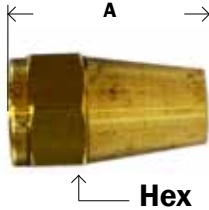


SAE 45° FLARE

BRASS FITTINGS

SHORT ROD NUT

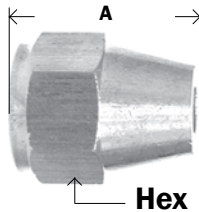
SAE# 010110



20910
41FS
1110
N1
41FX
441S
'L'

Part #	Thread Size UNF	Thread	A	Hex	Approx. Wt. Lbs.	List Price
10-013	1/8"	5/16-24	0.50	0.37	0.01	2.09
10-014	3/16"	3/8-24	0.62	0.43	0.02	1.00
10-015	1/4"	7/16-20	0.75	0.56	0.03	1.40
10-015L	1/4"	7/16-20	0.75	0.50	0.03	1.16
10-016	5/16"	1/2-20	0.88	0.62	0.04	2.30
10-017L	3/8"	5/8-18	0.77	0.75	0.05	1.65
10-017	3/8"	5/8-18	1.00	0.75	0.04	2.30
10-018	7/16"	11/16-16	1.06	0.81	0.06	9.27
10-019L	1/2"	3/4-16	0.93	0.87	0.06	3.27
10-019	1/2"	3/4-16	1.12	0.87	0.09	2.95
10-020L	5/8"	7/8-14	1.08	1.00	0.10	4.59
10-020	5/8"	7/8-14	1.31	1.06	0.15	8.42
10-021	3/4"	1-1/16-14	1.50	1.25	0.24	7.79
10-022	7/8"	1-1/4-12	1.62	1.50	0.36	15.52
10-026	1"	1-3/8-12	1.81	1.62	0.44	21.76

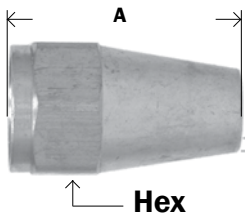
REDUCING SHORT ROD NUT



Part #	Thread Size UNF	A	Hex	Approx. Wt. Lbs.	List Price
10-023	3/8" x 1/4"	0.74	0.81	0.06	10.56
10-024	1/2" x 3/8"	0.86	0.94	0.10	11.94
10-025	5/8" x 1/2"	0.99	1.06	0.12	16.49

LONG ROD NUT

SAE# 010111



41FL
N2
241
441
41

Part #	Thread Size UNF	A	Hex	Approx. Wt. Lbs.	List Price
10-001	1/8"	0.75	0.37	0.01	6.30
10-002	3/16"	0.81	0.43	0.02	2.36
10-003	1/4"	0.94	0.56	0.03	2.29
10-004	5/16"	1.12	0.62	0.04	4.38
10-005	3/8"	1.31	0.75	0.06	4.09
10-006	1/2"	1.62	0.87	0.12	8.33
10-007	5/8"	1.88	1.06	0.20	10.70
10-008	3/4"	2.19	1.25	0.34	39.29

**"L" means light pattern.**

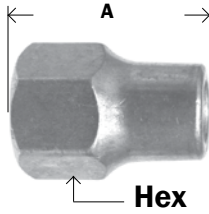
-These fittings are completely interchangeable with full pattern fittings, but have been modified in some way. This modification is usually in the length of the pipe threads. Used in plumbing and light industrial applications.

Lead Free fittings available on
pg. 171

LONG FORGED NUT

SAE# 010167

41FF
39
N4
14FL
641

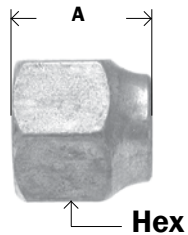


Part #	Thread Size UNF	A	Hex	Approx. Wt. Lbs.	List Price
10-028	1/4"	0.94	0.62	0.05	4.18
10-030	3/8"	1.06	0.81	0.08	6.34
10-031	1/2"	1.19	0.94	0.12	6.74
10-032	5/8"	1.44	1.06	0.26	11.88
10-033	3/4"	1.75	1.31	0.35	15.75

SHORT FORGED NUT

SAE# 010166

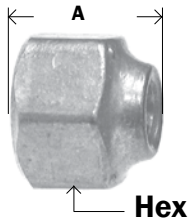
14FS
41FFS
40
641-S
1116
NS4



Part #	Thread Size UNF	A	Hex	Approx. Wt. Lbs.	List Price
10-038	3/16"	0.56	0.50	0.02	5.27
10-039	1/4"	0.60	0.62	0.04	1.70
10-040	5/16"	0.66	0.69	0.04	3.23
10-041	3/8"	0.70	0.81	0.06	2.27
10-042	1/2"	0.82	0.94	0.08	3.20
10-043	5/8"	0.95	1.06	0.12	5.15
10-044	3/4"	1.16	1.31	0.22	10.71
10-045	7/8"	1.18	1.38	0.30	13.84

