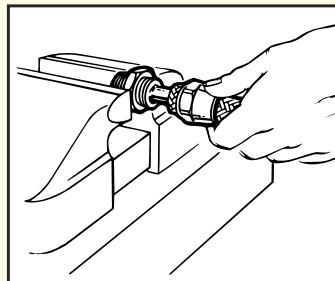


Step 1. Cut hose square to length with fine-tooth hack saw or cut-off wheel. To minimize wire braid flare out, wrap hose with masking tape and cut through tape. Remove tape, trim loose wires and flush with lube before next step. Burrs on bore of tube should be removed with a knife. Clean the hose bore.

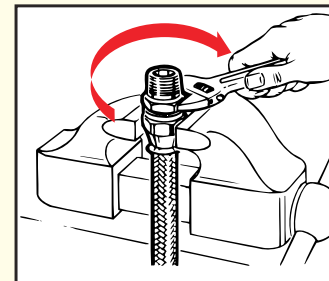
Sometimes wire braid hose will "neck down" on one end and "flare out" on the other end. This can be used to an advantage. Slip two sockets back to back over the "necked down" end of the hose, position approximately 3 inches from each end. Mount nipple hex in a vise. Work the hose bore over the nipple to size the tube and aid in separating the braid prior to fitting the sleeve. Remove hose from nipple.



Step 2. Push the sleeve over the end of the tube and under the wire braid by hand. Complete positioning of the sleeve by pushing the hose end against a flat surface. Visually inspect to see that the tube butts against the inside shoulder of the sleeve. Set the sleeve barbs into the Teflon* tube by pushing a round nose tapered punch into the end of the sleeve and tube.



Step 3. Lubricate nipple and socket threads. Use a molydisulfide base lubricant for stainless steel fittings (e.g. Molykote Type G); lubricants containing chloride are not recommended. Other material combinations use standard petroleum lubricants. Hold the nipple with hex in the vise. Push hose over nipple with twisting motion until seated against nipple chamfer. Push socket forward and start threading of socket to nipple.



Step 4. Wrench tighten hex until clearance with socket hex is at .031 inches. Your thumbnail is a convenient measuring device. Tighten further to align corners of nipple and socket hexes. CLEAN, PROOFTEST TOTWICE OPERATING PRESSURE AND INSPECT ALL ASSEMBLIES.

To disassemble: Unscrew and remove nipple; slide socket back on hose by tapping against flat surface; remove sleeve with pliers.

Important: Fittings may be disassembled and reused at least once. However, all such fittings should be carefully examined for distortion, thread damage and I.D. dimensions. New sleeve is recommended upon reuse of fitting.

Replacement brass sleeves are available. Refer to Page 19.



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Hose/Cable Cutters

Description	part #	price \$
Cutter Small	HCC1	\$47.75
Cutter All Size	HCC2	\$69.00

This is the type tool we use to make hose cutting fast, precise and easy. Available in two sizes: small (12" handle) for up to -8AN and large (22" handle) will cut all sizes up to -20AN.