

Fragola

Performance Systems



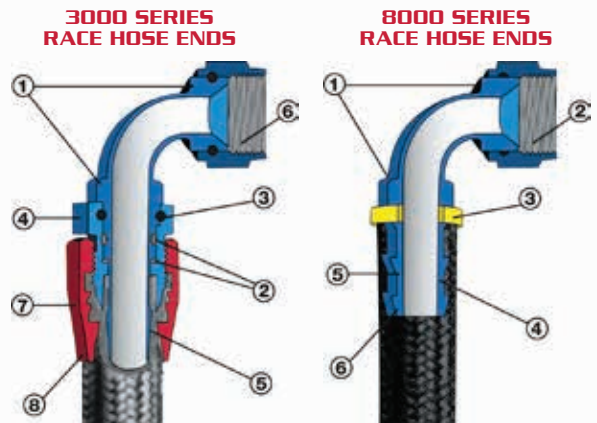
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The use of the names Holley, Edelbrock, Demon, Carter, Ford, Chrysler and GM are for descriptive purposes only. Fragola Performance Systems has no connection with those companies whatsoever.

WHERE ENGINEERING COUNTS!

Hose ends may look like simple devices, but at FPS we take them very seriously. We have spent several years researching, testing and retesting to perfect the production of what we feel is the finest hose end available. Period! We hope that you will agree.



1 Unique ONE-PIECE design eliminates two brazed joints, minimizing potential leakage, improving flow and appearance.

2 Two Viton "O" rings form a redundant seal to ensure no-leak service for the life of the part and are impervious to fuel, oil and coolant.

3 Stainless steel lock wires prevent galling and provide long service.

4 Wider wrenching surface for a no-slip installation.

5 Tapered nipple for easy alignment and installation.

6 J gauge threads for increased strength and durability.

7 Bright dipped anodizing for a show quality finish.

8 Improved entry angle on the socket, allows for easy installation.

1 Unique ONE-PIECE design eliminates two brazed joints, minimizing potential leakage, improving flow and appearance.

2 The correct A-N specified "J-Thread" for ease of installation and trouble-free reuse.

3 Lightweight polymer cap provides positive stop for hose installation, and covers cut end of the hose.

4 Hose barb dimensions per S.A.E. standards.

5 Bright dip anodizing for a show quality finish. All Push-Lite hose ends are manufactured from aerospace-quality aluminum and machined to mil spec tolerances.

6 Tapered nipple for easy alignment and installation.







All Fragola Performance Systems Hose Ends are manufactured from aerospace-quality aluminum and machined to mil spec tolerances.



TECHNICAL INFORMATION

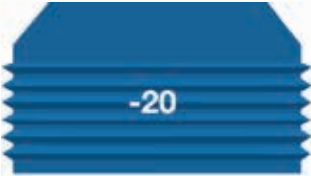
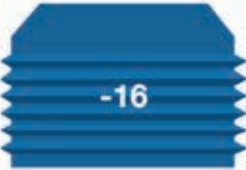






NPT THREADS

Use the profiles below to determine the correct NPT thread before ordering. The corresponding chart displays the pipe thread size, the number of threads per inch, the inner diameter of the fitting, and the closest A-N thread.

			Pipe Thread Size	Threads Per Inch	Fitting I.D.	Closest A-N Fitting Size
			1/8"	27	1/8"	4
			1/4"	18	1/4"	6
			3/8"	18	3/8"	8
			1/2"	14	1/2"	10
			3/4"	14	3/4"	12
			1"	11.5	1"	16
			1 1/4"	11.5	1 1/4"	20

A-N THREADS

Use the profiles below to determine the correct A-N thread before ordering. The corresponding chart displays the outer diameter of the metal tube and thread size.

			A-N Size	Metal Tube O.D.	Thread Size
			-3	3/16"	3/8-24 UNJF
			-4	1/4"	7/16-20 UNJF
			-6	3/8"	9/16-18 UNJF
			-8	1/2"	3/4-16 UNJF
			-10	5/8"	7/8-14 UNJF
			-12	3/4"	1 1/16-12 UNJF
			-16	1"	1 5/16-12 UNJF
			-20	1 1/4"	1 5/8-12 UNJF
					

TORQUE SPECIFICATIONS

Many people over tighten the aluminum fitting on the adapter, which distorts the 37 degree seat, and may cause a leak. Both the threads and the seat surface should have a drop or two of oil to smooth the tightening process. The maximum torque specifications are listed here. (An alternate method of tightening is to bring the nut to "hand tight" and then rotate it another 1/4 turn with the proper wrench.)

Fitting Size	Max Torque in Foot Pounds	Fitting Size	Max Torque in Foot Pounds
-3	8.75	-10	35
-4	11.5	-12	45
-6	16.25	-16	70
-8	29	-20	85

SIZE CHART

A-N Size	A-N Thread		Pipe Thread		B-Nut Hex	
	Tube Diameter	Thread Size (S.A.E.)	Pipe Thread	Thread Per Inch	A-N Size	Hex Diameter
-2	1/8"	5/16-24	1/16"	27		
-3	3/16"	3/8-24	1/8"	27	-3	1/2"
-4	1/4"	7/16-20	1/4"	18	-4	9/16"
-6	3/8"	9/16-18	3/8"	18	-6	11/16"
-8	1/2"	3/4-16	1/2"	14	-8	7/8"
-10	5/8"	7/8-14	3/4"	14	-10	1"
-12	3/4"	1 1/16-12	1"	11	-12	1 1/4"
-16	1"	1 5/16-12			-16	1 1/2"
-20	1 1/4"	1 5/8-12			-20	1 7/8"
-24	1 1/2"	1 7/8-12				
-28	1 3/4"	2 1/4-12				
-32	2"	2 1/2-12				

FEATURED PRODUCTS

	<u>Part Number</u>	<u>Description</u>	<u>Page</u>
	223010BLORB	2000 Series Direct Fit Hose Ends	6
	220105BL	2000 Series Pro-Flow Expander Hose Ends	7
	220107BL	2000 Series Reducer Hose Ends	8
	200107BL	Reducer Push-Lite Hose Ends	18
	900656BL	Aluminum A-N Adapters	23
	484205BL	Aluminum & Steel A-N Adapters	34
	493020BL	1/8 FPT X 16 X 1.5 MM LS Temp Probe Adapter	33
	940003BL	10AN 3 Port Fuel Log	36

SERIES 2000 PRO-FLOW HOSE ENDS



SERIES 3000 HOSE ENDS



SERIES 2000 HOSE ENDS

The Series 2000 Pro Flow Hose Ends differ from the Series 3000 Hose Ends in the fact that they feature the “single nipple” method of hose attachment. With the “single nipple” style, the socket draws the hose over a long tapered single nipple. The sealing feature is the crush of the hose between the inside of the socket and the outside of the nipple. With this style of hose end, reusing it is a breeze. There is no sliver of cut hose to remove before reinstalling the hose end on a new piece of hose. Use with black nylon race hose on pg.16 or our Series 3000 Stainless Race Hose on pg.17.



STRAIGHT HOSE ENDS

Hose Size	Part Number	Black	Chrome
-4	220104	220104BL	N/A
-6	220106	220106BL	220106CH
-8	220108	220108BL	220108CH
-10	220110	220110BL	220110CH
-12	220112	220112BL	220112CH
-16	220116	220116BL	N/A



30° HOSE ENDS

Hose Size	Part Number	Black	Chrome
-4*	223004	223004BL	N/A
-6	223006	223006BL	N/A
-8	223008	223008BL	N/A
-10	223010	223010BL	N/A
-12	223012	223012BL	N/A
-16	223016	223016BL	N/A



45° HOSE ENDS

Hose Size	Part Number	Black	Chrome
-4*	224504	224504BL	N/A
-6	224506	224506BL	224506CH
-8	224508	224508BL	224508CH
-10	224510	224510BL	224510CH
-12	224512	224512BL	224512CH
-16	224516	224516BL	N/A



60° HOSE ENDS

Hose Size	Part Number	Black	Chrome
-4*	226004	226004BL	N/A
-6	226006	226006BL	N/A
-8	226008	226008BL	N/A
-10	226010	226010BL	N/A
-12	226012	226012BL	N/A
-16	226016	226016BL	N/A

*Please note that our -4 hose ends are non-swivel

SERIES 2000 HOSE ENDS

The Series 2000 Pro Flow Hose Ends differ from the Series 3000 Hose Ends in the fact that they feature the "single nipple" method of hose attachment. With the "single nipple" style, the socket draws the hose over a long tapered single nipple. The sealing feature is the crush of the hose between the inside of the socket and the outside of the nipple. With this style of hose end, reusing it is a breeze. There is no sliver of cut hose to remove before reinstalling the hose end on a new piece of hose. Use with black nylon race hose on pg.16 or our Series 3000 Stainless Race Hose on pg. 17.



90° HOSE ENDS

Hose Size	Part Number	Black	Chrome
-4*	229004	229004BL	N/A
-6	229006	229006BL	229006CH
-8	229008	229008BL	229008CH
-10	229010	229010BL	229010CH
-12	229012	229012BL	229012CH
-16	229016	229016BL	N/A



120° HOSE ENDS

Hose Size	Part Number	Black	Chrome
-4*	231204	231204BL	N/A
-6	231206	231206BL	N/A
-8	231208	231208BL	N/A
-10	231210	231210BL	N/A
-12	231212	231212BL	N/A
-16	231216	231216BL	N/A



150° HOSE ENDS

Hose Size	Part Number	Black	Chrome
-4*	231504	231504BL	N/A
-6	231506	231506BL	N/A
-8	231508	231508BL	N/A
-10	231510	231510BL	N/A
-12	231512	231512BL	N/A
-16	231516	231516BL	N/A



180° HOSE ENDS

Hose Size	Part Number	Black	Chrome
-4*	231804	231804BL	N/A
-6	231806	231806BL	N/A
-8	231808	231808BL	N/A
-10	231810	231810BL	N/A
-12	231812	231812BL	N/A
-16	231816	231816BL	N/A

*Please note that our -4 hose ends are non-swivel



Rune Skredsvig
Fittings Of Norway

SERIES 2000 DIRECT FIT HOSE ENDS

In some applications the extra height of the adapter makes the installation very tight. Direct Fit Hose Ends help shave valuable inches in tight applications. Fragola Performance Systems Series 2000 Pro Flow Hose Ends feature the "single nipple" method of hose attachment. With the "single nipple" style, the socket draws over the hose between the inside of the socket and outside of the nipple. Making installation and reusing the hose ends a breeze.



30° DIRECT FIT TUBE-STYLE HOSE ENDS

Hose Size	Thread	Part Number
-10	7/8-14 (10)	223010BLRAD
-12	1 1/16-12 (12)	223012BLRAD



90° DIRECT FIT TUBE-STYLE HOSE ENDS

Hose Size	Thread	Part Number
-10	7/8-14 (10)	229010BLRAD
-12	1 1/16-12 (12)	229012BLRAD



45° DIRECT FIT TUBE-STYLE HOSE ENDS

Hose Size	Thread	Part Number
-10	7/8-14 (10)	224510BLRAD
-12	1 1/16-12 (12)	224512BLRAD



120° DIRECT FIT TUBE-STYLE HOSE ENDS

Hose Size	Thread	Part Number
-10	7/8-14 (10)	231210BLRAD
-12	1 1/16-12 (12)	231212BLRAD



60° DIRECT FIT TUBE-STYLE HOSE ENDS

Hose Size	Thread	Part Number
-10	7/8-14 (10)	226010BLRAD
-12	1 1/16-12 (12)	226012BLRAD



150° DIRECT FIT TUBE-STYLE HOSE ENDS

Hose Size	Thread	Part Number
-10	7/8-14 (10)	231510BLRAD
-12	1 1/16-12 (12)	231512BLRAD



180° DIRECT FIT TUBE-STYLE HOSE ENDS

Hose Size	Thread	Part Number
-10	7/8-14 (10)	231810BLRAD
-12	1 1/16-12 (12)	231812BLRAD

SERIES 2000 EXPANDER PRO-FLOW HOSE ENDS

In some applications space to change from one hose size to the next just isn't there. Fragola Performance Systems 2000 Series, Expander Pro-Flow Hose Ends shave off valuable inches in these tight applications.

Series 2000 Pro Flow Hose Ends feature the "single nipple" method of hose attachment. With the "single nipple" style, the socket draws over the hose between the inside of the socket and outside of the nipple. Making installation and reusing the hose ends a breeze.



STRAIGHT HOSE ENDS

Description	Part Number	Black
-6 Nut X -8 Hose	220105	220105BL
-10 Nut X -12 Hose	220111	220111BL
-12 Nut X -16 Hose	220113	220113BL



90° HOSE ENDS

Description	Part Number	Black
-6 Nut X -8 Hose	229005	229005BL
-10 Nut X -12 Hose	229011	229011BL
-12 Nut X -16 Hose	229013	229013BL



30° HOSE ENDS

Description	Part Number	Black
-6 Nut X -8 Hose	223005	223005BL
-10 Nut X -12 Hose	223011	223011BL
-12 Nut X -16 Hose	223013	223013BL



120° HOSE ENDS

Description	Part Number	Black
-6 Nut X -8 Hose	231205	231205BL
-10 Nut X -12 Hose	231211	231211BL
-12 Nut X -16 Hose	231213	231213BL



45° HOSE ENDS

Description	Part Number	Black
-6 Nut X -8 Hose	224505	224505BL
-10 Nut X -12 Hose	224511	224511BL
-12 Nut X -16 Hose	224513	224513BL



150° HOSE ENDS

Description	Part Number	Black
-6 Nut X -8 Hose	231505	231505BL
-10 Nut X -12 Hose	231511	231511BL
-12 Nut X -16 Hose	231513	231513BL



60° HOSE ENDS

Description	Part Number	Black
-6 Nut X -8 Hose	226005	226005BL
-10 Nut X -12 Hose	226011	226011BL
-12 Nut X -16 Hose	226013	226013BL



180° HOSE ENDS

Description	Part Number	Black
-6 Nut X -8 Hose	231805	231805BL
-10 Nut X -12 Hose	231811	231811BL
-12 Nut X -16 Hose	231813	231813BL

SERIES 2000 REDUCER PRO-FLOW HOSE ENDS

In some applications space to change from one hose size to the next just isn't there. Fragola Performance Systems 2000 Series, Reducer Pro-Flow Hose Ends shave off valuable inches in these tight applications.

Series 2000 Pro Flow Hose Ends feature the "single nipple" method of hose attachment. With the "single nipple" style, the socket draws over the hose between the inside of the socket and outside of the nipple. Making installation and reusing the hose ends a breeze.



STRAIGHT HOSE ENDS

Description	Part Number	Black
-8 Nut X -6 Hose	220107	220107BL
-10 Nut X -8 Hose	220109	220109BL
-16 Nut X -12 Hose	220115	220115BL



90° HOSE ENDS

Description	Part Number	Black
-8 Nut X -6 Hose	229007	229007BL
-10 Nut X -8 Hose	229009	229009BL
-16 Nut X -12 Hose	229015	229015BL



30° HOSE ENDS

Description	Part Number	Black
-8 Nut X -6 Hose	223007	223007BL
-10 Nut X -8 Hose	223009	223009BL
-16 Nut X -12 Hose	223015	223015BL



120° HOSE ENDS

Description	Part Number	Black
-8 Nut X -6 Hose	231207	231207BL
-10 Nut X -8 Hose	231209	231209BL
-16 Nut X -12 Hose	231215	231215BL



45° HOSE ENDS

Description	Part Number	Black
-8 Nut X -6 Hose	224507	224507BL
-10 Nut X -8 Hose	224509	224509BL
-16 Nut X -12 Hose	224515	224515BL



150° HOSE ENDS

Description	Part Number	Black
-8 Nut X -6 Hose	231507	231507BL
-10 Nut X -8 Hose	231509	231509BL
-16 Nut X -12 Hose	231515	231515BL



60° HOSE ENDS

Description	Part Number	Black
-8 Nut X -6 Hose	226007	226007BL
-10 Nut X -8 Hose	226009	226009BL
-16 Nut X -12 Hose	226015	226015BL



180° HOSE ENDS

Description	Part Number	Black
-8 Nut X -6 Hose	231807	231807BL
-10 Nut X -8 Hose	231809	231809BL
-16 Nut X -12 Hose	231815	231815BL

SERIES 3000 RACE HOSE ENDS

Fragola Performance Systems Series 3000 Hose Ends feature the "cutter" method of hose attachment. The socket draws the hose over the nipple and into the cutter. The seal is formed by the cutter imbedding itself into the end of the hose. If no color is specified, the standard part number is for the regular red and blue. Use these hose ends with our Series 3000 Stainless Race Hose only (page 17).



STRAIGHT BANJO HOSE ENDS WITH INTEGRAL BANJO BOLT

Secures banjo with snap ring. Black only.

Hose Size	Part Number	Bolt Thread
-6	100006BL	9/16-18
-8	100008BL	3/4-16
-10	100010BL	7/8-14
-12	100012BL	1 1/16-12
-16	100016BL	1 5/16-12
-16	100017BL	1 5/16-12*

*Secures banjo with special nut, for EZ between round maintenance.



STRAIGHT HOSE ENDS

Hose Size	Part Number	Black	Clear
-4	100104	100104BL	100104CL
-6	100106	100106BL	100106CL
-8	100108	100108BL	100108CL
-10	100110	100110BL	100110CL
-12	100112	100112BL	100112CL
-16	100116	100116BL	100116CL
-20	100120	100120BL	N/A



30° HOSE ENDS-BENT TUBE

Hose Size	Part Number	Black	Clear
-4*	103004	103004BL	103004CL
-6	103006	103006BL	103006CL
-8	103008	103008BL	103008CL
-10	103010	103010BL	103010CL
-12	103012	103012BL	103012CL
-16	103016	103016BL	103016CL



45° HOSE ENDS-BENT TUBE

Hose Size	Part Number	Black	Clear
-4*	104504	104504BL	104504CL
-6	104506	104506BL	104506CL
-8	104508	104508BL	104508CL
-10	104510	104510BL	104510CL
-12	104512	104512BL	104512CL
-16	104516	104516BL	104516CL

*Please note our -4 hose ends are non-swivel

SERIES 3000 RACE HOSE ENDS



60° HOSE ENDS-BENT TUBE

Hose Size	Part Number	Black	Clear
-4*	106004	106004BL	106004CL
-6	106006	106006BL	106006CL
-8	106008	106008BL	106008CL
-10	106010	106010BL	106010CL
-12	106012	106012BL	106012CL
-16	106016	106016BL	106016CL



90° HOSE ENDS-BENT TUBE

Hose Size	Part Number	Black	Clear
-4*	109004	109004BL	109004CL
-6	109006	109006BL	109006CL
-8	109008	109008BL	109008CL
-10	109010	109010BL	109010CL
-12	109012	109012BL	109012CL
-16	109016	109016BL	109016CL
-20	109020	109020BL	N/A



120° HOSE ENDS-BENT TUBE

Hose Size	Part Number	Black	Clear
-4*	112004	112004BL	112004CL
-6	112006	112006BL	112006CL
-8	112008	112008BL	112008CL
-10	112010	112010BL	112010CL
-12	112012	112012BL	112012CL
-16	112016	112016BL	112016CL



150° HOSE ENDS-BENT TUBE

Hose Size	Part Number	Black	Clear
-4*	115004	115004BL	115004CL
-6	115006	115006BL	115006CL
-8	115008	115008BL	115008CL
-10	115010	115010BL	115010CL
-12	115012	115012BL	115012CL
-16	115016	115016BL	115016CL

*Please note our -4 hose ends are non-swivel



SERIES 3000 RACE HOSE ENDS



180° HOSE ENDS-BENT TUBE

Hose Size	Part Number	Black	Clear
-4	118004	118004BL	118004CL
-6	118006	118006BL	118006CL
-8	118008	118008BL	118008CL
-10	118010	118010BL	118010CL
-12	118012	118012BL	118012CL
-16	118016	118016BL	118016CL



45° HOSE ENDS LOW PROFILE

Hose Size	Part Number	Black
-6	104606	104606BL
-8	104608	104608BL
-10	104610	104610BL
-12	104612	104612BL
-16	104616	104616BL
-20	104620	104620BL



90° HOSE ENDS LOW PROFILE

Hose Size	Part Number	Black
-6	109106	109106BL
-8	109108	109108BL
-10	109110	109110BL
-12	109112	109112BL
-16	109116	109116BL
-20	109120	109120BL



SERIES 3000 DIRECT FIT HOSE ENDS

In some applications the extra height of the adapter makes the installation very tight. Direct Fit Hose Ends help shave valuable inches in tight applications. Fragola Performance Systems Series 3000 Hose Ends feature the "cutter" method of hose attachment. The socket draws the hose over the nipple and into the cutter. The seal is formed by the cutter imbedding itself into the end of the hose. Use these hose ends with our Series 3000 Stainless Race Hose only (page 17).