EXTRA HEAVY SHORT FORGED NUT

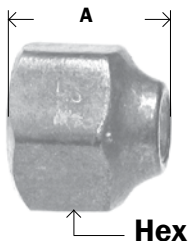
NSA



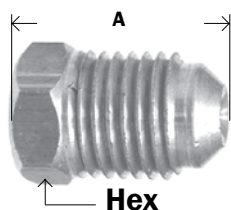
Part #	Thread Size UNF	A	Hex	Approx. Wt. Lbs.	List Price
10-046	1/4"	0.63	0.75	0.04	3.28
10-047	3/8"	0.72	0.88	0.06	3.63
10-048	1/2"	0.88	1.00	0.08	4.43
10-049	5/8"	0.98	1.12	0.12	6.76

FORGED REDUCING NUT

NSR4
14FS
41FRS
40R
662-S



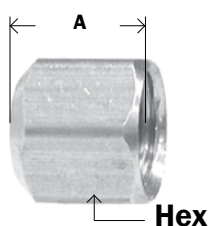
Part #	Female Flare x OD	A	Hex	Approx. Wt. Lbs.	List Price
10-051	5/16" x 1/4"	0.66	0.75	0.06	11.59
10-052	3/8" x 1/4"	0.72	0.81	0.06	4.98
10-053	3/8" x 5/16"	0.72	0.81	0.08	4.70
10-054	1/2" x 3/8"	0.81	0.94	0.08	4.19
10-055	5/8" x 3/8"	0.96	1.12	0.15	12.15
10-056	5/8" x 1/2"	0.97	1.06	0.12	7.20
10-058	3/4" x 5/8"	1.17	1.31	0.30	16.65

FLARED PLUG


58 57 439
639F P2
PF 2229

Part #	Thread Size UNF	A	Hex	Approx. Wt. Lbs.	List Price
10-063	3/16"	0.59	0.50	0.02	4.95
10-064 *	1/4"	0.69	0.43	0.02	1.69
10-065 *	5/16"	0.78	0.50	0.04	2.75
10-066 *	3/8"	0.88	0.62	0.06	2.22
10-067	1/2"	1.06	0.75	0.10	3.72
10-068	5/8"	1.19	0.87	0.14	4.01
10-069	3/4"				28.80

* Available in Stainless Steel. Add SS to the part#

FLARED CAP


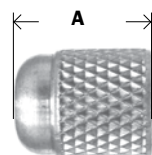
640F N5 440
41FC 2129
56 54

Part #	Thread Size UNF	A	Hex	Approx. Wt. Lbs.	List Price
10-074	3/16"	0.47	0.50	0.02	3.52
10-075 *	1/4"	0.48	0.50	0.02	0.77
10-076	5/16"	0.62	0.62	0.04	2.68
10-077 *	3/8"	0.58	0.75	0.03	1.92
10-078	1/2"	0.69	0.81	0.14	1.97
10-079	5/8"	0.81	0.94	0.20	2.94
10-080	3/4"	1.17	1.37	0.30	15.48

* Available in Stainless Steel. Add SS to the part#

FINGER TIGHTENING CAP

• O-Ring Included

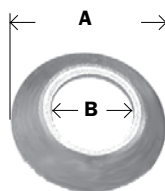


NFT5

Part #	Thread Size UNF	A	Approx. Wt. Lbs.	List Price
10-081	1/4"	0.62	0.02	1.52

COPPER GASKET

SAE# 010113

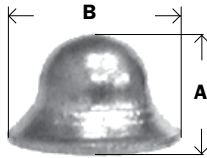


B2
2GF
6251
FG
157
59
463

Part #	Size	A	B	Approx. Wt. Lbs.	List Price
10-084	3/16"	0.31	0.12	0.01	1.27
10-085	1/4"	0.36	0.19	0.01	0.63
10-086	5/16"	0.42	0.22	0.01	0.98
10-087	3/8"	0.55	0.28	0.01	0.75
10-088	1/2"	0.66	0.41	0.01	1.02
10-089	5/8"	0.77	0.50	0.01	1.33
10-090	3/4"	0.95	0.62	0.01	1.56