STRAIGHT WITH A-N THREADS

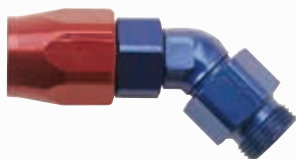
"O" rings included, replacements on page 51



Hose Size	Thread	Part Number	Black
-6	9/16-18 (6)	180106	180106BL
-8	3/4-16 (8)	180108	180108BL
-10	7/8-14 (10)	180110	180110BL
-12	1 1/16-12 (12)	180112	180112BL
-16	1 5/16-12 (16)	180116	180116BL
-16	1 1/16-12 (12)	180120	180120BL
-12	1 5/16-12 (16)	180122	180122BL

45° LOW PROFILE WITH A-N THREADS

"O" rings included, replacements on page 51



Hose Size	Thread	Part Number	Black
-6	7/16-20 (4)	184564	184564BL
-6	9/16-18 (6)	184506	184506BL
-6	9/16-24 (Demon)	184567	184567BL
-6	1/2-20	184550	184550BL
-6	3/4-16 (8)	184568	184568BL
-6	7/8-20 (Holley)	184569	184569BL
-8	9/16-18 (6)	184507	184507BL
-8	3/4-16 (8)	184508	184508BL
-8	7/8-14 (10)	184581	184581BL
-10	3/4-16 (8)	184509	184509BL
-10	7/8-14 (10)	184510	184510BL
-10	1 1/16-12 (12)	184511	184511BL
-12	1 1/16-12 (12)	184512	184512BL
-12	7/8-14 (10)	184513	184513BL
-12	1 5/16-12 (16)	184514	184514BL
-16	1 5/16-12 (16)	184516	184516BL

90° LOW PROFILE WITH A-N THREADS

"O" rings included, replacements on page 51



Hose Size	Thread	Part Number	Black
-6	9/16-18 (6)	189006	189006BL
-6	7/16-20 (4)	189064	189064BL
-6	1/2-20	189050	189050BL
-6	3/4-16 (8)	189068	189068BL
-8	9/16-18 (6)	189007	189007BL
-8	3/4-16 (8)	189008	189008BL
-8	7/8-14 (10)	189081	189081BL
-10	3/4-16 (8)	189009	189009BL
-10	7/8-14 (10)	189010	189010BL
-10	1 1/16-12 (12)	189011	189011BL
-12	1 1/16-12 (12)	189012	189012BL
-12	7/8-14 (10)	189013	189013BL
-12	1 5/16-12 (16)	189014	189014BL
-16	1 5/16-12 (16)	189016	189016BL

SERIES 3000 DIRECT FIT HOSE ENDS

STRAIGHT WITH PIPE THREADS



Hose Size	Thread	Part Number	Black
-6	1/4 MPT	190106	190106BL
-6	1/8 MPT	190162	190162BL
-6	3/8 MPT	190166	190166BL
-8	1/4 MPT	190107	190107BL
-8	3/8 MPT	190108	190108BL
-8	1/2 MPT	190168	190168BL
-10	3/4 MPT	190109	190109BL
-10	1/2 MPT	190110	190110BL
-10	3/8 MPT	190111	190111BL
-12	3/4 MPT	190112	190112BL
-12	1/2 MPT	190113	190113BL

45° LOW PROFILE WITH PIPE THREADS



Hose Size	Thread	Part Number	Black
-6	1/4 MPT	194506	194506BL
-6	1/8 MPT	194562	194562BL
-6	3/8 MPT	194566	194566BL
-6	1/2 MPT	194568	194568BL
-8	1/4 MPT	194507	194507BL
-8	3/8 MPT	194508	194508BL
-8	1/2 MPT	194588	194588BL
-10	3/4 MPT	194509	194509BL
-10	1/2 MPT	194510	194510BL
-10	3/8 MPT	194511	194511BL
-12	3/4 MPT	194512	194512BL
-12	1/2 MPT	194513	194513BL

90° LOW PROFILE WITH PIPE THREADS



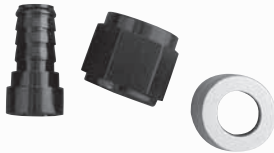
Hose Size	Thread	Part Number	Black
-6	1/4 MPT	199006	199006BL
-6	1/8 MPT	199062	199062BL
-6	3/8 MPT	199066	199066BL
-6	1/2 MPT	199068	199068BL
-8	1/4 MPT	199007	199007BL
-8	3/8 MPT	199008	199008BL
-8	1/2 MPT	199088	199088BL
-10	3/4 MPT	199009	199009BL
-10	1/2 MPT	199010	199010BL
-10	3/8 MPT	199011	199011BL
-12	3/4 MPT	199012	199012BL
-12	1/2 MPT	199013	199013BL

SPORT-CRIMP HOSE ENDS

Fragola's Sport-Crimp Hose Ends share the same high quality design components as our 3000 Series Race Hose Ends. They feature a crimp collar, that threads onto the Hose End body. This assures the user of a perfect crimp connection every time. These Hose Ends are also adjustable in the field, due to Fragola's unique "double swivel" design.

One of the best features of our Sport-Crimp Hose Ends is that it has been designed to work with a more economical hose. Sport Crimp Fittings should be used with our 840000 Series Black Nylon Race Hose (page 16) or our 3000 Series Stainless Race Hose (page 17)

STRAIGHT HOSE ENDS



A-N Size	Part Number
-4	3100104
-6	3100106
-8	3100108
-10	3100110
-12	3100112
-16	3100116

90° HOSE ENDS



A-N Size	Part Number
-4	3109004*
-6	3109006
-8	3109008
-10	3109010
-12	3109012
-16	3109016

30° HOSE ENDS



A-N Size	Part Number
-6	3103006
-8	3103008
-10	3103010
-12	3103012
-16	3103016

90° HOSE ENDS, LOW PROFILE



A-N Size	Part Number
-6	3109106
-8	3109108
-10	3109110
-12	3109112
-16	3109116

45° HOSE ENDS



A-N Size	Part Number
-4	3104504*
-6	3104506
-8	3104508
-10	3104510
-12	3104512
-16	3104516

120° HOSE ENDS



A-N Size	Part Number
-6	3112006
-8	3112008
-10	3112010
-12	3112012
-16	3112016

60° HOSE ENDS



A-N Size	Part Number
-6	3106006
-8	3106008
-10	3106010
-12	3106012
-16	3106016

150° HOSE ENDS



A-N Size	Part Number
-6	3115006
-8	3115008
-10	3115010
-12	3115012
-16	3115016

*Please note that our -4 hose ends are non-swivel

SPORT CRIMP FITTING SPECIFICATIONS

AN Size	Black Nylon Race Hose & 3000 Series Stainless Hose Crimp Diameter +/- .005"	Crimp Length
-4	.480"	Full
-6	.665"	Full
-8	.750"	Full
-10	.912"	Full
-12	1.090"	Full
-16	1.275"	Full

180° HOSE ENDS



A-N Size	Part Number
-6	3118006
-8	3118008
-10	3118010
-12	3118012
-16	3118016

SPORT-CRIMP DIRECT FIT & LOW PROFILE HOSE ENDS

In some applications the extra height of the adapter makes the installation very tight. Direct Fit & Low Profile Hose Ends help shave valuable inches in tight applications. Fragola Performance Systems Sport-Crimp Direct Fit & Low Profile Hose Ends feature a crimp collar that threads onto the Hose End body. This ensures the user of a perfect, concentric crimp every time. All of these hose ends feature Fragola's unique "double swivel" design so they are adjustable in the field.



30° HOSE ENDS

Hose Size	Thread	Part Number
-10	7/8-14 (10)	3103010RAD
-12	1 1/16-12 (12)	3103012RAD



90° HOSE ENDS

Hose Size	Thread	Part Number
-10	7/8-14 (10)	3109010RAD
-12	1 1/16-12 (12)	3109012RAD



45° HOSE ENDS

Hose Size	Thread	Part Number
-10	7/8-14 (10)	3104510RAD
-12	1 1/16-12 (12)	3104512RAD



120° HOSE ENDS

Hose Size	Thread	Part Number
-10	7/8-14 (10)	3112010RAD
-12	1 1/16-12 (12)	3112012RAD



60° HOSE ENDS

Hose Size	Thread	Part Number
-10	7/8-14 (10)	3106010RAD
-12	1 1/16-12 (12)	3106012RAD



150° HOSE ENDS

Hose Size	Thread	Part Number
-10	7/8-14 (10)	3115010RAD
-12	1 1/16-12 (12)	3115012RAD



REPLACEMENT CRIMP COLLARS

Size	Part Number
-4	3100004S
-6	3100006S
-8	3100008S
-10	3100010S
-12	3100012S
-16	3100016S



180° HOSE ENDS

Hose Size	Thread	Part Number
-10	7/8-14 (10)	3118010RAD
-12	1 1/16-12 (12)	3118012RAD



90° HOSE ENDS, LOW PROFILE - ORB

Hose Size	Thread	Part Number
-6	9/16-18 (6)	3109706
-8	9/16-18 (6)	3109707
-8	3/4-16 (8)	3109708
-10	3/4-16 (8)	3109709
-10	7/8-14 (10)	3109710
-10	1 1-1/16-12 (12)	3109711
-6	3/4-16 (8)	3109768
-8	7/8-14 (10)	3109781

90° HOSE ENDS, LOW PROFILE - NPT

Hose Size	Thread	Part Number
-6	1/4 NPT	3109906
-8	1/4 NPT	3109907
-8	3/8 NPT	3109908
-10	3/4 NPT	3109909
-10	1/2 NPT	3109910
-10	3/8 NPT	3109911
-6	1/8 NPT	3109962
-6	3/8 NPT	3109966
-6	1/2 NPT	3109968
-8	1/2 NPT	3109988

PREMIUM BLACK NYLON RACE HOSE

PLEASE NOTE

On bulk lengths of hose over 20 feet, Fragola Performance Systems reserves the right to ship plus or minus 15% in length in order to reduce the number of unsaleable pieces in stock. If you need a specific length for your job, please notify your sales person of the minimum acceptable length.

Recommended for Motorsports applications, the black synthetic rubber core is resistant to oil, fuels, coolants, and alcohols.

- 500 PSI working pressure covers most oil, water, and fuel systems you may encounter.
- Reinforced with a single braid of bright corrosion resistant type 302 stainless steel wire braid.
- Operating range of -40° F to +300° F.
- Black Braided Nylon Cover makes this lightweight hose both durable and attractive.
- Designed to be used with FPS Series 2000 Hose Ends, (pg. 4) and FPS Sport-Crimp Hose Ends (pg. 14)
 - This hose is not intended to be used with 3000 Series Hose Ends.

As a rule of thumb when selecting AN Hose to replace a given size automotive hose, the dash size is the nominal size 1/16". Example -10, is 10/16" or 5/8" Automotive hose. The AN hose will be slightly smaller due to the thickness of the hose.



Desc. (In.)	Hose I.D.	Hose O.D.	Bulk Per FT.	3 FT. Roll	6 FT. Roll	10 FT. Roll	15 FT. Roll	20 FT. Roll
#4	7/32"	.440"	840004	840304	840604	841004	841504	842004
#6	11/32"	.560"	840006	840306	840606	841006	841506	842006
#8	7/16"	.670"	840008	840308	840608	841008	841508	842008
#10	9/16"	.820"	840010	840310	840610	841010	841510	842010
#12	11/16"	.960"	840012	840312	840612	841012	841512	842012
#16	7/8"	1.150"	840016	840316	840616	841016	841516	842016

TECHNICAL SPECIFICATIONS

Part	AN Size	Working Pressure	Vacuum Rating	Minimum Bend Radius	Weight Per FT.
840004	#4	500	28 in. hg.	2.0	0.075
840006	#6	500	28 in. hg.	2.5	0.095
840008	#8	500	28 in. hg.	3.5	0.120
840010	#10	500	28 in. hg.	4.0	0.155
840012	#12	350	28 in. hg.	4.5	0.250
840016	#16	350	28 in. hg.	5.5	0.320

SERIES 3000 STAINLESS RACE HOSE

PLEASE NOTE

On bulk lengths of hose over 20 feet, Fragola Performance Systems reserves the right to ship plus or minus 15% in length in order to reduce the number of unsaleable pieces in stock. If you need a specific length for your job, please notify your sales person of the minimum acceptable length.

FPS Series 3000 Race Hose is manufactured to the highest aerospace-quality standard for years of trouble-free service even in the most demanding circumstances.

- 500-1500 psi. working pressure covers most of the oil, water and fuel systems you may encounter.
- Two layers of rugged woven stainless steel.
- Inner layer resists collapse and the outer layer protect against abrasion.
- Unique CPFE inner liner is compatible with all hydrocarbon and alcohol based fuels, along with synthetic and natural based lubricants.
- Operating range of -40° F to +300° F.
- Designed to be used with FPS Series 2000 "Pro-Flow", Series 3000 "Race" Hose Ends, and Sport Crimp Race Hose Ends.

As a rule of thumb when selecting an A-N hose to replace a given size automotive hose, the dash size is the nominal size in 1/16". Example: -10, is 10/16" or equivalent 5/8" automotive hose. The A-N hose will be slightly smaller due to the wall thickness of the hose.

A-N Size	Nom I.D.	Hose O.D.	Bulk Per FT.	3 FT. Roll	6 FT. Roll	10 FT. Roll	15 FT. Roll	20 FT. Roll
#4	7/32"	.450"	700004	703004	706004	710004	715004	720004
#6	11/32"	.550"	700006	703006	706006	710006	715006	720006
#8	7/16"	.660"	700008	703008	706008	710008	715008	720008
#10	9/16"	.805"	700010	703010	706010	710010	715010	720010
#12	11/16"	.935"	700012	703012	706012	710012	715012	720012
#16	7/8"	1.150"	700016	703016	706016	710016	715016	720016
#20	1 1/8"	1.460"	700020	703020	706020	710020	715020	720020

TECH TIP:

On some high vacuum applications FPS offers a stainless inner support spring as extra insurance against hose collapsing. See page 50 for the complete listing.

TECHNICAL SPECIFICATIONS

Part Number	A-N Size	Working Pressure	Vacuum Rating	Minimum Bend Radius	Weight Per FT.
700004	-4	1500 psi.	27 in. hg.	2"	0.12 lbs.
700006	-6	1500 psi.	27 in. hg.	2 1/2"	0.15 lbs.
700008	-8	1250 psi.	27 in. hg.	3 1/2"	0.18 lbs.
700010	-10	1250 psi.	27 in. hg.	4"	0.23 lbs.
700012	-12	1000 psi.	27 in. hg.	4 1/2"	0.28 lbs.
700016	-16	750 psi.	22 in. hg.	5 1/2"	0.40 lbs.
700020	-20	500 psi.	22 in. hg.	8"	0.61 lbs.

SERIES 8000 PUSH-LITE RACE HOSE ENDS

STRAIGHT RACE HOSE ENDS



Size	Part #	Black	Clear
-4	200104	200104BL	200104CL
-6	200106	200106BL	200106CL
-8	200108	200108BL	200108CL
-10	200110	200110BL	200110CL
-12	200112	200112BL	200112CL
-16	200116	200116BL	N/A
-20	N/A	200120BL	N/A

120° RACE HOSE ENDS



Size	Part #	Black	Clear
-6	212006	212006BL	212006CL
-8	212008	212008BL	212008CL
-10	212010	212010BL	212010CL
-12	212012	212012BL	212012CL
-16	212016	212016BL	N/A

30° RACE HOSE ENDS



Size	Part #	Black	Clear
-6	203006	203006BL	203006CL
-8	203008	203008BL	203008CL
-10	203010	203010BL	203010CL
-12	203012	203012BL	203012CL
-16	203016	203016BL	N/A

150° RACE HOSE ENDS



Size	Part #	Black	Clear
-6	215006	215006BL	215006CL
-8	215008	215008BL	215008CL
-10	215010	215010BL	215010CL
-12	215012	215012BL	215012CL
-16	215016	215016BL	N/A

45° RACE HOSE ENDS



Size	Part #	Black	Clear
-4	204504	204504BL	204504CL
-6	204506	204506BL	204506CL
-8	204508	204508BL	204508CL
-10	204510	204510BL	204510CL
-12	204512	204512BL	204512CL
-16	204516	204516BL	N/A

180° RACE HOSE ENDS



Size	Part #	Black	Clear
-6	218006	218006BL	218006CL
-8	218008	218008BL	218008CL
-10	218010	218010BL	218010CL
-12	218012	218012BL	218012CL
-16	218016	218016BL	N/A

60° RACE HOSE ENDS



Size	Part #	Black	Clear
-6	206006	206006BL	206006CL
-8	206008	206008BL	206008CL
-10	206010	206010BL	206010CL
-12	206012	206012BL	206012CL
-16	206016	206016BL	N/A

90° X REDUCER RACE HOSE ENDS



Size	Part #	Black
-8 X 3/8 (-6) BARB	209108	209108BL
-10 X 5/8 (-8) BARB	209110	209110BL

90° RACE HOSE ENDS



Size	Part #	Black	Clear
-4	209004	209004BL	209004CL
-6	209006	209006BL	209006CL
-8	209008	209008BL	209008CL
-10	209010	209010BL	209010CL
-12	209012	209012BL	209012CL
-16	209016	209016BL	N/A
-20	N/A	209020BL	N/A

STRAIGHT X REDUCER RACE HOSE ENDS



Size	Part #	Black
-8 X 3/8 (-6) BARB	200107	200107BL
-10 X 5/8 (-8) BARB	200109	200109BL

PUSH-LOC X MPT HOSE ENDS



Size	Part #	Black
-6 X 3/8 MPT	200123	200123BL
-6 X 1/2 MPT	200124	200124BL

8000 PUSH-LOK GENERAL PURPOSE HOSE

FPS Series 8000 Push-Lite Race Hose is manufactured to the same rigorous standards as our Series 3000 Stainless Race Hose. It is the perfect alternative when cost or weight is the main consideration.

- 250 PSI maximum working pressure allows for most automotive water, oil and fuel systems.
- Inner layer of synthetic PKR covered with a fiber braid reinforcement and wrapped with a weather-resistant textile cover.
- Temperature range to 300° F.
- Hose assemblies with Push-Lite Hose are over half the weight of the same stainless hose assembly.
- For high heat or higher-pressure applications, we recommend our light-weight stainless band clamps. See page 51 for details.

The Series 8000 Push-Lite Hose may be used in any number of automotive applications. If you are using fittings other than our Series 8000 Push-Lite Hose Ends, be sure to measure the hose barb diameter to determine suitability. This hose is sized fractionally, but the suitability is at the sole determination of the end user.

A-N Size	Nom I.D.	Hose O.D.	Bulk Per FT.	3 FT. Roll	6 FT. Roll	10 FT. Roll	15 FT. Roll	20 FT. Roll
-4	1/4"	.510"	800004	803004	806004	810004	815004	820004
-6	3/8"	.625"	800006	803006	806006	810006	815006	820006
-8	1/2"	.770"	800008	803008	806008	810008	815008	820008
-10	5/8"	.910"	800010	803010	806010	810010	815010	820010
-12	3/4"	1.030"	800012	803012	806012	810012	815012	820012

TECH TIP:

To ease the installation of any push on hose ends, first dip the end of the hose in boiling water to soften it slightly, (a heat gun will also work). Clamp the hose end in a vise and apply a light oil to the hose end barb. Then push the hose over the barbs with one smooth movement.



Steve Van Blarcom
Connecticut

TECHNICAL SPECIFICATIONS

Part Number	Size	Push-Lite Designation	Max Burst Pressure	Vacuum Rating	Weight Per FT.
800004	1/4"	-4	350 psi.	28 in. hg.	0.09 lbs.
800006	3/8"	-6	300 psi.	28 in. hg.	0.11 lbs.
800008	1/2"	-8	300 psi.	28 in. hg.	0.18 lbs.
800010	5/8"	-10	250 psi.	15 in. hg.	0.19 lbs.
800012	3/4"	-12	250 psi.	15 in. hg.	0.24 lbs.

PLEASE NOTE

On bulk lengths of hose over 20 feet, Fragola Performance Systems reserves the right to ship plus or minus 15% in length, in order to reduce the number of unsaleable pieces in stock. If you need a specific length for your job, please notify your sales person of the minimum acceptable length.



SERIES 8600-8700 PARKER PUSH-LOK GENERAL PURPOSE HOSE

Parker Push-Lok is the performance standard for a multitude of applications. It is manufactured to the same rigorous standards as all of Parker's products. This hose performs well when used within the temperature and pressure parameters that it was designed for:

- 250 psi. maximum pressure for most oil, water and fuel applications.
- Temperature range -40° F to +212° F.

Synthetic rubber tube is covered with one layer of textile braid, combined with an outer layer of synthetic colored rubber. Sized in fractions and may be used with any push-on style fitting. Series 8000 Push Lite Race Hose Ends work well with this type of hose.

A-N Size	Nom I.D.	Hose O.D.	Bulk Per FT.		3 FT.		6 FT.		10 FT.		15 FT.		20 FT.	
			Blue	Black	Blue	Black	Blue	Black	Blue	Black	Blue	Black	Blue	Black
-4	1/4"	.510"	860004	870004	863004	873004	866004	876004	861004	871004	861504	871504	862004	872004
-6	3/8"	.625"	860006	870006	863006	873006	866006	876006	861006	871006	861506	871506	862006	872006
-8	1/2"	.790"	860008	870008	863008	873008	866008	876008	861008	871008	861508	871508	862008	872008
-10	5/8"	.910"	860010	870010	863010	873010	866010	876010	861010	871010	861510	871510	862010	872010
-12	3/4"	1.040"	860012	870012	863012	873012	866012	876012	861012	871012	861512	871512	862012	872012
-16	1"	1.310"	860016	870016	863016	873016	866016	876016	861016	871016	861516	871516	862016	872016
-20	1 1/4"	1.650"	N/A	870020	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

**NOW AVAILABLE IN
BLACK**



TECHNICAL SPECIFICATIONS

Size	A-N Designation	Max Working Pressure	Vacuum Rating	Weight Per FT.
1/4"	-4	250 psi.	28 in. hg.	.09 lbs.
3/8"	-6	250 psi.	28 in. hg.	.11 lbs.
1/2"	-8	250 psi.	28 in. hg.	.18 lbs.
5/8"	-10	250 psi.	15 in. hg.	.19 lbs.
3/4"	-12	250 psi.	15 in. hg.	.24 lbs.
1"	-16	175 psi.	15 in. hg.	.55 lbs.

RECOMMENDED ACCESSORIES

Rubber hose cutter part number 900066. See Page 58 for details.



Push Lock clamps and pliers. See page 56 for details



PLEASE NOTE

On bulk lengths of hose over 20 feet, Fragola Performance Systems reserves the right to ship plus or minus 15% in length in order to reduce the number of unsaleable pieces in stock. If you need a specific length for your job, please notify your sales person of the minimum acceptable length.

ALUMINUM A-N ADAPTERS

If no color is specified for the adapter, the standard color is blue.



STRAIGHT ADAPTERS - 816

Description	Part Number	Black	Clear	Chrome
-3 X 1/16" MPT	481601	481601BL	N/A	N/A
-3 X 1/8" MPT	481603	481603BL	481603CL	N/A
-3 X 1/4" MPT	481634	481634BL	N/A	N/A
-3 X 3/8" MPT	481636	481636BL	N/A	N/A
-4 X 1/16" MPT	481602	481602BL	N/A	N/A
-4 X 1/8" MPT	481604	481604BL	481604CL	N/A
-4 X 1/4" MPT	481605	481605BL	481605CL	N/A
-4 X 3/8" MPT	481644	481644BL	481644CL	N/A
-6 X 1/8" MPT	481662	481662BL	481662CL	N/A
-6 X 1/4" MPT	481606	481606BL	481606CL	N/A
-6 X 3/8" MPT	481666	481666BL	481666CL	481666CH
-6 X 1/2" MPT	481668	481668BL	481668CL	481668CH
-8 X 1/4" MPT	481607	481607BL	481607CL	N/A
-8 X 3/8" MPT	481608	481608BL	481608CL	481608CH
-8 X 1/2" MPT	481688	481688BL	481688CL	481688CH
-8 X 3/4" MPT	481617	481617BL	N/A	N/A
-10 X 3/8" MPT	481611	481611BL	481611CL	N/A
-10 X 1/2" MPT	481610	481610BL	481610CL	N/A
-10 X 3/4" MPT	481609	481609BL	481609CL	N/A
-12 X 1/2" MPT	481613	481613BL	481613CL	N/A
-12 X 3/4" MPT	481612	481612BL	481612CL	N/A
-12 X 1" MPT	481619	481619BL	N/A	N/A
-16 X 3/4" MPT	481615	481615BL	481615CL	N/A
-16 X 1" MPT	481616	481616BL	481616CL	N/A
-20 X 1" MPT	481621	481621BL	N/A	N/A
-20 X 1 1/4" MPT	481620	481620BL	N/A	N/A

AN X NPS THREAD, TRANSMISSION FITTINGS



Description	Part Number
6AN x 1/4" NPS	481670BL
6AN x 1/8" NPS	481671BL
6AN x 1/4" NPS	481672BL (Use for rear 4L80E trans line)
8AN X 1/4" NPS	481673BL

OIL PRESSURE INLET FITTINGS - 817



Hose	Part Number
-10 X 1/2 NPT, 3.2" Long	481710BL
-12 X 1/2 NPT, 3.2" Long	481712BL
-10 X 1/2 NPT, 4.4" Long	481713BL
-12 X 1/2 NPT, 4.4" Long	481714BL

ALUMINUM A-N ADAPTERS

If no color is specified for the adapter, the standard color is blue.



90° ADAPTERS - 822

Description	Part Number	Black	Clear
-3 X 1/8" MPT	482203	482203BL	482203CL
-3 X 1/4" MPT	482234	482234BL	N/A
-3 X 3/8" MPT	482236	482236BL	N/A
-4 X 1/8" MPT	482204	482204BL	482204CL
-4 X 1/4" MPT	482244	482244BL	482244CL
-4 X 3/8" MPT	482238	482238BL	N/A
-6 X 1/8" MPT	482262	482262BL	482262CL
-6 X 1/4" MPT	482206	482206BL	482206CL
-6 X 3/8" MPT	482266	482266BL	482266CL
-6 X 1/2" MPT	482268	482268BL	482268CL
-8 X 1/4" MPT	482207	482207BL	482207CL
-8 X 3/8" MPT	482208	482208BL	482208CL
-8 X 1/2" MPT	482288	482288BL	482288CL
-8 X 3/4" MPT	482217	482217BL	N/A
-10 X 3/4" MPT	482209	482209BL	482209CL
-10 X 1/2" MPT	482210	482210BL	482210CL
-10 X 3/8" MPT	482211	482211BL	482211CL
-12 X 3/4" MPT	482212	482212BL	482212CL
-12 X 1/2" MPT	482213	482213BL	482213CL
-12 X 1" MPT	482219	482219BL	N/A
-16 X 3/4" MPT	482215	482215BL	482215CL
-16 X 1" MPT	482216	482216BL	482216CL

45° ADAPTERS - 823

Description	Part Number	Black	Clear
-3 X 1/8" MPT	482303	482303BL	482303CL
-3 X 1/4" MPT	482334	482334BL	N/A
-3 X 3/8" MPT	482336	482336BL	N/A
-4 X 1/8" MPT	482304	482304BL	482304CL
-4 X 1/4" MPT	482344	482344BL	482344CL
-4 X 3/8" MPT	482338	482338BL	N/A
-6 X 1/8" MPT	482362	482362BL	482362CL
-6 X 1/4" MPT	482306	482306BL	482306CL
-6 X 3/8" MPT	482366	482366BL	482366CL
-6 X 1/2" MPT	482368	482368BL	482368CL
-8 X 1/2" MPT	482388	482388BL	482388CL
-8 X 1/4" MPT	482307	482307BL	482307CL
-8 X 3/8" MPT	482308	482308BL	482308CL
-8 X 3/4" MPT	482317	482317BL	N/A
-10 X 1/2" MPT	482310	482310BL	482310CL
-10 X 3/8" MPT	482311	482311BL	482311CL
-10 X 3/4" MPT	482309	482309BL	N/A
-12 X 1/2" MPT	482313	482313BL	482313CL
-12 X 3/4" MPT	482312	482312BL	482312CL
-12 X 1" MPT	482319	482319BL	N/A
-16 X 3/4" MPT	482315	482315BL	N/A
-16 X 1" MPT	482316	482316BL	482316CL



ALUMINUM A-N ADAPTERS

TEE - 824



Description	Part Number	Black	Clear
-3 TEE	482403	482403BL	482403CL
-4 TEE	482404	482404BL	482404CL
-6 TEE	482406	482406BL	482406CL
-8 TEE	482408	482408BL	482408CL
-10 TEE	482410	482410BL	482410CL
-12 TEE	482412	482412BL	482412CL
-16 TEE	482416	482416BL	482416CL

UNION - 815



Description	Part Number	Black	Clear
-3 X -3	481503	481503BL	481503CL
-4 X -4	481504	481504BL	481504CL
-6 X -6	481506	481506BL	481506CL
-8 X -8	481508	481508BL	481508CL
-10 X -10	481510	481510BL	481510CL
-12 X -12	481512	481512BL	481512CL
-16 X -16	481516	481516BL	481516CL
-20 X -20	481520	481520BL	N/A

STRAIGHT BULKHEAD - 832



Description	Part Number	Black	Clear
-3	483203	483203BL	483203CL
-4	483204	483204BL	483204CL
-6	483206	483206BL	483206CL
-8	483208	483208BL	483208CL
-10	483210	483210BL	483210CL
-12	483212	483212BL	483212CL
-16	483216	483216BL	483216CL
-20	483220	483220BL	483220CL



MALE CROSS FITTING ADAPTER (X)

Description	Part Number
-6 A-N 9/16-18	900656BL

VJ McDonald
Pipersville, PA



ALUMINUM A-N ADAPTERS

45° BULKHEAD - 837

Description Blue Black

-3 X 45°	483703	483703BL
-4 X 45°	483704	483704BL
-6 X 45°	483706	483706BL
-8 X 45°	483708	483708BL
-10 X 45°	483710	483710BL
-12 X 45°	483712	483712BL
-16 X 45°	483716	483716BL



BULKHEAD TEE ON-THE-RUN - 804

Description Blue Black

-3	480403	480403BL
-4	480404	480404BL
-6	480406	480406BL
-8	480408	480408BL
-10	480410	480410BL
-12	480412	480412BL
-16	480416	480416BL

90° BULKHEAD - 833

Description Blue Black

-3 X 90°	483303	483303BL
-4 X 90°	483304	483304BL
-6 X 90°	483306	483306BL
-8 X 90°	483308	483308BL
-10 X 90°	483310	483310BL
-12 X 90°	483312	483312BL
-16 X 90°	483316	483316BL



ALUMINUM TEE PIPE ON-THE-SIDE - 825

Description Blue Black

-3 X 1/8 MPT	482503	482503BL
-4 X 1/8 MPT	482504	482504BL
-6 X 1/4 MPT	482506	482506BL
-8 X 3/8 MPT	482508	482508BL
-10 X 1/2 MPT	482510	482510BL

BULKHEAD TEE ON-THE-SIDE - 834

Description Blue Black

-3	483403	483403BL
-4	483404	483404BL
-6	483406	483406BL
-8	483408	483408BL
-10	483410	483410BL
-12	483412	483412BL
-16	483416	483416BL



ALUMINUM TEE PIPE ON-THE-RUN - 826

Description Blue Black

-3 X 1/8 MPT	482603	482603BL
-4 X 1/8 MPT	482604	482604BL
-6 X 1/4 MPT	482606	482606BL
-8 X 3/8 MPT	482608	482608BL
-10 X 1/2 MPT	482610	482610BL

FUEL CELL BULKHEAD - 831

Description Black

-6	483106BL
-8	483108BL
-10	483110BL
-12	483112BL



BULKHEAD NUT - 924

A-N Size	Thread Size	Part Number	Black	Clear
-3	3/8-24	492403	492403BL	492403CL
-4	7/16-20	492404	492404BL	492404CL
-6	9/16-18	492406	492406BL	492406CL
-8	3/4-16	492408	492408BL	492408CL
-10	7/8-14	492410	492410BL	492410CL
-12	1 1/16-12	492412	492412BL	492412CL
-16	1 5/16-12	492416	492416BL	492416CL
-20	1 5/8-12	492420	492420BL	492420CL



ALUMINUM A-N ADAPTERS

ALUMINUM FLARE PLUG - 806

Description	Blue	Black
-3 A-N	480603	480603BL
-4 A-N	480604	480604BL
-6 A-N	480606	480606BL
-8 A-N	480608	480608BL
-10 A-N	480610	480610BL
-12 A-N	480612	480612BL
-16 A-N	480616	480616BL
-20 A-N	480620	480620BL



ALUMINUM PORT PLUG - 814 "O" Rings Included

Description	Blue	Black
-3 (3/8-24)	481403	481403BL
-4 (7/16-20)	481404	481404BL
-6 (9/16-18)	481406	481406BL
-8 (3/4-16)	481408	481408BL
-10 (7/8-14)	481410	481410BL
-12 (1 1/16-12)	481412	481412BL
-16 (1 5/16-12)	481416	481416BL



ALUMINUM FLARE CAP - 929

Description	Blue	Black
-3 Cap	492903	492903BL
-4 Cap	492904	492904BL
-6 Cap	492906	492906BL
-8 Cap	492908	492908BL
-10 Cap	492910	492910BL
-12 Cap	492912	492912BL
-16 Cap	492916	492916BL
-20 Cap	492920	492920BL
-6 w/ 1/8 FPT	492926	492926BL
-8 w/ 1/8 FPT	492928	492928BL



ALUMINUM MALE REDUCERS - 919

Description	Blue	Black
-3 X -4	491902	491902BL
-4 X -6	491906	491906BL
-4 X -8	491908	491908BL
-6 X -8	491912	491912BL
-4 X -10	491913	491913BL
-6 X -10	491914	491914BL
-8 X -10	491915	491915BL
-4 X -12	491916	491916BL
-12 X -6	491918	491918BL
-12 X -8	491919	491919BL
-10 X -12	491920	491920BL
-10 X -16	491922	491922BL
-12 X -16	491923	491923BL
-12 X -20	491925	491925BL
-16 X -20	491926	491926BL



INTERNAL PIPE PLUG - 932

Description	Blue	Black
1/16 MPT	493201	493201BL
1/8 MPT	493202	493202BL
1/4 MPT	493203	493203BL
3/8 MPT	493204	493204BL
1/2 MPT	493205	493205BL
3/4 MPT	493206	493206BL
1 MPT	493207	493207BL



HEX PIPE PLUG - 933

Description	Blue	Black
1/8 MPT	493301	493301BL
1/4 MPT	493302	493302BL
3/8 MPT	493303	493303BL
1/2 MPT	493304	493304BL
3/4 MPT	493306	493306BL



ALUMINUM A-N ADAPTERS



SOCKET HEX PORT PLUG - 813

Description	Black Only
-4	481304BL
-6	481306BL
-8	481308BL
-10	481310BL
-12	481312BL

FEMALE SWIVELS - 961

Description	Blue	Black
-3	496103	496103BL
-4	496104	496104BL
-6	496106	496106BL
-6 X -8	496107	496107BL
-8	496108	496108BL
-8 X -10	496109	496109BL
-10	496110	496110BL
-12	496112	496112BL
-16	496116	496116BL



FEMALE - FEMALE 90° TUBE STYLE - 963

Description	Black Only
-4 X 90°	496321BL
-6 X 90°	496317BL
-8 X 90°	496318BL
-10 X 90°	496319BL
-12 X 90°	496320BL



FEMALE TO MALE 90° SWIVELS - 981

Description	Blue	Black
-3 X 90°	498101	498101BL
-4 X 90°	498102	498102BL
-6 X 90°	498103	498103BL
-8 X 90°	498104	498104BL
-10 X 90°	498105	498105BL
-12 X 90°	498106	498106BL
-16 X 90°	498108	498108BL



FEMALE TO MALE 45° SWIVELS - 980

Description	Blue	Black
-3 X 45°	498001	498001BL
-4 X 45°	498002	498002BL
-6 X 45°	498003	498003BL
-8 X 45°	498004	498004BL
-10 X 45°	498005	498005BL
-12 X 45°	498006	498006BL
-16 X 45°	498008	498008BL



FEMALE TO FEMALE 45° COUPLER - 962

Description	Blue	Black
-3 X 45°	496203	496203BL
-4 X 45°	496204	496204BL
-6 X 45°	496206	496206BL
-8 X 45°	496208	496208BL
-10 X 45°	496210	496210BL
-12 X 45°	496212	496212BL
-16 X 45°	496216	496216BL

FEMALE TO FEMALE 90° COUPLER - 963

Description	Blue	Black
-3 X 90°	496303	496303BL
-4 X 90°	496304	496304BL
-6 X 90°	496306	496306BL
-8 X 90°	496308	496308BL
-10 X 90°	496310	496310BL
-12 X 90°	496312	496312BL
-16 X 90°	496316	496316BL



TEE FEMALE SWIVEL ON RUN - 983

Description	Blue	Black
-3	498301	498301BL
-4	498302	498302BL
-6	498303	498303BL
-8	498304	498304BL
-10	498305	498305BL
-12	498306	498306BL
-16	498308	498308BL



TEE FEMALE SWIVEL ON SIDE - 982

Description	Blue	Black
-3	498201	498201BL
-4	498202	498202BL
-6	498203	498203BL
-8	498204	498204BL
-10	498205	498205BL
-12	498206	498206BL
-16	498208	498208BL



90° Union - 821

Description	Blue	Black
#3 x 90	482103	482103BL
#4 x 90	482104	482104BL
#6 x 90	482106	482106BL
#8 x 90	482108	482108BL
#10 x 90	482110	482110BL
#12 x 90	482112	482112BL
#16 x 90	482116	482116BL



ALUMINUM A-N ADAPTERS

FEMALE PIPE COUPLER - 910



Description	Blue	Black
1/8 FPT	491001	491001BL
1/4 FPT	491002	491002BL
3/8 FPT	491003	491003BL
1/2 FPT	491004	491004BL
3/4 FPT	491006	491006BL

MALE PIPE NIPPLE - 911



Description	Blue	Black
1/8 MPT	491101	491101BL
1/4 MPT	491102	491102BL
3/8 MPT	491103	491103BL
1/2 MPT	491104	491104BL
3/4 MPT	491106	491106BL

PIPE REDUCER - 912



Description	Blue	Black
1/8 X 1/4	491201	491201BL
1/4 X 3/8	491202	491202BL
1/8 X 3/8	491203	491203BL
3/8 X 1/2	491204	491204BL
1/4 X 1/2	491205	491205BL
1/8 X 1/2	491206	491206BL
1/2 X 3/4	491207	491207BL
3/8 X 3/4	491208	491208BL
1/4 X 3/4	491209	491209BL

SWIVEL REDUCER - 972



Description	Blue	Black
-4 Nut X -3 Male	497204	497204BL
-6 Nut X -4 Male	497206	497206BL
-8 Nut X -6 Male	497208	497208BL
-10 Nut X -6 Male	497210	497210BL
-10 Nut X -8 Male	497211	497211BL
-12 Nut X -8 Male	497212	497212BL
-12 Nut X -10 Male	497213	497213BL
-16 Nut X -10 Male	497216	497216BL
-16 Nut X -12 Male	497217	497217BL
-8 Nut X -4 Male	497218	497218BL
-20 Nut X -16 Male	497219	497219BL

SWIVEL FLARE EXPANDER - 973



Description	Blue	Black
-3 Nut X -4 Male	497304	497304BL
-4 Nut X -6 Male	497306	497306BL
-6 Nut X -8 Male	497308	497308BL
-8 Nut X -10 Male	497310	497310BL
-10 Nut X -12 Male	497312	497312BL
-12 Nut X -16 Male	497316	497316BL
-16 Nut X -20 Male	497320	497320BL