COPPER BONNET

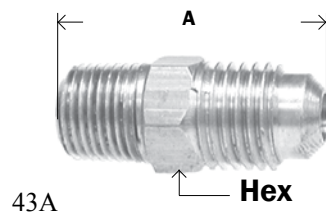
SAE# 010114



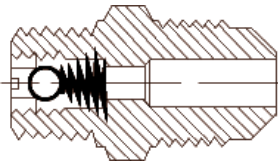
B1 156
3GF FB
64C 695
57 464

Part #	Size	A	B	Approx. Wt. Lbs.	List Price
10-094	3/16"	0.16	0.31	0.01	2.46
10-095	1/4"	0.22	0.36	0.01	2.10
10-097	3/8"	0.34	0.55	0.01	2.22
10-098	1/2"	0.41	0.66	0.01	2.89
10-099	5/8"	0.44	0.77	0.01	2.71
10-100	3/4"	0.56	0.95	0.01	6.30

MALE BALL CHECK CONNECTOR



43A

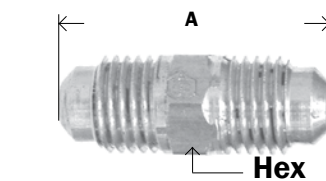


Part #	Male UNF x Male NPTF	A	Hex	Approx. Wt. Lbs.	List Price
10-131	1/4" x 1/8"	1.06	0.43		22.84
10256WC	1/4" x 1/4"	1.24	0.6	0.04	2.94
10-133	3/8" x 1/4"	1.31	0.62	0.08	28.79

Note: Ball & Spring position may be reversed to change flow/check position. Min working pressure 3 PSI.

UNION

SAE# 010101



42F
U2

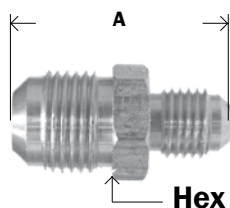
Part #	Thread Size UNF	A	Hex	Approx. Wt. Lbs.	List Price
10-104	1/8"	0.91	0.31	0.02	7.10
10-105	3/16"	1.06	0.37	0.02	4.47
10-106L	1/4"	1.19	0.43	0.03	1.33
10-106 *	1/4"	1.19	0.43	0.03	2.47
10-107	5/16"	1.34	0.50	0.05	2.69
10-108L	3/8"	1.50	0.62	0.09	4.43
10-108 *	3/8"	1.50	0.62	0.09	3.11
10-109L	1/2"	1.67	0.75	0.12	5.60
10-109	1/2"	1.81	0.75	0.14	6.20
10-110L	5/8"	2.00	0.87	0.20	6.36
10-110	5/8"	2.12	0.87	0.20	10.90
10-111	3/4"	2.44	1.06	0.35	19.44
10-112	7/8"	2.72	1.25	0.52	45.41

* Available in Stainless Steel. Add SS to the part#



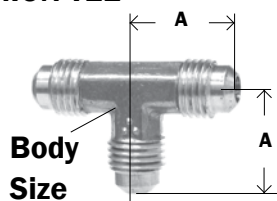
"L" means light pattern.

-These fittings are completely interchangeable with full pattern fittings, but have been modified in some way. This modification is usually in the length of the pipe threads. Used in plumbing and light industrial applications.

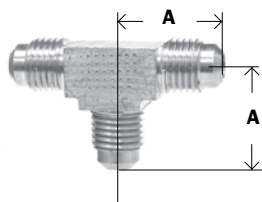
REDUCING UNION


656F
UR2
42-R

Part #	Thread Size UNF	A	Hex	Approx. Wt. Lbs.	List Price
10-117	5/16" x 1/4"	1.28	0.50	0.04	6.04
10-118	3/8" x 1/4"	1.38	0.62	0.06	4.51
10-119	3/8" x 5/16"	1.44	0.62	0.08	8.28
10-120	1/2" x 1/4"	1.53	0.75	0.10	7.26
10-121	1/2" x 3/8"	1.69	0.75	0.10	6.62
10-122	5/8" x 3/8"	1.88	0.87	0.17	12.00
10-123	5/8" x 1/2"	1.87	0.87	0.14	5.89

UNION TEE


Forged Tee



Barstock Tee

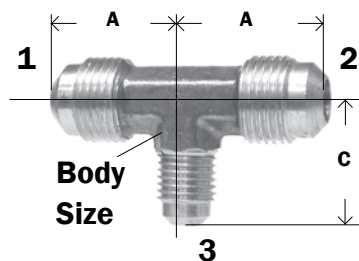
244F
T2
144F

SAE# 010401

Part #	Thread Size UNF	A	Body Size	Approx. Wt. Lbs.	List Price
10-157	1/8"	0.67	0.36	0.04	7.65
10-158	3/16"	0.75	0.36	0.06	4.41
10-159 **	1/4"	0.78	0.36	0.06	4.88
10-159B*	1/4"	0.88	0.50	0.08	14.94
10-160 **	5/16"	0.91	0.44	0.10	6.55
10-161 **	3/8"	1.00	0.44	0.12	6.64
10-162	1/2"	1.16	0.59	0.19	6.84
10-163	5/8"	1.41	0.69	0.30	12.55
10-164	3/4"	1.64	0.88	0.53	26.68
10-165	7/8"	1.75	1.25	0.93	54.22