ALUMINUM TUBE NUT - 818



Description	Blue	Red	Black
-3 Tube Nut	481803	481823	481803BL
-4 Tube Nut	481804	481824	481804BL
-6 Tube Nut	481806	481826	481806BL
-8 Tube Nut	481808	N/A	481808BL
-10 Tube Nut	481810	N/A	481810BL
-12 Tube Nut	481812	N/A	481812BL
-16 Tube Nut	481816	N/A	481816BL

ALUMINUM TUBE SLEEVE - 819



Description	Blue	Red	Black
-3 Tube Sleeve	481903	481923	481903BL
-4 Tube Sleeve	481904	481924	481904BL
-6 Tube Sleeve	481906	481926	481906BL
-8 Tube Sleeve	481908	N/A	481908BL
-10 Tube Sleeve	481910	N/A	481910BL
-12 Tube Sleeve	481912	N/A	481912BL
-16 Tube Sleeve	481916	N/A	481916BL

ALUMINUM A-N ADAPTERS



METRIC ADAPTER

(Seals with crush washer, not included. Crush washers are available on page 56)

A-N Size	Metric	Part Number	Black
-4	8 X 1.0	460406	460406BL
-4	8 X 1.5	460407	460407BL
-4	10 X 1.0	460408	460408BL
-4	10 X 1.25	460409	460409BL
-4	10 X 1.5	460410	460410BL
-4	12 X 1.0	460411	460411BL
-4	12 X 1.25	460412	460412BL
-4	14 X 1.5	460413	460413BL
-6	10 X 1.0	491961	491961BL
-6	10 X 1.25	460606	460606BL
-6	10 X 1.5	460607	460607BL
-6	12 X 1.5	491953	491953BL
-6	12 X 1.25	491954	491954BL
-6	14 X 1.5	460614	460614BL
-6	16 X 1.5	460616	460616BL
-6	18 X 1.5	460618	460618BL
-6	22 X 1.5	460414	460414BL
-8	10 x 1.0	N/A	460810BL
-8	12 X 1.5	460812	460812BL
-8	14 X 1.5	460814	460814BL
-8	16 X 1.5	460816	460816BL
-8	18 X 1.5	460818	460818BL
-8	22 X 1.5	460415	460415BL
-10	12 X 1.5	461012	461012BL
-10	14 X 1.5	461014	461014BL
-10	16 X 1.5	461016	461016BL
-10	18 X 1.5	461018	461018BL
-10	20 X 1.5	461008	461008BL
-10	22 X 1.5	460416	460416BL
-12	12 X 1.5	461212	461212BL
-12	14 X 1.5	461214	461214BL
-12	16 X 1.5	461216	461216BL
-12	18 X 1.5	461218	461218BL
-12	20 X 1.5	461210	461210BL
-12	22 X 1.5	460417	460417BL
-16	22 X 1.5	460418	460418BL



RADIUS FITTING

(Comes with O-ring, replacements on page 56)

A-N Size	SAE O-Ring Side	Part Number	Black	Chrome
-3	3/8-24 (3)	N/A	495127BL	N/A
-4	3/8-24 (3)	495124	495124BL	N/A
-4	7/16-20 (4)	495125	495125BL	N/A
-4	9/16-18 (6)	495110	495110BL	N/A
-4	3/4-16 (8)	495111	495111BL	N/A
-4	7/8-14 (10)	495112	495112BL	N/A
-6	9/16-18 (6)	495100	495100BL	495100CH
-6	3/4-16 (8)	495101	495101BL	495101CH
-6	7/8-14 (10)	495113	495113BL	N/A
-6	1 1/16-12 (12)	495114	495114BL	N/A
-8	9/16-18 (6)	495102	495102BL	495102CH
-8	3/4-16 (8)	495103	495103BL	495103CH
-8	7/8-14 (10)	495104	495104BL	495104CH
-8	1 1/16-12 (12)	495115	495115BL	N/A
-8	1 5/16-12 (16)	495116	495116BL	N/A
-10	3/4-16 (8)	495105	495105BL	495105CH
-10	7/8-14 (10)	495106	495106BL	495106CH
-10	1 1/16-12 (12)	495107	495107BL	495107BL
-10	1 5/16-12 (16)	495117	495117BL	N/A
-12	3/4-16 (8)	495122	495122BL	N/A
-12	7/8-14 (10)	495108	495108BL	495108CH
-12	7/8-14 (10) Short	495640	495640BL	N/A
-12	1 1/16-12 (12)	495109	495109BL	495109CH
-12	1 5/16-12 (16)	495118	495118BL	N/A
-16	1 1/16-12 (12)	495120	495120BL	N/A
-16	1 5/16-12 (16)	495119	495119BL	N/A
-20	1 5/16-12 (16)	495123	495123BL	N/A



FILTER FITTING

#12 X 1 1/16 - 12 (12), Black 495961BL



FILTER SCREENS - 999

#12 Filter Screen, 4 Pack 999961



ON/OFF FUEL SHUT-OFF VALVES

Description	Black
6AN Female Inlet X 6AN Male Outlet	961006BL
8AN Female Inlet X 8AN Male Outlet	961008BL
10AN Female Inlet X 10AN Male Outlet	961010BL

CARBURETOR, POWER STEERING & FUEL INJECTION ADAPTERS

The most popular adapters are available in colors to accent any fuel system. If no color is called out, adapter is anodized standard blue.

	Description	Part Number	Black	Clear	Chrome
	-6 X 5/8-20 Male, Carter	491950	491950BL	491950CL	N/A
	-8 X 5/8-20 Male, Carter & Edelbrock	491967	491967BL	491967CL	N/A
	-6 X 1/2-20 Male, 5/16 Tube I.F.	491955	491955BL	491955CL	N/A
	-6 X 5/8-18 Male, 3/8 Tube I.F.	491956	491956BL	491956CL	N/A
	-8 X 5/8-18 Male, 3/8 Tube I.F.	491949	491949BL	N/A	N/A
	-6 X 11/16-18 Male, P/S	491959	491959BL	491959CL	N/A
	-6 X 9/16-24 Male, Holley & Demon	491951	491951BL	491951CL	491951CH
	-6 X 7/8-20 Male Holley-4150	491952	491952BL	491952CL	491952CH
	-8 X 7/8-20 Male, Holley-4150	491948	491948BL	N/A	N/A
	-6 X 1-20 Male, Rochester	491960	491960BL	491960CL	N/A
	-8 X 1-20 Male, Rochester	491965	491965BL	491965CL	N/A
	-6 X 14mm X 1.5 Male, F.I.	491962	491962BL	491962CL	N/A
	-6 X 16mm X 1.5 Male, F.I.	491963	491963BL	491963CL	N/A
	-6 X 18mm X 1.5 Male, F.I.	491964	491964BL	491964CL	N/A
	-6 X 14mm X 1.5, Male Mustang Rack	491979	491979BL	N/A	N/A
	-8 X 16mm X 1.5 Male, P/S	491988	491988BL	N/A	N/A
	-6 X 9/16-24 Male, 3" Long	491977	491977BL	N/A	491977CH
	-8 X 9/16-24 Male, 2" Long, Holley & Demon	491966	491966BL	491966CL	491966CH
	-8 X 9/16-24 Male, 3" Long	491978	491978BL	N/A	491978CH
	-10 X 9/16-25 Male, 2" Long, Holley & Demon	491984	491984BL	N/A	N/A
	-6 X 7/8-20 Male, 3" Long	491975	491975BL	N/A	491975CH
	-8 X 7/8-20 Male, 3" Long	491976	491976BL	N/A	491976CH

CARBURETOR, POWER STEERING & FUEL INJECTION ADAPTERS

	Description	Part Number	Black	Clear	Chrome
	-8 X 3/4-16 ORB, Braswell Carb Adapter Female Nut, Black Only	N/A	491973BL	N/A	N/A
	-8 X 7/8-20 Holley Carb Adapter, Female Nut, Black Only	N/A	491974BL	N/A	N/A
	-6 X 3/4-16 ORB, Carburetor Adapter Short, Black Only	N/A	491945BL	N/A	N/A
	-8 X 3/4-16 ORB, Carburetor Adapter Short, Black Only	N/A	491946BL	N/A	N/A
	-8 X 3/4-16 ORB, Carburetor Adapter Long, Male, Black Only	N/A	491947BL		
	7/8-20 Inlet Plug, Blank	491980	491980BL	N/A	N/A
	9/16-24 Demon Inlet Plug	491981	491981BL	N/A	N/A
	-6 X Ford EFI, .550" Shank	491985	491985BL	N/A	N/A
	-6 X Ford EFI Return, .435" Shank	491986	491986BL	N/A	N/A
	-8 X Ford EFI, .550" Shank	491987	491987BL	N/A	N/A
	-6 X 12mm X 1.5 Male, Weber	491953	491953BL	N/A	N/A
	-6 X 12mm X 1.25 Male, Solex	491954	491954BL	N/A	N/A
	-8 x 7/8-20 Male, Holley, 2"	491957	491957BL	491957CL	491957CH
	-10 X 7/8-20 Male, Holley, 2"	491958	491958BL	491958CL	N/A
	-6 X 10mm X 1.0 Male, Weber	491961	491961BL	491961CL	N/A
	-6 X 14mm X 1.5 Female, "O" Ring Seal	491970	491970BL	N/A	N/A
	-6 X 16mm X 1.5 Female, "O" Ring Seal	491971	491971BL	N/A	N/A

CARBURETOR, POWER STEERING & FUEL INJECTION ADAPTERS



Description	Part Number	Black	Clear	Chrome
-8 X 14mm X 1.5 Female, "O" Ring Seal	491982	491982BL	N/A	N/A
-8 X 16mm X 1.5 Female, "O" Ring Seal	491983	491983BL	N/A	N/A



-6 X LT-1, FI, 3/8" Line, Feed Side	N/A	491989BL	N/A	N/A
-6 X LT-1, FI, 5/16" Return	N/A	491990BL	N/A	N/A
-8 X LT-1, FI 3/8 Line, Feed Side	N/A	491992BL	N/A	N/A



-6 X 5/16" Male, EFI Adapter	N/A	491993BL	N/A	N/A
-6 X 3/8" Male, EFI Adapter	N/A	491994BL	N/A	N/A
-8 x Ford EFI Fuel Tank Outlet, .570" ID	491991	491991BL	N/A	N/A

Crush washers and O-rings can be found on page 56.



Mike Bush
South Glens Falls, NY

APPLICATION SPECIFIC A-N ADAPTERS

A-N 90° SWIVEL TO MALE PIPE - 991



A-N Size	Pipe Thread	Part Number	Black
-3	1/8 MPT	499103	499103BL
-4	1/8 MPT	499104	499104BL
-4	1/4 MPT	499144	499144BL
-6	1/4 MPT	499106	499106BL
-6	1/8 MPT	499162	499162BL
-6	3/8 MPT	499166	499166BL
-6	1/2 MPT	499168	499168BL
-8	1/4 MPT	499107	499107BL
-8	3/8 MPT	499108	499108BL
-8	1/2 MPT	499188	499188BL
-10	1/2 MPT	499110	499110BL
-10	3/8 MPT	499111	499111BL
-12	3/4 MPT	499112	499112BL
-12	1/2 MPT	499113	499113BL

FEMALE A-N SWIVEL TO PIPE - 993



A-N Size	Pipe Thread	Part Number	Black
-3	1/8 MPT	499303	499303BL
-4	1/8 MPT	499304	499304BL
-4	1/4 MPT	499344	499344BL
-6	1/4 MPT	499306	499306BL
-6	1/8 MPT	499362	499362BL
-6	3/8 MPT	499366	499366BL
-8	1/4 MPT	499307	499307BL
-8	3/8 MPT	499308	499308BL
-10	1/2 MPT	499310	499310BL
-10	3/8 MPT	499311	499311BL
-12	3/4 MPT	499312	499312BL
-12	1/2 MPT	499313	499313BL

FEMALE SWIVEL 90° TO PIPE - 994



A-N Size	Pipe Thread	Part Number	Black
-3	1/8 MPT	499403	499403BL
-4	1/8 MPT	499404	499404BL
-4	1/4 MPT	499444	499444BL
-6	1/4 MPT	499406	499406BL
-6	1/8 MPT	499462	499462BL
-6	3/8 MPT	499466	499466BL
-8	1/4 MPT	499407	499407BL
-8	3/8 MPT	499408	499408BL
-10	1/2 MPT	499410	499410BL
-10	3/8 MPT	499411	499411BL
-12	3/4 MPT	499412	499412BL
-12	1/2 MPT	499413	499413BL

A-N 90° SWIVEL TO METRIC - 992



A-N Size	Thread	Part Number	Black
-6	14mm X 1.5	499214	499214BL
-6	16mm X 1.5	499216	499216BL
-6	18mm X 1.5	499218	499218BL
-8	14mm X 1.5	499234	499234BL
-8	16mm X 1.5	499236	499236BL
-8	18mm X 1.5	499238	499238BL
-10	14mm X 1.5	499244	499244BL
-10	16mm X 1.5	499246	499246BL
-10	18mm X 1.5	499248	499248BL

A-N 90° SWIVEL TO A-N STRAIGHT THREAD - 992



A-N Size	Thread	Part Number	Black
-6	9/16-18 (6)	499206	499206BL
-6	7/16-20 (4)	499264	499264BL
-6	3/4-16 (8)	499268	499268BL
-8	7/8-14 (10)	499281	499281BL
-8	9/16-18 (6)	499207	499207BL
-8	3/4-16 (8)	499208	499208BL
-10	3/4-16 (8)	499209	499209BL
-10	7/8-14 (10)	499210	499210BL
-10	1 1/16-12 (12)	499211	499211BL
-12	1 1/16-12 (12)	499212	499212BL
-12	7/8-14 (10)	499213	499213BL

FEMALE SWIVEL 90° TO A-N STRAIGHT THREAD - 990



AN Size	Thread	Part Number	Black
-6	9/16-18 (6)	499006	499006BL
-6	7/16-20 (4)	499064	499064BL
-6	3/4-16 (8)	499068	499068BL
-8	9/16-18 (6)	499007	499007BL
-8	3/4-16 (8)	499008	499008BL
-8	7/8-14 (10)	499081	499081BL
-10	3/4-16 (8)	499009	499009BL
-10	7/8-14 (10)	499010	499010BL
-10	1 1/16-12 (12)	499011	499011BL
-12	1 1/16-12 (12)	499012	499012BL
-12	7/8-14 (10)	499013	499013BL

ALUMINUM A-N ADAPTERS

F.I. INLET RETURN FITTING - 950

This adapter acts as a high flow inlet to your fuel pump, as well as a spot to return fuel without plumbing another line back to the fuel tank. Available with -10 or -12 inlet, two 9/16-18 (A-N -6) return ports, and 3/4-16 mounting threads with a jam nut and "O" ring.



-10 Inlet Return Adapter-Black	495010BL
-12 Inlet Return Adapter-Black	495012BL



OIL TEMPERATURE ADAPTERS - 930

Description	Part Number
-------------	-------------

1/2 MPT	493024
3/4 MPT	493025

*Adapters made to accept a 5/8-18 temp probe



OIL TEMPERATURE ADAPTERS - 950

Allows the easy installation of any mechanical gauge temperature probe in-line using an A-N 824 Tee (not included).

Description	Part Number
-------------	-------------

-8	495028
-10	495030
-12	495032
-16	495036



FEMALE TO MALE 90° ELBOW - 914

Description	Blue	Black
1/8 Pipe	491401	491401BL
1/4 Pipe	491402	N/A
3/8 Pipe	491403	N/A
1/2 Pipe	491404	N/A



FEMALE TO MALE 45° ELBOW 915

Description	Blue	Black
1/8 Pipe	491501	491501BL
1/4 Pipe	491502	N/A
3/8 Pipe	491503	N/A
1/2 Pipe	491504	N/A

LS, TEMPERATURE ADAPTER

Description	Part Number
16 X 1.5MM X 1/8" FPT	493020BL



FEMALE PIPE ELBOW - 916

Description	Part Number
1/8 Pipe	491601
1/4 Pipe	491602
3/8 Pipe	491603
1/2 Pipe	491604



FEMALE PIPE TEE - 917

Description	Part Number	Black
1/8 FPT	491701	491701BL
1/4 FPT	491702	N/A
3/8 FPT	491703	N/A
1/2 FPT	491704	N/A



ALUMINUM & STEEL A-N ADAPTERS

ALUMINUM WELD BUNGS



1/16 FPT X 1/2" Dia.
Nitrous Specific 496699
1/16 FPT X 5/8" Dia.
Nitrous Specific 496700

1/8 FPT 496701
1/4 FPT 496702
3/8 FPT 496703
1/2 FPT 496704
3/4 FPT 496706
1 FPT 496707



-4 Male 497104
-6 Male 497106
-8 Male 497108
-10 Male 497110
-12 Male 497112
-16 Male 497116
-20 Male 497120



-4 Female 487104
-6 Female 487106
-8 Female 487108
-10 Female 487110
-12 Female 487112
-16 Female 487116



STEEL WELD BUNGS



1/8 FPT 596701
1/4 FPT 596702
3/8 FPT 596703
1/2 FPT 596704
3/4 FPT 596706

-4 Male 597104
-6 Male 597106
-8 Male 597108
-10 Male 597110
-12 Male 597112
-16 Male 597116



WELD BUNGS WITH .750 DIAMETER STEP

1/16 FPT 499500
1/8 FPT 499502
1/4 FPT 499504
3/8 FPT 499506

-3 Female (3/8-24) 499508
-4 Female (7/16-20) 499510
-6 Female (9/16-18) 499512

-3 Male (3/8-24) 499550
-4 Male (7/16-20) 499552
-6 Male (9/16-18) 499554

WELD BUNGS WITH 1.0 DIAMETER STEP

1/2 FPT 499514

-6 Female (9/16-18) 499516
-8 Female (3/4-16) 499518
-10 Female (7/8-14) 499520

-6 Male (9/16-18) 499556
-8 Male (3/4-16) 499558
-10 Male (7/8-14) 499560
-12 Male (1 1/16-12) 499562



WELD BUNGS WITH 1.5 DIAMETER STEP

3/4 FPT 499515

-12 Female (1 1/16-12) 499524
-16 Female (1 5/16-12) 499526

-12 Male (1 1/16-12) 499564
-16 Male (1 5/16-12) 499566
-20 Male (1 5/8-12) 499568



SINGLE HOSE BARB. TO AN ADAPTER

-6 X 5/16" Hose 484205BL

HOSE BARB TO PIPE ADAPTER - 840

Description	Blue	Black
1/4" Hose X 1/8" MPT	484004	484004BL
3/8" Hose X 1/4" MPT	484006	484006BL
1/2" Hose X 3/8" MPT	484008	484008BL
5/8" Hose X 1/2" MPT	484010	484010BL
3/4" Hose X 3/4" MPT	484012	484012BL



HOSE BARB TO A-N ADAPTER - 841

Description	Blue	Black
-4 Male X 1/4" Hose	484104	484104BL
-6 Male X 3/8" Hose	484106	484106BL
-8 Male X 1/2" Hose	484108	484108BL
-10 Male X 5/8" Hose	484110	484110BL
-12 Male X 3/4" Hose	484112	484112BL



E-Z CLAMP HOSE ENDS & NITROUS OXIDE SPECIFIC PRODUCTS

Some plumbing jobs require you to install our 3000 Series stainless steel hose over an existing hose barb, instead of using an A-N adapter. The best way to finish the job is with the Fragola Performance Systems E-Z Clamp Hose End. Designed to slip over the end of the braided hose, it has a self-contained hose clamp to secure the hose to the barb. E-Z Clamp Hose Ends are sized to the outside diameter of the stainless braided hose. Available in red, black, clear and chrome finishes.



E-Z Clamp Hoes Ends

Description	Red	Black	Clear	Chrome
-3 (.437" ID)	280003	280203	280403	280103
-4 (.505" ID)	280004	280204	280404	280104
-6 (.625 ID)	280006	280206	280406	280106
-8 (.680" ID)	280008	280208	280408	280108
-10 (.827" ID)	280010	280210	280410	280110
-12 (.990" ID)	280012	280212	280412	280112
-16 (1.200" ID)	280016	280216	280416	280116
-20 (1.480" ID)	280020	280220	280420	280120



ALUMINUM TUBE NUT - 818

-3 Tube Nut 481803



RED ALUMINUM TUBE NUT - 818

-3 Tube Nut 481823



ALUMINUM TUBE SLEEVE - 819

-3 Tube Sleeve 481903



RED ALUMINUM TUBE SLEEVE - 819

-3 Tube Sleeve 481923



STRAIGHT ADAPTERS 816

-3 X 1/16 MPT	481601
-4 X 1/16 MPT	481602
-4 X 1/4 MPT	481695 Adapter with Screen-Blue
-6 X 1/8 MPT	481692 Adapter with Screen-Red
-6 X 1/4 MPT	481696 Adapter with Screen-Blue (MPT Side)
-6 X 1/4 MPT	481697 Adapter with Screen-Blue (AN Side)
-6 X 1/4 MPT	482296 90° Adapter with Screen-Blue (AN Side)



STAINLESS HARD LINE WITH FITTING

304 Annealed Stainless, with one end flared

12" 3/16" X .020 Wall	891001
24" 3/16" X .020 Wall	891002
36" 3/16" X .020 Wall	891003
3/16" X 1/8 MPT	891010
Brass Compression Fitting	891010
(Used to adapt hard line to distribution block)	

NITROUS OXIDE AND FUEL SYSTEM PRODUCTS



495001/495003



495005/495006



495002/495004



MALE O-RING BOSS TO MALE ORB AND MALE ORB TO NPT

Description	Black Only
-10 X 3/8" MPT	494001BL
-10 X 1/2" MPT	494002BL
-8 X -8 O-Ring	494108BL
-10 X -10 O-Ring	494110BL
-12 X -12 O-Ring	494111BL
-10 X -8 O-Ring	494112BL



495020/495021



495022/495023



997406

GAUGE ADAPTERS - 950

Description	Blue	Black
-4 Male x -4 female, Inline, 1/8 FPT on the side	495000	495000BL
-6 Male X -6 Male, Inline, 1/8 FPT on the side	495001	495001BL
-6 Male X 3/8 MPT, Inline, 1/8 FPT on the side	495002	495002BL
-8 Male X -8 Male, Inline, 1/8 FPT on the side	495003	495003BL
-8 Male X 3/8 MPT, Inline, 1/8 FPT on the side	495004	495004BL
-6 Male X -6 Female, Inline, 1/8 FPT on the side	495005	495005BL
-8 Male X -8 Female, Inline, 1/8 FPT on the side	495006	495006BL
-10 Male X -10 Female, Inline, 1/8 FPT on the side	495008	495008BL
-12 Male x 12 Female, Inline, 1/8 on the side	N/A	495014BL
-3 X 1/8" FPT Straight	495020	495020BL
-4 X 1/8" FPT Straight	495021	495021BL
-3 X 1/8" FPT-90°	495022	495022BL
-4 X 1/8" FPT-90°	495023	495023BL
-6 Male 90° X -6 Male, 1/8 FPT on the side	997306	997306BL
-8 Male 90° X -8 Male, 1/8 FPT on the side	997308	997308BL
-6 Male Tee, 1/8 FPT on the side	997406	997406BL
-8 Male Tee, 1/8 FPT on the side	997408	997408BL



FUEL PRESSURE GAUGES

Monitor your fuel system performance with these gauges. Available in both "dry" style and liquid filled to dampen the movement.

0-15 PSI., Dry	900001
0-15 PSI., Liquid Filled	900002
0-30 PSI., Dry	900003
0-30 PSI., Liquid Filled	900004
0-60 PSI., Dry	900017
0-60 PSI., Liquid Filled	900018
0-100 PSI., Dry	900019
0-100 PSI., Liquid Filled	900020

FUEL FILTERS

Description	Assembly	Element Only
6 In/out Street/Strip, 40 Micron	960001BL	960001E
10 In/out, large, 10 Micron	960002BL	960002E
10 In/out, large, 40 Micron	960003BL	960003E
10 In/out, large, 100 Micron	960004BL	960004E



NITROUS FLARE JET X MPT

Description	Blue	Red	Black
3/8-24 X 1/8	481703	481703RD	481703BL

BILLET FLARE TO FLARE Y-FITTINGS

Description	Blue	Red	Black
4AN Male All	900604	900604RD	900604BL
6AN Male All	900606	900606RD	900606BL
6AN Male Inlet X 4AN Male Outlets	900607	900607RD	900607BL
8AN Male All	900608	900608RD	900608BL
8AN Male Inlet X 6AN Male Outlets	900609	900609RD	900609BL
10AN Male All	900610	900610RD	900610BL
10AN Male Inlet X 8AN Male Outlets	900611	900611RD	900611BL



FUEL PRESSURE REGULATOR LOG

Description	Part Number
-10 A-N Female Three Port	940003BL

STEEL A-N ADAPTERS



UNION - 815

-3	581503
-4	581504
-6	581506
-8	581508
-10	581510

STRAIGHT ADAPTERS 816

-3 X 1/8 MPT	581603
-4 X 1/8 MPT	581604
-4 X 1/4 MPT	581605
-6 X 1/8 MPT	581662
-6 X 1/4 MPT	581606
-6 X 3/8 MPT	581666
-6 X 1/2 MPT	581668
-8 X 1/4 MPT	581607
-8 X 3/8 MPT	581608
-8 X 1/2 MPT	581688
-10 X 3/4 MPT	581609
-10 X 1/2 MPT	581610
-10 X 3/8 MPT	581611
-12 X 3/4 MPT	581612
-12 X 1/2 MPT	581613
-16 X 3/4 MPT	581615
-16 X 1 MPT	581616



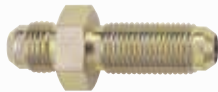
45° ADAPTERS - 823

-3 X 1/8 MPT	582303
-4 X 1/8 MPT	582304
-6 X 1/4 MPT	582306
-8 X 3/8 MPT	582308
-10 X 1/2 MPT	582310
-12 X 3/4 MPT	582312
-16 X 1 MPT	582316



STRAIGHT BULKHEAD 832

-3	583203
-4	583204
-6	583206



BULKHEAD TEE-ON-THE-SIDE 834

-3	583403
-4	583404
-6	583406



TUBE SLEEVE - 819

-3	581903
-4	581904
-6	581906



TUBE NUT - 818

-3	581803
-4	581804
-6	581806



TEE - 824

-3	582403
-4	582404
-6	582406

OIL PRESSURE ADAPTER

-4 X 1/8 MPT	581690
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BULKHEAD TEE ON-THE-RUN 804

-3	580403
-4	580404
-6	580406



45° BULKHEAD - 837

-3	583703
-4	583704
-6	583706



TEE PIPE-ON-THE-SIDE 825

-3 Tee, 1/8 MPT	582503
-4 Tee, 1/8 MPT	582504
-6 Tee, 1/4 MPT	582506



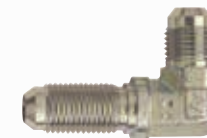
TEE PIPE-ON-THE-RUN 826

-3 Tee, 1/8 MPT	582603
-4 Tee, 1/8 MPT	582604
-6 Tee, 1/4 MPT	582606



90° ADAPTERS - 822

-3 X 1/8 MPT	582203
-4 X 1/8 MPT	582204
-6 X 1/4 MPT	582206
-8 X 3/8 MPT	582208
-10 X 1/2 MPT	582210
-12 X 3/4 MPT	582212
-16 X 1 MPT	582216



90° BULKHEAD - 833

-3	583303
-4	583304
-6	583306



BULKHEAD NUT - 924

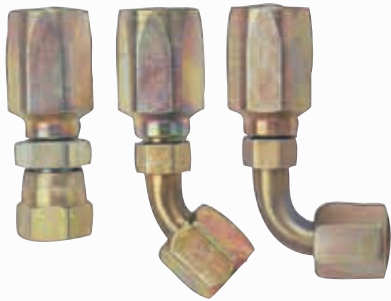
-3	592403
-4	592404
-6	592406

*COLORS SUBJECT TO CHANGE

POWER STEERING HOSE & HOSE ENDS

Power steering systems pose their own unique set of problems, and the best way to manage the power steering system is with the FPS Power Steering Hose and Fittings. The heart of this system is a specially designed three-braid hose that will withstand the pressure spikes caused by engine RPM and the resistance on the wheels. The special zinc plated steel fittings are easily assembled and are reusable.

POWER STEERING HOSE ENDS



Description	Steel	Aluminum (Black Anodized)
-6 Straight	250106	250107
-8 Straight	250108	
-10 Straight	250110	
-6 X 45°	254506	254606
-8 X 45°	254508	
-10 X 45°	254510	
-6 X 90°	259006	259106
-8 X 90°	259008	
-10 X 90°	259010	



POWER STEERING HOSE

Plumbing an automotive power steering system poses a unique set of problems. Pressure spikes caused by engine RPM, and by loading of the wheels, requires a special hose to prevent failures. Fragola Performance Systems offers this hose from the premier hose manufacturer in the USA. With working pressures rated at over 2000 psi., this hose is up to the task in any power steering application.



A-N	Bulk Part Number	10 foot	20 Foot
-6	850006	851006	852006
-8	850008	851008	852008
-10	850010	851010	852010

HARDLINE TO MALE AN ADAPTERS

Our Hard-Line to AN Adapter Fittings are machined from 6061 Aluminum and Bright Dip Anodized for good looks and longevity.

Use these fittings to connect the bare end of a hard tube to an AN style fitting. Pressure tested to 150 psi.

TECHNICAL SPECIFICATIONS

A-N	I.D.	O.D.	Working Pressure	Burst Pressure	Min. Bend Radius
-6	.375"	.680"	2250 psi.	9000 psi.	3 1/2"
-8	.406"	.770"	2000 psi.	8000 psi.	3 1/2"
-10	.500"	.920"	1750 psi.	7000 psi.	4"

Description	Black
-6 Male X 1/4"	892004BL
-6 Male X 5/16"	892005BL
-6 Male X 3/8"	892006BL
-8 Male X 3/8"	892007BL
-8 Male X 1/2"	892008BL
-10 Male X 5/8"	892010BL

BULK ALUMINUM TUBING

Lightweight aluminum tubing for nitrous lines, fuel lines and water lines. Simply flare with our 37 degree flaring tool (page 59), and install an A-N 818 nut with A-N 819 sleeve (page 27).

All tubing is easy to work 3003 aluminum, with a .035" wall.



Tube Diameter	Part Number
3/16" (-3), 25' Roll	890003
1/4" (-4), 25' Roll	890004
3/8" (-6), 25' Roll	890006
1/2" (-8), 25' Roll	890008
5/8" (-10), 25' Roll	890010

REAL-STREET HOSE ENDS

Fragola's Real-Street reusable hose ends for P.T.F.E. hose, offer a bright dip anodized black finish and eliminate the permeation issues common with aftermarket racing hose. A unique "double-swivel" design allows for clocking adjustment during installation.



STRAIGHT HOSE ENDS

A-N Size	Part Number
-4	680104BL
-6	680106BL
-8	680108BL
-10	680110BL
-12	680112BL



90° HOSE ENDS

A-N Size	Part Number
-4	689904BL, Forging
-6	689006BL
-8	689008BL
-10	689010BL
-12	689012BL



30° HOSE ENDS

A-N Size	Part Number
-6	683006BL
-8	683008BL
-10	683010BL
-12	683012BL



120° HOSE ENDS

A-N Size	Part Number
-6	681206BL
-8	681208BL
-10	681210BL
-12	681212BL



45° HOSE ENDS

A-N Size	Part Number
-4	680454BL, Forging
-6	684506BL
-8	684508BL
-10	684510BL
-12	684512BL



150° HOSE ENDS

A-N Size	Part Number
-6	681506BL
-8	681508BL
-10	681510BL
-12	681512BL



60° HOSE ENDS

A-N Size	Part Number
-6	686006BL
-8	686008BL
-10	686010BL
-12	68612BL



180° HOSE ENDS

A-N Size	Part Number
-6	681806BL
-8	681808BL
-10	681810BL
-12	681812BL

John Julis
J&J Marketing
California



DIRECT FIT REAL STREET HOSE ENDS

In addition to eliminating fuel permeation issues, our Real Street Direct Fit Hose Ends help shave valuable inches in tight applications. Available in Banjo, ORB and NPT configurations.

DIRECT FIT ORB REAL STREET HOSE ENDS



STRAIGHT BANJO - 800

A-N Size	Thread	Part Number
-6	6 A-N ORB Banjo Bolt	680006BL
-8	6 A-N ORB Banjo Bolt	680008BL
-10	6 A-N ORB Banjo Bolt	680010BL



90° REAL STREET HOSE ENDS

Description	Part Number
6AN X 6AN Male ORB (9/16-18)	689706BL
8AN X 6AN Male ORB (9/16-18)	689707BL
8AN X 8AN Male ORB (3/4-16)	689708BL
10AN X 8AN Male ORB (3/4-16)	689709BL
10AN X 10AN Male ORB (7/8-14)	689710BL
10AN X 12AN Male ORB (1-1/16-12)	689711BL
6AN X 8AN Male ORB (3/4-16)	689768BL
8AN X 10AN Male ORB (7/8-14)	689781BL

DIRECT FIT REAL STREET NPT HOSE ENDS



90° REAL STREET NPT HOSE ENDS

Description	Part Number
6AN X 1/4"	689906BL
8AN X 1/4"	689907BL
8AN X 3/8"	689908BL
10AN X 3/4"	689909BL
10AN X 1/2"	689910BL
10AN X 3/8"	689911BL
6AN X 1/8"	689962BL
6AN X 3/8"	689966BL
6AN X 1/2"	689968BL
8AN X 1/2"	689988BL



SERIES 6000 P.T.F.E. HOSE

The properties of P.T.F.E. make it a natural for all highly corrosive applications like automotive brake fluid. P.T.F.E. also works well for hot oil and power steering fluid. The hose will take high pressure and cycle over and over without failure. This hose also handles nitrous oxide with ease.

P.T.F.E. powder is extruded into a smooth bore tube product. The tube is then fed into a machine that weaves stainless wire into the familiar braided pattern. The hose is inspected 100% and any flawed sections are discarded.

6000 SERIES P.T.F.E.-LINED HOSES

Size	Cover	Bulk Part Number	3 Foot Roll	6 Foot Roll	10 Foot Roll	15 Foot Roll	20 Foot Roll
-2	NONE	600002	603002	606002	601002	601502	602002
-3	NONE	600003	603003	606003	601003	601503	602003
-3	CLEAR	600013	603013	606013	601013	601513	602013
-3	BLACK	600023	603023	606023	601023	601523	602023
-4	NONE	600004	603004	606004	601004	601504	602004
-4	CLEAR	600014	603014	606014	601014	601514	602014
-4	BLACK	600024	603024	606024	601024	601524	602024
-6	NONE	600006	603006	606006	601006	601506	602006
-6	BLACK	600026	603026	606026	601026	601526	602026
-8	NONE	600008	603008	606008	601008	601508	602008
-8	BLACK	600028	603028	606028	601028	601528	602028
-10	NONE	600010	603010	606010	601010	601510	602010
-10	BLACK	600029	603029	606029	601029	601529	602029
-12	NONE	600012	603012	606012	601012	601512	602012
-12	BLACK	600030	603030	606030	601030	601530	602030



TECHNICAL SPECIFICATIONS

Part Number	A-N Size	Nominal I.D.	Working Pressure	Burst Pressure	Min. Bend Radius
600003	-3	.125"	3,000 psi.	12,000 psi.	2"
600004	-4	.187"	3,000 psi.	12,000 psi.	2"
600005	-5	.250"	3,000 psi.	12,000 psi.	3"
600006	-6	.312"	2,500 psi.	10,000 psi.	3"
600008	-8	.405"	2,000 psi.	8,000 psi.	5.25"
600010	-10	.500"	1,500 psi.	6,000 psi.	6.5"
600012	-12	.625"	1,200 psi.	4,800 psi.	7.5"

REUSABLE P.T.F.E. HOSE ENDS

P.T.F.E.-lined stainless braided hose may be used for brake lines, gauge lines, power steering. These reusable hose ends feature a miniature "olive" that retains the hose inside of the fitting. By replacing this "olive" the hose end may be reused over and over.

STEEL HOSE ENDS

Description	Part Number
-3 Straight	600103
-4 Straight	600104
-6 Straight	600106
-8 Straight	600108
-3 Straight With -4 Nut	600113
-4 Straight With -3 Nut	600114
-3 X 45°, Forged-Double Swivel	604503
-4 X 45°, Forged-Double Swivel	604504
-6 X 45°, Forged-Double Swivel	604506
-8 X 45°, Forged-Double Swivel	604508
-3 X 90°, Forged-Double Swivel	609003
-4 X 90°, Forged-Double Swivel	609004
-6 X 90°, Forged-Double Swivel	609006
-8 X 90°, Forged-Double Swivel	609008
-3 X 10mm Banjo-Straight	610003
-3 X 10mm Banjo-20° Up	620003
-3 X 10mm Banjo-20° Side	620004
-3 X 10mm Banjo-45° Up	630003
-3 X 10mm Banjo-90° Up	640003



SINGLE SWIVEL HOSE ENDS FOR P.T.F.E. HOSE

Description	Part Number
-3 X 45° Forged	604603
-3 X 45° Bent Tube	604613
-4 X 45° Forged	604604
-3 X 90° Forged	609103
-3 X 90° Bent Tube	609113
-4 X 90° Forged	609104

ALUMINUM HOSE ENDS FOR P.T.F.E. HOSE

Description	Part Number
-3 Straight	690103
-4 Straight	690104
-6 Straight	690106
-8 Straight	690108
-3 X 45°, Double Swivel	690453
-4 X 45°, Double Swivel	690454
-6 X 45°, Double Swivel	690456
-8 X 45°, Double Swivel	690458
-3 X 90°, Double Swivel	690903
-4 X 90°, Double Swivel	690904
-6 X 90°, Double Swivel	690906
-8 X 90°, Double Swivel	690908



REPLACEMENT PARTS

Description	Part Number
-3 Replacement "Olive"	999303
-4 Replacement "Olive"	999304
-6 Replacement "Olive"	999306
-8 Replacement "Olive"	999308
-10 Replacement "Olive"	999310
-12 Replacement "Olive"	999312
-3 Steel Socket Only	999023
-4 Steel Socket Only	999024
-6 Steel Socket Only	999026
-8 Steel Socket Only	999028

STEEL BRAKE ADAPTERS

STEEL BRAKE ADAPTERS - 503/504

Brake Adapters facilitate connection of -3 and -4 P.T.F.E.-lined hose to most popular calipers and wheel cylinders.



-3 X 10mm X 1.25 I.F.	650301
-3 X 3/8-24 I.F.	650302
-3 x 7/16-20	650303
-3 X 7/16-24	650304
-3 X 1/2-20 I.F.	650305
-3 X 9/16-18 I.F.	650306
-3 X 10mm X 1.0 I.F.	650307
-3 X 10mm X 1.5	650308
-3 X 9/16-20 Chrysler M/C	650309
-3 X 10mm X 1.0 B.F.	650310
-3 X 10mm X 1.5 B.F.	650311
-4 X 10mm X 1.25 I.F.	650401
-4 X 3/8-24 I.F.	650402
-4 X 7/16-20	650403
-4 X 10mm X 1.5 I.F.	650404
-4 X 1/2-20	650405
-4 X 9/16-18	650406
-4 X 10mm X 1.0	650407
-4 X 7/16-24 I.F.	650408

Tubing Adapters connect the -3 and -4 P.T.F.E.-lined hose to the hard lines mounted on the vehicle.

STEEL TUBING ADAPTERS - 502

Tubing Adapters have the slot for the O.E.M. clip (not provided).



-3 X 3/8-24 I.F.	650201
-3 X 10mm X 1.0 I.F.	650202
-3 X 10mm X 1.25 I.F.	650203
-3 X 7/16-24 I.F.	650204
-3 X 10mm X 1.0 B.F.	650205
-3 X 1/8 FPT	650206
-4 X 1/8 FPT	650207
-4 X 3/8-24 I.F.	650221
-4 X 10mm X 1.0 I.F.	650222
-4 X 10mm X 1.25	650223
-4 X 7/16-24	650224
-4 X 10mm X 1.0 B.F.	650225

STEEL BANJO BOLT - 501

Renew your fluid Banjo Bolts with new ones from Fragola Performance Systems. Available in most popular thread combinations.



3/8-24	650150
7/16-20	650151
10mm X 1.25	650152
10mm X 1.5	650153
7/16-24	650154
10mm X 1.0	650155
1/20-20 Chrysler M/C	650156
9/16-20 Chrysler M/C	650157
12mm X 1.5	650158
14mm X 1.5	650159
9/16-18	650160

STEEL BRAKE ADAPTERS, -2 BRAKE LINES



STEEL BRAKE ADAPTER TO HOSE - 506

-3 Hose End X 3/8-24 Male	650601
-3 Hose End X 10 X 1.25 Male	650602
-3 Hose End X 7/16-20 Male	650603
-3 Hose End X 7/16-24 Male	650604
-3 Hose End X 1/2-20 Male	650605



STEEL TUBING ADAPTER TO HOSE - 505

-3 Hose End X 3/8-24 I.F.	650501
-3 Hose End X 10 X 1.0 I.F.	650502
-3 Hose End X 10 X 1.25	650503
-3 Hose End X 7/16-24	650504
-3 Hose End X 10 X 1.0 B.F.	650505
-3 Hose End X -3 Male Bulkhead	650506



STEEL BANJO ADAPTER - 501

Banjo Adapters allow installation of P.T.F.E. lines where space is at a premium. A 3/8" banjo adapter may be used for any 10mm application. Seals with two crush washers (not included).

-3 X 3/8	650103
-4 X 3/8	650104
-3 X 7/16	650113
-4 X 7/16	650114
-3 X 12mm	650115
-3 X 14mm	650116
1/8 FPT X 1/2 Chrysler M/C	650123
1/8 FPT X 9/16 Chrysler M/C	650124



BOLT DOWN TEE

3/8-24 On The Side 599913
Requires (3) 650302's and seals with crush washer. (On the run seals with I.F.)



INLINE TEE FOR BRAKE LIGHT SWITCH

-3 Tee 1/8 FPT On The Side 599903

Replacement crush washers can be found on page 51.

-2 BRAKE LINES WITH -3 NUTS, STRAIGHT X STRAIGHT

-2 Brake Lines increase brake pressure and give many drivers a better pedal "feel". Many teams have reported better lap times after making the switch to a -2 line as a result. Available with steel or aluminum, -3 Nuts.



Length	Steel Nuts	Blue Alum. Nuts	Black Alum. Nuts
10"	290010	290010BU	290010BL
12"	290012	290012BU	290012BL
14"	290014	290014BU	290014BL
16"	290016	290016BU	290016BL
18"	290018	290018BU	290018BL
20"	290020	290020BU	290020BL
22"	290022	290022BU	290022BL
24"	290024	290024BU	290024BL
26"	290026	290026BU	290026BL
30"	290030	290030BU	290030BL
36"	290036	290036BU	290036BL
40"	290040	290040BU	290040BL
48"	290048	290048BU	290048BL

P.T.F.E. HOSE ASSEMBLIES WITH NO COVERING

Fragola Performance Systems now offers -3 lines that meet D.O.T. specifications for flexible brake lines. To order, just add "D.O.T." to the part number.



-3 STRAIGHT X -3 STRAIGHT

10"	310010
12"	310012
14"	310014
16"	310016
18"	310018
20"	310020
22"	310022
24"	310024
30"	310030
36"	310036
40"	310040
48"	310048

-3 STRAIGHT X -3 90°

10"	320010
12"	320012
14"	320014
16"	320016
18"	320018
20"	320020
22"	320022
24"	320024
30"	320030
36"	320036
40"	320040
48"	320048

-3 STRAIGHT X -3 45°

10"	340010
12"	340012
14"	340014
16"	340016
18"	340018
20"	340020
22"	340022
24"	340024
30"	340030
36"	340036
40"	340040
48"	340048



-3 STRAIGHT X BANJO

3/8 Banjo 10"	330010
3/8 Banjo 12"	330012
3/8 Banjo 14"	330014
3/8 Banjo 16"	330016
3/8 Banjo 18"	330018
3/8 Banjo 20"	330020
3/8 Banjo 22"	330022
3/8 Banjo 24"	330024

7/16 Banjo 10"	350010
7/16 Banjo 12"	350012
7/16 Banjo 14"	350014
7/16 Banjo 16"	350016
7/16 Banjo 18"	350018
7/16 Banjo 20"	350020
7/16 Banjo 22"	350022
7/16 Banjo 24"	350024



-3 1/8 MPT X -3 1/8 MPT

10"	300010
12"	300012
14"	300014
16"	300016
18"	300018
20"	300020



Fragola Performance System's swagged P.T.F.E. line assemblies are the perfect replacement for those worn out rubber brake lines. Assemblies are available in all popular configurations of -3 and -4 hose ends. Each line is pressure tested to its rated working pressure before shipping. Available for both D.O.T. and off-road use.



-4 STRAIGHT X -4 STRAIGHT

10"	360010
12"	360012
14"	360014
16"	360016
18"	360018
20"	360020
22"	360022
24"	360024
30"	360030
36"	360036
40"	360040
48"	360048



-4 1/8 MPT X -4 1/8 MPT

10"	306010
12"	306012
14"	306014
16"	306016
18"	306018
20"	306020

Other lengths available. See pages 41-44.

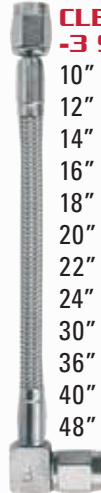
P.T.F.E. HOSE ASSEMBLIES WITH WITH CLEAR & BLACK COVERING

Fragola Performance Systems is now offering their popular -3 and -4 P.T.F.E. hose assemblies with clear and black covering. These assemblies were an instant success because of their resistance to scratching anything that they come in contact with. The black covering is popular with those who want to have the traditional look with the performance of P.T.F.E.



CLEAR COVERED -3 X -3 STRAIGHT

10"	311010
12"	311012
14"	311014
16"	311016
18"	311018
20"	311020
22"	311022
24"	311024
30"	311030
36"	311036
40"	311040
48"	311048



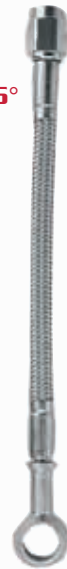
CLEAR COVERED -3 STRAIGHT X -3 90°

10"	321010
12"	321012
14"	321014
16"	321016
18"	321018
20"	321020
22"	321022
24"	321024
30"	321030
36"	321036
40"	321040
48"	321048



CLEAR COVERED -3 STRAIGHT X -3 45°

10"	341010
12"	341012
14"	341014
16"	341016
18"	341018
20"	341020
22"	341022
24"	341024
30"	341030
36"	341036
40"	341040
48"	341048



CLEAR COVERED -3 STRAIGHT X BANJO

3/8 Banjo 10"	331010
3/8 Banjo 12"	331012
3/8 Banjo 14"	331014
3/8 Banjo 16"	331016
3/8 Banjo 18"	331018
3/8 Banjo 20"	331020
3/8 Banjo 22"	331022
3/8 Banjo 24"	331024
7/16 Banjo 10"	351010
7/16 Banjo 12"	351012
7/16 Banjo 14"	351014
7/16 Banjo 16"	351016
7/16 Banjo 18"	351018
7/16 Banjo 20"	351020
7/16 Banjo 22"	351022
7/16 Banjo 24"	351024



BLACK COVERED -3 X -3 STRAIGHT

10"	312010
12"	312012
14"	312014
16"	312016
18"	312018
20"	312020
22"	312022
24"	312024
30"	312030
36"	312036
40"	312040
48"	312048



BLACK COVERED -3 STRAIGHT X -3 90°

10"	322010
12"	322012
14"	322014
16"	322016
18"	322018
20"	322020
22"	322022
24"	322024
30"	322030
36"	322036
40"	322040
48"	322048



BLACK COVERED -3 STRAIGHT X -3 45°

10"	342010
12"	342012
14"	342014
16"	342016
18"	342018
20"	342020
22"	342022
24"	342024
30"	342030
36"	342036
40"	342040
48"	342048

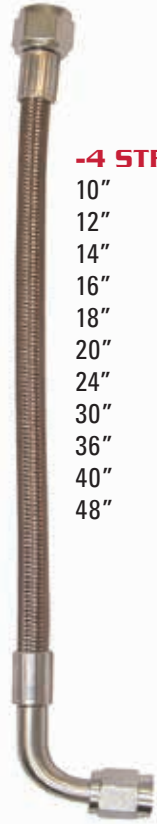


BLACK COVERED -3 STRAIGHT X BANJO

3/8 Banjo 10"	332010
3/8 Banjo 12"	332012
3/8 Banjo 14"	332014
3/8 Banjo 16"	332016
3/8 Banjo 18"	332018
3/8 Banjo 20"	332020
3/8 Banjo 22"	332022
3/8 Banjo 24"	332024
7/16 Banjo 10"	352010
7/16 Banjo 12"	352012
7/16 Banjo 14"	352014
7/16 Banjo 16"	352016
7/16 Banjo 18"	352018
7/16 Banjo 20"	352020
7/16 Banjo 22"	352022
7/16 Banjo 24"	352024

Other lengths available. For hose lengths not listed here, please see "How To Order" instructions on page 49 or ask your Fragola Performance Systems salesperson.

6000 SERIES P.T.F.E.-LINED STAINLESS HOSE



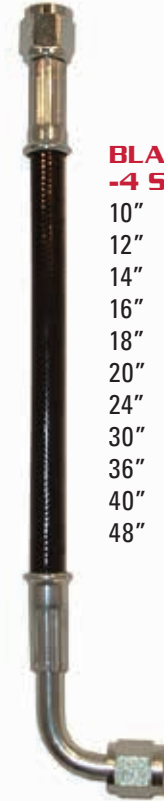
-4 STRAIGHT X -4 90°

10"	410-1-2-10
12"	410-1-2-12
14"	410-1-2-14
16"	410-1-2-16
18"	410-1-2-18
20"	410-1-2-20
24"	410-1-2-24
30"	410-1-2-30
36"	410-1-2-36
40"	410-1-2-40
48"	410-1-2-48



BLACK COVERED -4 STRAIGHT X -4 STRAIGHT

10"	412-1-1-10
12"	412-1-1-12
14"	412-1-1-14
16"	412-1-1-16
18"	412-1-1-18
20"	412-1-1-20
24"	412-1-1-24
30"	412-1-1-30
36"	412-1-1-36
40"	412-1-1-40
48"	412-1-1-48



BLACK COVERED -4 STRAIGHT X -4 90°

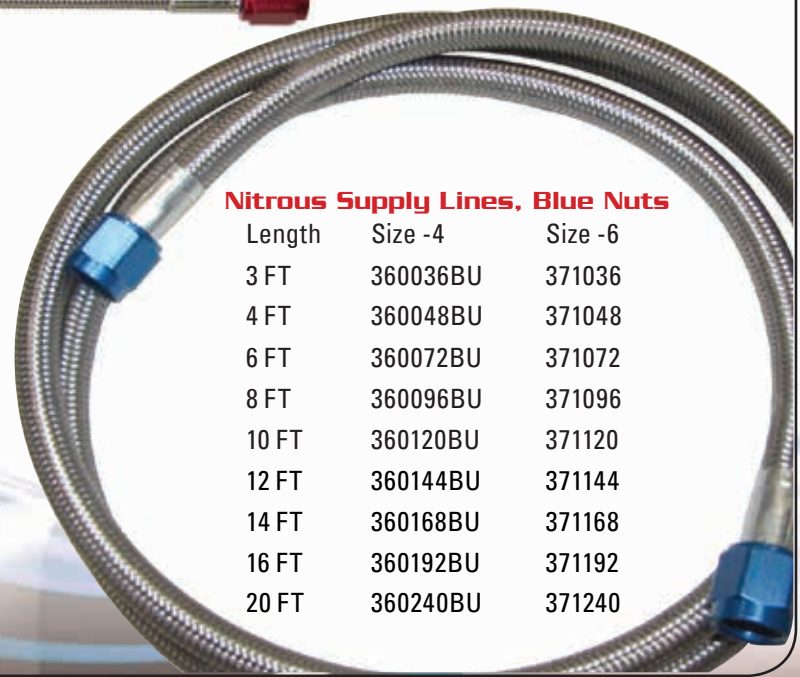
10"	412-1-2-10
12"	412-1-2-12
14"	412-1-2-14
16"	412-1-2-16
18"	412-1-2-18
20"	412-1-2-20
24"	412-1-2-24
30"	412-1-2-30
36"	412-1-2-36
40"	412-1-2-40
48"	412-1-2-48



-3 x -4 Nut Nitrous Lines

.154 Inside Diameter, (X275 LEGAL)

Length	Blue	Red	Black
8.5"	390008.5BU	390008.5RD	390008.5BL
10"	390010BU	390010RD	390010BL
12"	390012BU	390012RD	390012BL
14"	390014BU	390014RD	390014BL
18"	390018BU	390018RD	390018BL
24"	390024BU	390024RD	390024BL
36"	390036BU	390036RD	390036BL



Nitrous Supply Lines, Blue Nuts

Length	Size -4	Size -6
3 FT	360036BU	371036
4 FT	360048BU	371048
6 FT	360072BU	371072
8 FT	360096BU	371096
10 FT	360120BU	371120
12 FT	360144BU	371144
14 FT	360168BU	371168
16 FT	360192BU	371192
20 FT	360240BU	371240

P.T.F.E. HOSE ASSEMBLIES

Use these lines for nitrous feed, fuel, oil or water. Other lengths available. For hose lengths not listed here, please see "How To Order" instructions on page 49 or ask your Fragola Performance Systems salesperson.



**-6 STRAIGHT
X STRAIGHT
STEEL NUT**

12"	370012
16"	370016
20"	370020
24"	370024
30"	370030
36"	370036
42"	370042
48"	370048
60"	370060
72"	370072
84"	370084
96"	370096

**-6 STRAIGHT
X STRAIGHT
ALUMINUM NUT**

12"	371012
16"	371016
20"	371020
24"	371024
30"	371030
36"	371036
42"	371042
48"	371048
60"	371060
72"	371072
84"	371084
96"	371096

**-8 STRAIGHT
X STRAIGHT
STEEL NUT**

12"	380012
16"	380016
20"	380020
24"	380024
30"	380030
36"	380036
42"	380042
48"	380048
60"	380060
72"	380072
84"	380084
96"	380096

**-8 STRAIGHT
X STRAIGHT
ALUMINUM NUT**

12"	381012
16"	381016
20"	381020
24"	381024
30"	381030
36"	381036
42"	381042
48"	381048
60"	381060
72"	381072
84"	381084
96"	381096



**-6 STRAIGHT
X 45°
STEEL NUT**

12"	374012
16"	374016
20"	374020
24"	374024
30"	374030
36"	374036
42"	374042
48"	374048
60"	374060
72"	374072
84"	374084
96"	374096

**-6 STRAIGHT
X 45°
ALUMINUM NUT**

12"	375012
16"	375016
20"	375020
24"	375024
30"	375030
36"	375036
42"	375042
48"	375048
60"	375060
72"	375072
84"	375084
96"	375096

**-8 STRAIGHT
X 45°
STEEL NUT**

12"	384012
16"	384016
20"	384020
24"	384024
30"	384030
36"	384036
42"	384042
48"	384048
60"	384060
72"	384072
84"	384084
96"	384096

**-8 STRAIGHT
X 45°
ALUMINUM NUT**

12"	385012
16"	385016
20"	385020
24"	385024
30"	385030
36"	385036
42"	385042
48"	385048
60"	385060
72"	385072
84"	385084
96"	385096



**-6 STRAIGHT
X 90°
STEEL NUT**

12"	372012
16"	372016
20"	372020
24"	372024
30"	372030
36"	372036
42"	372042
48"	372048
60"	372060
72"	372072
84"	372084
96"	372096

**-6 STRAIGHT
X 90°
ALUMINUM NUT**

12"	373012
16"	373016
20"	373020
24"	373024
30"	373030
36"	373036
42"	373042
48"	373048
60"	373060
72"	373072
84"	373084
96"	373096

**-8 STRAIGHT
X 90°
STEEL NUT**

12"	382012
16"	382016
20"	382020
24"	382024
30"	382030
36"	382036
42"	382042
48"	382048
60"	382060
72"	382072
84"	382084
96"	382096

**-8 STRAIGHT
X 90°
ALUMINUM NUT**

12"	383012
16"	383016
20"	383020
24"	383024
30"	383030
36"	383036
42"	383042
48"	383048
60"	383060
72"	383072
84"	383084
96"	383096

HOW TO ORDER CUSTOM FACTORY CRIMPED P.T.F.E. HOSE ASSEMBLIES

5 EASY STEPS

ONE

Choose Hose Size and Style

-3 Stainless P.T.F.E., No Cover	310
-3 Stainless P.T.F.E., Clear Cover	311
-3 Stainless P.T.F.E., Black Cover	312
-4 Stainless P.T.F.E., No Cover	410
-4 Stainless P.T.F.E., Clear Cover	411
-4 Stainless P.T.F.E., Black Cover	412
-6 Stainless P.T.F.E., No Cover	6006
-6 Stainless P.T.F.E., Black Cover	6026
-8 Stainless P.T.F.E., No Cover	6008
-8 Stainless P.T.F.E., Black Cover	6028
-10 Stainless P.T.F.E., No Cover	6010
-10 Stainless P.T.F.E., Black Cover	6029

TWO

Choose the hose end for both ends.

- #1 for straight female swivel
- #2 for female 90° swivel
- #3 for 3/8" X 10mm banjo
- #4 for female 45° swivel
- #5 for 7/16" banjo
- #6 for 1/8" male pipe
- #7 for straight female swivel with blue aluminum nut
- #8 for straight female swivel with red aluminum nut

Please note: Not all combinations of hose ends are available for each size of hose. Ask your Fragola Performance Systems salesperson for complete details.

THREE

Choose your length
(see diagrams at right for the proper method of measuring).

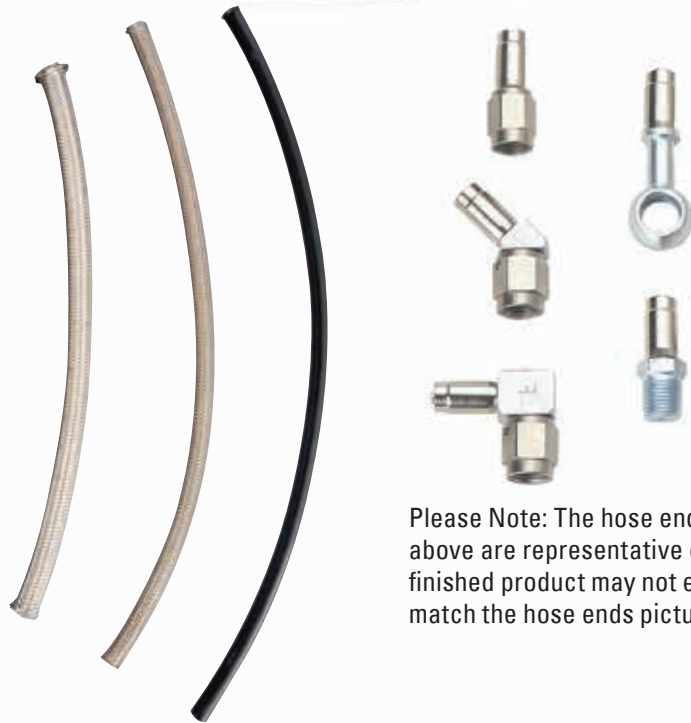
FOUR

Choose the "clocking" (positioning) of the hose ends when using 45s or 90s on both ends. (Hose end #1 is always straight up, which is called 12 o'clock.)

FIVE

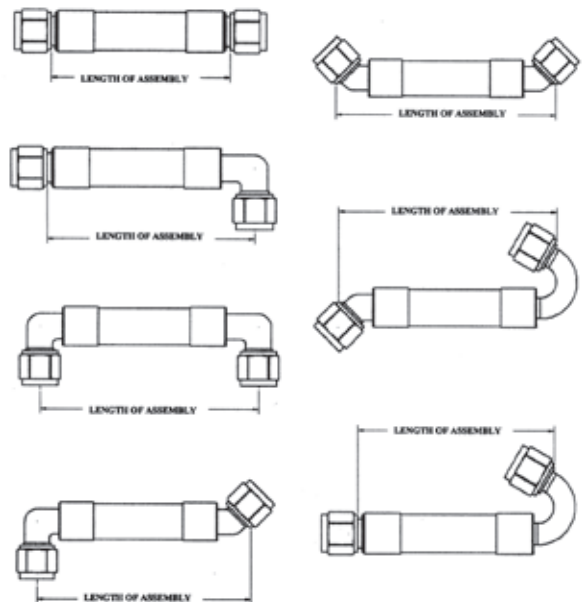
The best bet is to FAX a sketch to: 860-621-1431 showing the position of both ends.

Example: If you wanted a 23" hose assembly with a 45° and a 90° end both clocked the same direction, the part number would be 310-2-4-23"-12 X 12.



Please Note: The hose ends shown above are representative only. The finished product may not exactly match the hose ends pictured.

ILLUSTRATED HOSE MEASUREMENT CHART



F.P.S. Hose Outside Diameter Listing

Size	SS	Push-Lite LOK	PTFE	Push	Black LT Weight	P/S
-3	N/A	N/A	0.25	N/A	N/A	N/A
-4	0.461	0.531	0.312	0.5	0.44	N/A
-6	0.57	0.656	0.445	0.63	0.56	0.68
-8	0.672	0.812	0.549	0.78	0.67	0.77
-10	0.82	0.938	0.648	0.91	0.82	0.92
-12	0.961	1.063	N/A	1.03	0.96	N/A
-16	1.187	N/A	N/A	1.28	1.15	N/A
-20	1.468	N/A	N/A	N/A	N/A	N/A

CRIMP FITTING KITS

You can build your own line assemblies, at your location. Our D-100 (page 59) or any crimper that features an adjustable crimp diameter will work fine. Be sure to pressure test your hose assemblies, as a precaution. The pressure test kits are on Page 58.



STRAIGHT CRIMP FITTING WITH COLLAR & PIN,

- 3, Bag of 20 6001023
- 4, Bag of 20 6101023
- 6, Bag of 20 6201023
- 8, Bag of 20 6301023



90° BENT TUBE CRIMP FITTING WITH COLLAR AND PIN

- 3, Bag of 20 6002023
- 4, Bag of 20 6102023
- 6, Bag of 20 6202023
- 8, Bag of 20 6302023



90° FORGED CRIMP FITTING WITH COLLAR AND PIN

- 3, Bag of 20 6002123



45° BENT TUBE CRIMP FITTING WITH COLLAR AND PIN

- 3, Bag of 20 6004023
- 4, Bag of 20 6104023
- 6, Bag of 20 6204023
- 8, Bag of 20 6304023



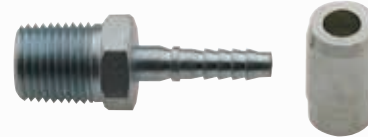
45° FORGED CRIMP FITTING WITH COLLAR AND PIN

- 3, Bag of 20 6004123
- 4, Bag of 20 6104123



BANJO CRIMP FITTING WITH COLLAR

- 3 X 3/8" Bag of 20 6003023
- 3 X 7/16" Bag of 20 6005023



MPT CRIMP FITTING WITH COLLAR

- 3 X 1/8" Bag of 20 6006023
- 4 X 1/8" Bag of 20 6106023

CRIMP DIAMETER SPECIFICATIONS FOR FRAGOLA PERFORMANCE SYSTEMS P.T.F.E. HOSES

A-N Size	Crimp Diameter	Working Pressure
-3	.300" - .305"	3,000 psi.
-4	.350" - .355"	3,000 psi.
-6	.478" - .483"	3,000 psi.
-8	.568" - .573"	2,500 psi.
-10	.735" - .740"	1,500 psi.



-10 PTFE CRIMP FITTING WITH COLLAR

Sold in pairs. Black Anodized only.

- Straight 6401023
- 45° 6404023
- 90° 6402023

CAUTION: The fittings on this page are designed to be used with the P.T.F.E. hose on page 41 of this catalog. (Hose from other sources may have a different wall thickness and will not have the desired results ending in hose failure.) Be certain to clean inside of hose assembly prior to installation.

PREMIUM FUEL LINE KITS

Fragola Performance Systems manufactures high performance fuel line kits for the most popular carburetors. Each comes completely assembled with a high flow adapter, an EZ system of detachment for quick jet changes, and a special plugged cap with a provision for a fuel pressure gauge (not included).



FUEL LINE KITS

Size	Fits	Center-Center	Part Number
-6 X 9/16-24	Single Inlet Holley	N/A	920001
-6 X 7/8-20	Dual Inlet Holley-4150	9.3"	920002
-6 X 7/8-20	Dual Inlet Holley-4150-Black	9.3"	920002BL
-6 X 7/8-20	Dual Inlet Holley-4150-Chrome	9.3"	920002CH
-8 X 7/8-20	Dual Inlet Holley-4150	9.3"	920003
-8 X 7/8-20	Dual Inlet Holley-4150-Black	9.3"	920003BL
-8 X 7/8-20	Dual Inlet Holley-4150-Chrome	9.3"	920003CH
-6 X 7/8-20	Dual Inlet Holley-4500	11.35"	920004
-6 X 7/8-20	Dual Inlet Holley-4500-Black	11.35"	920004BL
-6 X 7/8-20	Dual Inlet Holley-4500-Chrome	11.35"	920004CH
-8 X 7/8-20	Dual Inlet Holley-4500	11.35"	920005
-8 X 7/8-20	Dual Inlet Holley-4500-Black	11.35"	920005BL
-8 X 7/8-20	Dual Inlet Holley-4500-Chrome	11.35"	920005CH
-6 X 9/16-24	Demon	9.5"	920006
-6 X 9/16-24	Demon-Black	9.5"	920006BL
-6 X 9/16-24	Demon-Chrome	9.5"	920006CH
-8 X 9/16-24	Demon	9.5"	920007
-8 X 9/16-24	Demon-Black	9.5"	920007BL
-8 X 9/16-24	Demon-Chrome	9.5"	920007CH

COMPONENTS

Description	Part Number
-6 Straight Hose End	100106
-6 Straight Hose End-Black	100106BL
-8 Straight Hose End	100108
-8 Straight Hose End-Black	100108BL
-6 X 7/8-20, 3" long, Inlet Fitting	491975
-6 X 7/8-20, 3" long, Inlet Fitting-Black	491975BL
-8 X 7/8-20, 3" long, Inlet Fitting	491976
-8 X 7/8-20, 3" long, Inlet Fitting-Black	491976BL
-6 X 9/16-24, 3" long, Inlet Fitting	491977
-6 X 9/16-24, 3" long, Inlet Fitting-Black	491977BL
-8 X 9/16-24, 3" long, Inlet Fitting	491978
-8 X 9/16-24, 3" long, Inlet Fitting-Black	491978BL

COMPONENTS

Description	Part Number
-6 Cap with 1/8 FPT and a plug	492926
-6 Cap with 1/8 FPT and a plug-Black	492926BL
-8 Cap with 1/8 FPT and a plug	492928
-8 Cap with 1/8 FPT and a plug-Black	492928BL
-6 Tee, Swivel on the side	498203
-6 Tee, Swivel on the side-Black	498203BL
-8 Tee, Swivel on the side	498204
-8 Tee, Swivel on the side-Black	498204BL
-6 Stainless Braided Hose	700006
-8 Stainless Braided Hose	700008

PREMIUM FUEL LINE KITS

FUEL LINE KITS BLACK on BLACK

Size	Fits	Center-Center	Part Number
-6 X 7/8-20	Dual Inlet Holley-4150	9.3"	930002BL
-8 X 7/8-20	Dual Inlet Holley-4150	9.3"	930003BL
-6 X 7/8-20	Dual Inlet Holley-4500	11.35"	930004BL
-8 X 7/8-20	Dual Inlet Holley-4500	11.35"	930005BL
-6 X 9/16-24	Demon	9.5"	930006BL
-8 X 9/16-24	Demon	9.5"	930007BL

FUEL LINE KITS BLACK and CHROME

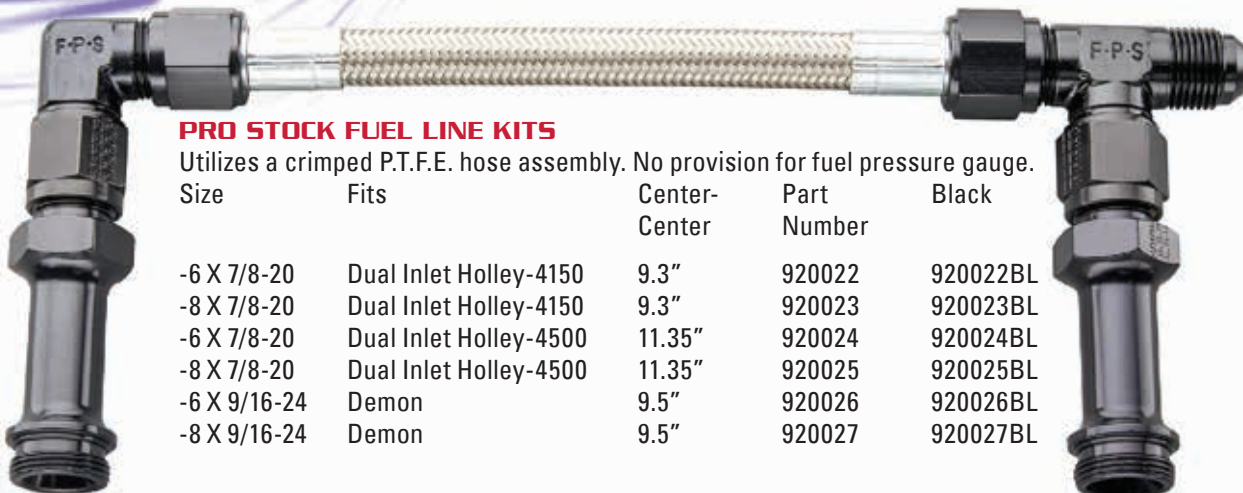
Size	Fits	Center-Center	Part Number
-6 X 7/8-20	Dual Inlet Holley-4150	9.3"	930002CH
-8 X 7/8-20	Dual Inlet Holley-4150	9.3"	930003CH
-6 X 7/8-20	Dual Inlet Holley-4500	11.35"	930004CH
-8 X 7/8-20	Dual Inlet Holley-4500	11.35"	930005CH
-6 X 9/16-24	Demon	9.5"	930006CH
-8 X 9/16-24	Demon	9.5"	930007CH

COMPONENTS CHROME

Description	Part Number
-6 9/16-18 (6), Radius Fitting	495100CH
-6 3/4-16 (8), Radius Fitting	495101CH
-8 9/16-18 (6), Radius Fitting	495102CH
-8 3/4-16 (8), Radius Fitting	495103CH
-8 7/8-14 (10), Radius Fitting	495104CH
-10 3/4-16 (8), Radius Fitting	495105CH
-10 7/8-14 (10), Radius Fitting	495106CH
-10 1 1/16-12 (12), Radius Fitting	495107CH
-12 7/8-14 (10), Radius Fitting	495108CH
-12 1 1/16-12 (12), Radius Fitting	495109CH
-6 X 3/8" MPT, Straight A-N Adapter	481666CH
-6 X 1/2" MPT, Straight A-N Adapter	481668CH
-8 X 1/2" MPT, Straight A-N Adapter	481688CH
-8 X 3/8" MPT, Straight A-N Adapter	481608CH
-6 X 9/16-24 Male, Holley & Demon	491951CH
-6 X 7/8-20 Male Holley-4150	491952CH
-8 X 7/8-20 Male, Holley	491957CH
-8 X 9/16-24 Male, Holley & Demon	491966CH



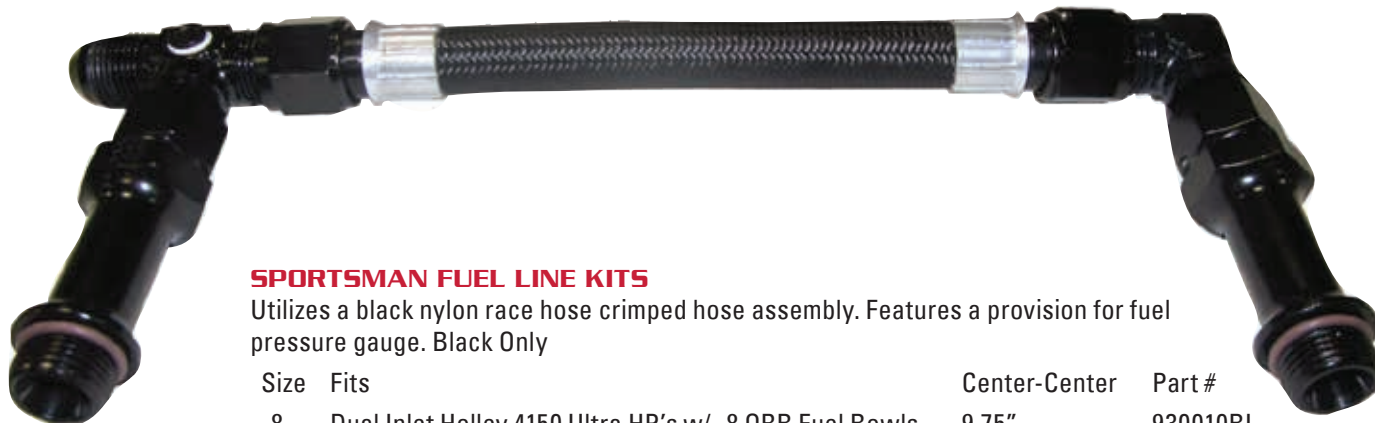
PREMIUM FUEL LINE KITS



PRO STOCK FUEL LINE KITS

Utilizes a crimped P.T.F.E. hose assembly. No provision for fuel pressure gauge.

Size	Fits	Center-Center	Part Number	Black
-6 X 7/8-20	Dual Inlet Holley-4150	9.3"	920022	920022BL
-8 X 7/8-20	Dual Inlet Holley-4150	9.3"	920023	920023BL
-6 X 7/8-20	Dual Inlet Holley-4500	11.35"	920024	920024BL
-8 X 7/8-20	Dual Inlet Holley-4500	11.35"	920025	920025BL
-6 X 9/16-24	Demon	9.5"	920026	920026BL
-8 X 9/16-24	Demon	9.5"	920027	920027BL



SPORTSMAN FUEL LINE KITS

Utilizes a black nylon race hose crimped hose assembly. Features a provision for fuel pressure gauge. Black Only

Size	Fits	Center-Center	Part #
-8	Dual Inlet Holley 4150 Ultra HP's w/ -8 ORB Fuel Bowls	9.75"	930010BL
-8	Dual Inlet Holley 4500 Ultra HP's w/ -8 ORB Fuel Bowls	10.75"	930012BL
-8	Dual Inlet Holley 4150 w/ 7/8-20 Fuel Bowls	9.3"	930014BL
-8	Dual Inlet Holley 4500 w/ 7/8-20 Fuel Bowls	11.35"	930016BL

Casey Currie
Anaheim, CA



PLUMBING KITS, FUEL, AND REPLACEMENT PARTS



FUEL CELL PICK-UP KIT

This kit allows the end user to plumb various sized pick-up lines in any plastic fuel cell. Kit comes complete with bulkhead fitting, nut, plastic sealing washers, straight Push-Lite Hose End and a length of push on hose.

- 6 Fuel Cell Kit 900700
- 8 Fuel Cell Kit 900701
- 10 Fuel Cell Kit 900702
- 12 Fuel Cell Kit 900703



Y FUEL BLOCK

Tapped 1/8" FPT for pressure gauge.

- 8 All Ports 482448
- 1/2" FPT All Ports 482450



SPORTSMAN DUAL FEED FUEL LINE KIT

This kit is ideal for those who do not need a pressure port for fuel pressure. By changing a few components we arrived with a very cost effective fuel line for both Holley and Demon carburetors. Available in -6 A-N only.
Fits Holley 4150, -6 A-N 920012
Fits Demon, -6 A-N 920016



REPLACEMENT SOCKETS

Series 2000 Pro-Flow Hose Ends

Page 4-8

For Use With Push-Lite Hose Only

- 4 Black 998204
- 6 Black 998206
- 8 Black 998208
- 10 Black 998210
- 12 Black 998212

Series 3000 Aluminum Hose Ends

Pages 9-13

- 4 Red 999004
- 6 Red 999006
- 8 Red 999008
- 10 Red 999010
- 12 Red 999012
- 16 Red 999016
- 20 Red 999020



Series 6000 Steel Hose Ends

Pages 39-40

- 3 Steel 999023
- 4 Steel 999024
- 6 Steel 999026
- 8 Steel 999028



Other sockets are available for the full line of Fragola Performance Systems hose ends. Inquire with the factory as to the availability of any specific product.



VACUUM PUMP PLUMBING KITS

Fragola's new Vacuum Pump Plumbing Kits for all popular brands of vacuum kits. Featuring Fragola's Premium Black Nylon Covered Hose, each vacuum kit contains six feet of black hose, two -12 straight hose ends and two -12 90° hose ends. Kits are available with either black hose ends or with the new chrome hose ends.

- Vacuum Pump Plumbing Kit (#12) Black 900649BL
- Vacuum Pump Plumbing Kit (#12) Chrome 900649CH



VACUUM PUMP FITTINGS

- #12 x #12 Radius Fitting, Vacuum Pump, Black 495641BL
- #12 x #12 Radius Fitting, Vacuum Pump, Chrome 495641CH



CAPS, PLUGS & SEALS



CAPS

Use these plastic caps to protect the A-N threads when the hose ends are removed. Sold in bags of 10 pieces.

-3, 3/8-24 Thread	900800
-4, 7/16-20 Thread	900802
-6, 9/16-18 Thread	900804
-8, 3/4-16 Thread	900806
-10, 7/8-14 Thread	900808
-12, 1 1/16-12 Thread	900810
-16, 1 5/16-12 Thread	900812



PLUGS

Use these plastic plugs to seal your hoses and to keep dirt out when disassembled. Sold in bags of 10 pieces.

-3, 3/8-24 Thread	900900
-4, 7/16-20 Thread	900902
-6, 9/16-18 Thread	900904
-8, 3/4-16 Thread	900906
-10, 7/8-14 Thread	900908
-12, 1 1/16-12 Thread	900910
-16, 1 5/16-12 Thread	900912



HI-TEMP PUSH-LITE CAPS

For higher than standard temperature applications. Sold in black only, bags of 10 pieces.

-4	999500
-6	999502
-8	999504
-10	999506
-12	999508
-16	999510



STAINLESS INNER SUPPORT SPRINGS

An extra measure of support for high vacuum applications with stainless braided hose. Installs by using a solid rod smaller than the inside of the hose. Slit the end of the rod, and wind the support spring into the hose. Light lubrication eases installation. Available in 10 ft. lengths only.

-8	799008
-10	799010
-12	799012
-16	799016
-20	799020



GROMMET SEALS

Use these grommet seals to run lines through various panels in place of bulkhead fittings. Made from fire-retardant rubber bonded to an anodized aluminum ring.

1.5" Dia. Blank-Single	999400
3" Dia, 1/4" Hole-Single	999402
3" Dia. 1/2" Hole-Single	999404
3" Dia. 1" Hole-Single	999406
5 1/4" Long, Two Hole	999408
2" Dia. .400" Hole-Bellows Style	999410
1.5" Dia. Blank-Pointed	999412

999400

999410

999404

999412

999408

CLAMPS & WASHERS



PUSH LOCK CLAMP and PLIERS

These lightweight stainless steel band clamps are "just the ticket" for push on applications that will see elevated pressures or temperatures. With a simple squeeze of the pliers you can add the extra measure of protection to any push-on hose assembly. Sold in pairs by hose size, and also available in a Master Pack of 10 clamps of each size. Special crimping pliers may be utilized for installation and E-Z clamp removal. A must for every toolbox.

Clamp Pliers	999150
-4 - Pair	999154
-6 - Pair	999156
-8 - Pair	999158
-10 - Pair	999160
-12 - Pair	999162
-16 - Pair	999164
10 ea. Master Pack	999170

ALUMINUM A-N 901 CRUSH WASHERS



-3 (3/8") - 10 Pack	999201
-4 (7/16") - 10 Pack	999202
-6 (9/16") - 10 Pack	999203
-8 (3/4") - 10 Pack	999204
-10 (7/8") - 10 Pack	999205
-12 (1 1/16") - 10 Pack	999206
-16 (1 5/16") - 10 Pack	999208
8mm - 10 Pack	999209
10mm - 10 Pack	999210
1/2" - 10 Pack	999211
12mm - 10 Pack	999212
14mm - 10 Pack	999214
16mm - 10 Pack	999216
18mm - 10 Pack	999218
20mm - 10 Pack	999220
22mm - 10 Pack	999222

VITON O-RINGS

(Sold in packs of 10)

-2	999120
-3	999108
-4	999109
-6	999110
-8	999111
-10	999112
-12	999113
-16	999114



REPLACEMENT CRUSH WASHERS

For 491950, 967 (5/8" I.D.)	999101
For 491951, 966, 977, 978 - (9/16" I.D.)	999102
For 491952, 957, 958, 975, 976 - (7/8" I.D.)	999103
For 491965 - (1" I.D.)	999104

E-Z FIT REPLACEMENT CLAMP

-3 E-Z Fit 3/8" I.D.	999251
-4 E-Z Fit 7/16" I.D.	999252
-6 E-Z Fit 9/16" I.D.	999253
-8 E-Z Fit 21/32" I.D.	999254
-10 E-Z Fit 13/16" I.D.	999255
-12 E-Z Fit 15/16" I.D.	999256
-16 E-Z Fit 1 5/32" I.D.	999257
-20 E-Z Fit 1 7/16" I.D.	999258



NYLON SEALING WASHERS

9/16" I.D. (6) - 10 Pack	999126
3/4" I.D. (8) - 10 Pack	999128
7/8" I.D. (10) - 10 Pack	999130
1 1/16" I.D. (12) - 10 Pack	999132
13/16" I.D. Special for -16 Banjo (#100017BL) - Pair	999134



PADDED LINE CLAMPS & FIRE SLEEVE



PADDED LINE CLAMPS

Light weight aluminum line clamps lined with neoprene rubber, secure hoses for their protection.

1/4" (.250") Padded Line Clamps, Bag of 10 Pieces	900950
3/8" (.375") Padded Line Clamps, Bag of 10 Pieces	900951
1/2" (#4) Padded Line Clamps, Bag of 10 Pieces	900952
5/8" (#6) Padded Line Clamps, Bag of 10 Pieces	900953
3/4" (#8) Padded Line Clamps, Bag of 10 Pieces	900954
7/8" (#10) Padded line Clamps, Bag of 10 Pieces	900955
1" (#12) Padded Line Clamps, Bag of 5 Pieces	900956
1 1/4" (#16) Padded Line Clamps, Bag of 5 Pieces	900957
1 1/2" (#20) Padded Line Clamps, Bag of 5 Pieces	900958



ULTRALIGHTWEIGHT FIRE SLEEVE

Resin-coated fiberglass sleeve good for up to 1200 degrees. Available in black only.

Size Range	Bulk Part Number
3/8" X 5/8" (.375" X .625")	880000
1/2" X 3/4" (.50" X .750")	880001
5/8" X 7/8" (.626" X .875")	880002
3/4" X 1 1/8" (.75" X 1.125")	880003
7/8" X 1 1/4" (.875" X 1.250")	880004
1" X 1 5/8" (1.0" X 1.625")	880005



A-N WRENCHES

Manufactured from heat-treated aluminum, this set is the best insurance against marring the finish of your Fragola Performance Systems fittings during assembly. A 3/8" ratchet ID on wrenches allows for accurate torquing of A-N fitting and hose end. Custom short handle also helps prevent over-torquing. Sold in sets of five, also available separately.

AN Size	Single Open End	Double Open End
-4	N/A	900084
-6	900006	900086
-8	900008	900088
-10	900010	900090
-12	900012	900092
-16	900016	900096
-20	N/A	900098

WRENCH SETS

Single Open End Five Piece Wrench Set	900050
Double Open End Five Piece Wrench Set -6 Through -16	900100

SPECIAL TOOLS & ACCESSORIES



HAND HELD HOSE SHEAR

There are a number of methods for cutting stainless braided hose, but the quickest and easiest is the hand held hose shear. With one stroke, hose up to -12 can be cut quickly and cleanly. Some braid strands may need additional clipping with side-cut wire pliers. NOTE: Cannot be used on all types of hose, as some multi-layer hose like power steering hose may be too thick or tough.

Hand Held Hose Shear 900062



HOSE TEST KIT

This economical pressure test kit is a must for every toolbox. It allows the quick testing of your -3 through -16 hose assemblies. A compressed air source is needed to pressurize the hose, plus a water bath to submerge and check for leaks.

INDIVIDUAL LINE TESTERS (Tests single hose assembly.)

A-N Size	Part Number	A-N Size	Part Number
-3	900663	-10	900670
-4	900664	-12	900672
-6	900666	-16	900676
-8	900668	Complete Kit	900060
	*Replacement Schrader Valve		999180



GARDEN HOSE FLUSH AND TEST KITS

Great for flushing out or testing new hose assemblies before installation. Can also be used to flush debris from hose assemblies after an engine or transmission failure.

A-N Size	Description	Part Number
-8	-8 x Garden Hose Adapter Only*	900555BL
-6 TO -10	Sportsmen Test Kt	900556BL
-4 TO -16	Master Test Kit	900557BL

*Note: Part # 900555BL requires -8 plug, part # 480608BL to perform a low pressure leak test on -8 hose assemblies.



LEVER TUBING BENDERS

Open slide slips over the tube at any point. Makes smooth, tight radius bends up to 180 degrees with minimum effort. Does not score or flatten the tubing.

3/16" Hard Line Bender 900501
1/4" Hard Line Bender 900502



P.T.F.E. THREAD TAPE

Pipe Tape 1/4" X 43' 900063



RUBBER HOSE CUTTER

Rubber Hose Cutter 900066



-3 AND -4 P.T.F.E. BRAID SPREADER

This handy tool makes it a snap to open up the braiding in order to seat the "olive" over the P.T.F.E. liner on -3 and -4 hose. This tool can also be used to flush up against the end of the hose before continuing the installation of reusable hose ends.

Braid Spreader For -3 and -4 Hose 900065

SPECIAL TOOLS & ACCESSORIES



WISE JAWS

These magnetized aluminum vise jaws will hold your fittings securely during assembly. Fits most vises with 3" jaws.

Vise Jaws (Fits most vises with 3" jaws) 900061

37° FLARING TOOL

The A-N specification calls for a 37° JIC flare in order to seal hard line tubing on the flare of the matching adapter. This economical flaring tool works on 3/16" through 5/8" diameter tubing. The faceted hard chrome-finished cone rolls out a perfect flare and burnishes the surface at the same time. Large handle gives excellent leverage. Ok for use on stainless tubing.

37° Flaring Tool For 3/16" – 5/8" Diameter Tubing 900500



KOUL TOOL - 2000/3000 Series Hose Ends

This handy composite device makes installing the socket over the cut end of the stainless hose a breeze. Three sizes in a box, and they fit all brands of A-N fittings. Subject to availability.

Koul Tool Fits -4, -6, -8 900510

Koul Tool Fits -10, -12, -16 900511



KOUL TOOL - EZ-On Push-Lok Hose Press

Allows complete assembly of Push-Lok hose and ends without the need for heat or boiling water. Works on sizes -4 through -16 AN.

Koul Tool - EZ-On Hose Press 900512

CRIMP MACHINE

The best bench mount portable crimp machine available anywhere. Custom Crimp designed the D-100 Model to be the easiest to operate whether you are a novice or crimp hoses for your living.

- The precision micrometer allows quick settings and gives 100% repeatability time after time.
- Removable pusher allows fast changes between straight and angled fittings.
- Inverted die allows the operator to accurately position the fitting prior to the final crimp.
- Hand pump allows the user to "go anywhere" to make professional-quality crimps.

Crimp Machine and Hand Pump (No Die Sets)	900200
3 Die Set, PTFE HOSE, Crimp Range .275" - .315"	900208
4 Die Set, PTFE HOSE, Crimp Range .315" - .397"	900201
6 Die Set, 3000 SS Hose, Black Race Hose, Crimp Range .626" - .787"	900203
8 Die Set, 3000 SS Hose, Black Race Hose, Crimp Range .748" - .905"	900202
10 Die Set, 3000 SS Hose, Black Race Hose, Crimp Range .866" - 1.023"	900204
12 Die Set, 3000 SS Hose, Black Race Hose, Crimp Range 1.102" - 1.258"	900206
16 Die Set, 3000 SS Hose, Black Race Hose, Crimp Range 1.220" - 1.377"	900207
Optional, Pneumatic Pump - Requires Air Source	900210



SPECIAL TOOLS & ACCESSORIES

FRAGOLA P.O.P. DISPLAY & PLAN-O-GRAMS

Fragola's plan-o-gram kit with P.O.P. display features all of the "A" list parts you will need to get started in the performance plumbing business. Clamshell packaging features full color graphic cards that will be sure to attract your customer's attention.

- 999100 P.O.P. Display Only (comes with rack on casters, 40 hooks, clamshell packaging, one shelf and patriotic signage).
- 999100A P.O.P. Display with A-Mover Plan-o-gram (Black Products Only)
- 999100B P.O.P. Display with A-Mover Plan-o-gram (Red/Blue Products Only)

Note: Contact sales department for complete list of contents.

Replacement Parts:

- 999100S Additional Shelf (each)
- 999100H Additional Hooks (each)

Kit Contents

P/N	Qty	Description	P/N	Qty	Description
			493205	2	1/2" MALE PIPE PLUG, BLACK
220106	4	#6 STR HOSE END, BLACK	480606	2	#6 MALE ALUMINUM FLARE PLUG, BLACK
224506	4	#6 45 DEG. HOSE END, BLACK	480608	2	#8 MALE ALUMINUM FLARE PLUG, BLACK
229006	4	#6 90 DEG. HOSE END, BLACK	492906	2	#6 FEMALE ALUMINUM CAP, BLACK
220108	4	#8 STR HOSE END, BLACK	492908	2	#8 FEMALE ALUMINUM CAP, BLACK
224508	4	#8 45 DEG. HOSE END, BLACK	481506	1	#6 MALE UNION, BLACK
229008	4	#8 90 DEG. HOSE END, BLACK	481508	1	#8 MALE UNION, BLACK
491950	1	#6 X 5/8-20 CARTER CARB. ADAPTER, BLACK	481406	1	#6 ALUMINUM PORT PLUG, BLACK
491952	2	#6 X 7/8-20 HOLLEY CARB. ADAPTER, BLACK	481408	1	#8 ALUMINUM PORT PLUG, BLACK
491948	2	#8 X 7/8-20 HOLLEY CARB. ADAPTER, BLACK	483106	1	#6 FUEL CELL BULKHEAD W/WASHERS AND NUTS
491989	1	3/8 I.D. FUEL INJECTION ADAPTER, BLACK	483108	1	#8 FUEL CELL BULKHEAD W/WASHERS AND NUTS
491990	1	5/16 I.D. FUEL INJECTION ADAPTER, BLACK	495100	3	#6 X 9/16-18 (6) ORB FITTING, BLACK
481666	5	#6 X 3/8 PIPE THREAD ADAPTER, BLACK	495101	2	#6 X 3/4-16 (8) ORB FITTING, BLACK
481608	5	#8 X 3/8 PIPE THREAD ADAPTER, BLACK	495113	2	#6 X 7/8-14 (10) ORB FITTING, BLACK
481668	3	#6 X 1/2 PIPE THREAD ADAPTER, BLACK	495103	2	#8 X 3/4-16 (8) ORB FITTING, BLACK
481688	3	#8 X 1/2 PIPE THREAD ADAPTER, BLACK	495104	2	#8 X 7/8-14 (10) ORB FITTING, BLACK
482266	2	#6 X 3/8 90 DEG. PIPE THREAD ADAPTER, BLACK	495106	2	#10 X 7/8-14 (10) ORB FITTING, BLACK
495005	1	#6 MALE X FEM. ADAPT. 1/8 NPT ON SIDE, BLACK	900953	1	5/8" (#6) PADDED LINE CLAMPS, 10 PACK
495006	1	#8 MALE X FEM. ADAPT. 1/8 NPT ON SIDE, BLACK	900954	1	3/4" (#8) PADDED LINE CLAMPS, 10 PACK
493202	2	1/8" MALE PIPE PLUG, BLACK	841006	1	#6 BLACK NYLON RACE HOSE, 10 FEET
493203	2	1/4" MALE PIPE PLUG, BLACK	841008	1	#8 BLACK NYLON RACE HOSE, 10 FEET
493204	2	3/8" MALE PIPE PLUG, BLACK	999100	1	RACK & 4 CASTERS, W/SHELF AND SIGNAGE



N.H.R.A. AND I.H.R.A. PRESSURE TEST AND TAG

Pressure Test and Tag, Per Line 900000



Both N.H.R.A. and the I.H.R.A. require pressure testing on some lines used in their professional racing classes. (Please consult the respective rule books for the exact lines that must be tested and tagged.) Fragola Performance Systems can provide that service on new or existing lines. You may also call the Fragola Tech Dept. for assistance.



TEE SHIRTS



MENS T-SHIRTS

Size	Part Number
MED	400111
LG	400112
XL	400113
XXL	400114
XXXL	400115

WOMANS T-SHIRTS

Size	Part Number
MED	400211
LG	400212
XL	400213

HOODIES

Size	Part Number
MED	400311
LG	400312
XL	400313
XXL	400314
XXXL	400315

BANNER

Part Number 400500



SERIES 3000 HOSE CUTTING & ASSEMBLY

GETTING THE MOST FROM YOUR INVESTMENT

Congratulations on buying the finest A-N hose and fitting products ever made! Please be certain to properly assemble the hose and ends.

When doing any plumbing job, be sure to route the hoses far away from heat sources like the exhaust system. Secure the lines at various points to prevent them from moving.

Use a few drops of motor oil on the threads and the seat area of the hose end. The seal is made on the 37 degree flare. Be careful not to over tighten the hose ends so as not to damage the flare.

A word about anodizing.... At Fragola Performance Systems, we use a process that is called "bright-dip." The anodizing process is not an exact science like plating or painting. The colors will vary from batch to batch, plus the sun, heat and time will all cause some fading. Various alloys of aluminum will anodize with different hues.

1 & 2



3



4



5 & 6



7 & 8

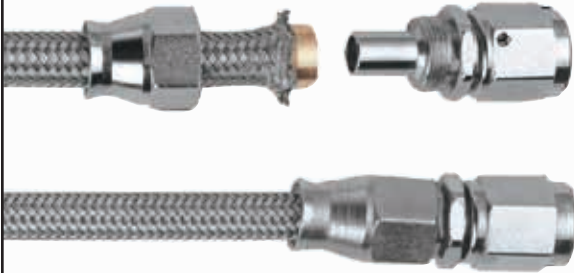


1. Cutting the Fragola Performance Systems Series 3000 Stainless Braided Hose is easy. Wrap the hose with "Gray" or masking tape at the length desired. Hose may be cut with a hack saw, if you have a 32-teeth-per-inch blade. Otherwise a Beverly Shear, radiac or chop saw will work fine. You want to keep the braids from fraying. After the cut carefully remove the tape and trim the frayed ends if necessary.
2. Using FPS aluminum vice jaws will help protect the hose end from scratching during the next steps. If there is a concern about scratching, the hose end may be wrapped with tape for protection. Place the red socket in a vise and insert the hose through the smooth end until the hose lines up with the bottom of the threads inside the socket.
3. It is important to mark the outside of the hose at the end of the socket. This will show you if the hose has "pushed out" of the socket during assembly, and if so, will leak when used.
4. It is very important to lubricate the inside of the socket and the outside threads of the fitting. Use Fragola's #900150 Assembly Lube for best results.
5. Holding the hose and not the socket, start the hose on the nipple of the hose end with a gentle twisting motion. Continue pushing on the hose until the threads can be engaged. Some sizes may require the use of some force to engage the threads at this point.
6. It doesn't matter which portion (the socket or the nipple) is secured in a vise. Using a suitable wrench tighten the socket threads onto the cutter. An adjustable "Crescent" type wrench is not recommended as it may slip and damage the outside of the hose end.
7. Tighten until the socket is within .060-.080" of bottoming out. Recheck your mark and if it is within 1/16" of the socket you are okay. If not, disassemble the hose end, re-cut the hose and start all over again.
8. Clean the inside of the hose assembly with clean solvent. Blow out residue with compressed air. It is strongly recommended that you test the hose assembly for leakage before putting it into service. Be sure to lubricate the "B-nut threads" before installing on an adapter. See hose flush and pressure test kits on page 58.

HOSE ASSEMBLY

P.T.F.E. HOSE ASSEMBLY

- You may cut the hose in the same method as our 3000 Series Hose.
- With the hose cut to the desired length, you must first slide the “socket” onto the hose.
- Next you must open up the braiding in order for the “olive” to slide over the P.T.F.E. liner. Our #900065 P.T.F.E. Braid Spreader works very well in this application. The braid must be spread sufficiently so the small shoulder inside the “olive” rests against the cut end of the P.T.F.E. liner.
- If you used our #900065 Braid Spreader, the nipple end will have already resized the P.T.F.E. liner, which may be squashed from the cutting operation. If not, you must insert something in the end of the P.T.F.E. liner to bring it back to a round shape (an ice pick works well for this operation).
- Please note when assembling Black or Clear covered PTFE Hose, it will be necessary to strip a 1/4 - 3/8 of cover off the hose. This will allow you to separate the braid and install the “olive”.



PUSH-LITE HOSE ASSEMBLY

- Soften the end of the hose slightly in boiling water. Then add a few drops of Fragola Performance Systems Assembly Lube #900150 to the barbs of the hose end.
- Clamp the hose end in a vise using our #900061 Aluminum Vise Jaws and in one motion push the hose over the barb. The fit is tight on purpose, as it is the only method of hose retention.



POWER STEERING HOSE ASSEMBLY

- You may cut the hose in the same manner as our Series 3000 Race Hose, but it is not necessary to tape the end prior to cutting.
- Install the “socket” over the cut end of the hose. Some twisting may be required to get the “socket” to the desired position with the hose seated against the bottom of the socket. Please note that the socket is left hand thread.
- Clamp the hose and socket in a vise using our #900061 Vise Jaws. Oil the threads using our #900150 Assembly Lube and screw the long tapered part of the fitting into the socket until it seats on the fitting shoulder. Blow out with compressed air to remove any assembly residue.



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799012	55	863012	20	900002	36	900902	55	998208	54	999961	28	6006023	50
799016	55	863016	20	900003	36	900904	55	998210	54	3100004S	15	6101023	50
799020	55	866004	20	900004	36	900906	55	998212	54	3100006S	15	6102023	50
800004	19	866006	20	900006	36	900908	55	999004	54	3100008S	15	6102123	50
800006	19	866008	20	900008	36	900910	55	999006	54	3100010S	15	6104023	50
800008	19	866010	20	900010	36	900912	55	999008	54	3100012S	15	6104123	50
800010	19	866012	20	900012	36	900950	57	999010	54	3100016S	15	6106023	50
800012	19	866016	20	900016	36	900951	57	999012	54	3100104	14	6201023	50
803004	19	861004	20	900017	36	900952	57	999016	54	3100106	14	6202023	50
803006	19	861006	20	900018	36	900953	57	999020	54	3100108	14	6204023	50
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803012	19	861012	20	900050	57	900956	57	999026	54	3100116	14	6304023	50
806004	19	861016	20	900060	58	900957	57	999028	54	3103006	14	6401023	50
806006	19	861504	20	900061	59	900958	57	999100	60	3103008	14	6402023	50
806008	19	861506	20	900062	58	920001	51	999100-A	60	3103010	14	6404023	50
806010	19	861508	20	900063	58	920002	51	999100-B	60	3103010-RAD	15		
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810004	19	861512	20	900066	58	920002-CH	51	999100-H	60	3103012-RAD	15		
810006	19	861516	20	900084	57	920003	51	999101	56	3103016	14		
810008	19	862004	20	900086	57	920003-BL	51	999102	56	3104504	14		
810010	19	862006	20	900088	57	920003-CH	51	999103	56	3104506	14		
810012	19	862008	20	900090	57	920004	51	999104	56	3104508	14		
815004	19	862010	20	900092	57	920004-BL	51	999105	56	3104510	14		
815006	19	862012	20	900096	57	920004-CH	51	999108	56	3104510-RAD	15		
815008	19	862016	20	900098	57	920005	51	999109	56	3104512	14		
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