* Barstock

** Available in Stainless Steel. Add SS to the part#

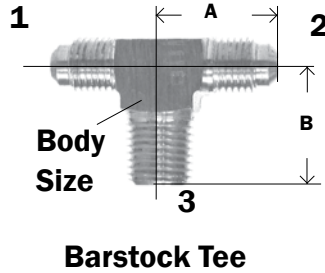
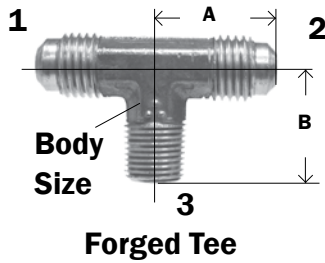
REDUCING TEE 1 x 2 x 3


144F
TR2
659F
684F
44R

Part #	Thread Size UNF 1x2x3	A	C	Body Size	Approx. Wt. Lbs.	List Price
10-170	1/4" x 1/4" x 3/8"	0.91	1.00	0.44	0.10	7.22
10-171	5/16" x 5/16" x 1/4"	0.94	0.94	0.44	0.12	10.80
10-172	3/8" x 1/4" x 1/4"	0.91	1.00	0.44	0.10	8.63
10-173	3/8" x 1/4" x 3/8"	1.00	0.91	0.44	0.12	10.76
10-174	3/8" x 3/8" x 1/4"	1.00	0.88	0.44	0.11	7.75
10-175	3/8" x 3/8" x 1/2"	1.00	1.19	0.59	0.14	10.80
10-176	3/8" x 3/8" x 5/8"	1.16	1.44	0.69	0.16	20.85
10-178	1/2" x 3/8" x 3/8"	1.16	1.12	0.59	0.18	8.36
10-179	1/2" x 3/8" x 1/2"	1.16	1.09	0.59	0.18	10.01
10-180	1/2" x 1/2" x 1/4"	1.16	0.97	0.59	0.18	13.85
10-181	1/2" x 1/2" x 3/8"	1.16	1.12	0.59	0.19	9.07
10-182	1/2" x 1/2" x 5/8"	1.28	1.41	0.69	0.28	13.20
10-187	5/8" x 1/2" x 5/8"	1.44	1.33	0.69	0.27	20.46
10-188	5/8" x 5/8" x 3/8"	1.38	1.16	0.69	0.30	17.82
10-189	5/8" x 5/8" x 1/2"	1.38	1.28	0.69	0.28	25.43
10-197	3/4" x 3/4" x 5/8"	1.66	1.50	0.88	0.36	44.43

MALE BRANCH TEE

SAE# 010425



T1
145F
45

Part #	Male Flare x Male NPT (1&2)x3	A	B	Body Size	Approx. Wt. Lbs.	List Price
10-203	3/16" x 1/8"	0.75	0.75	0.36	0.10	5.21
10-204	1/4" x 1/8"	0.78	0.75	0.36	0.05	5.21
10-204B*	1/4" x 1/8"	0.82	0.81	0.47	0.08	40.14
10-205	1/4" x 1/4"	0.88	0.88	0.44	0.08	5.52
10-206	1/4" x 3/8"	0.92	1.00	0.47	0.10	8.94
10-207	5/16" x 1/8"	0.89	0.78	0.44	0.08	6.36
10-208	5/16" x 1/4"	0.94	0.94	0.44	0.08	7.31
10-209	3/8" x 1/8"	1.00	0.91	0.44	0.14	10.63
10-210	3/8" x 1/4"	1.00	0.94	0.44	0.12	7.02
10-211 **	3/8" x 3/8"	1.00	1.00	0.47	0.13	8.49
10-212 **	3/8" x 1/2"	1.12	1.22	0.69	0.22	12.70
10-213	1/2" x 1/4"	1.16	1.00	0.59	0.20	18.71
10-214	1/2" x 3/8"	1.16	1.14	0.59	0.19	13.23
10-215	1/2" x 1/2"	1.22	1.22	0.69	0.24	12.52
10-216	1/2" x 3/4"	1.38	1.41	0.88	0.22	24.95
10-217	5/8" x 3/8"	1.38	1.25	0.69	0.24	21.25
10-218	5/8" x 1/2"	1.41	1.31	0.69	0.29	16.65
10-219	5/8" x 3/4"	1.41	1.41	0.88	0.36	25.10
10-220	3/4" x 1/2"	1.63	1.59	0.88	0.49	31.46
10-221	3/4" x 3/4"	1.63	1.44	0.88	0.48	32.35

* Barstock

** Available in Stainless Steel. Add SS to the part#

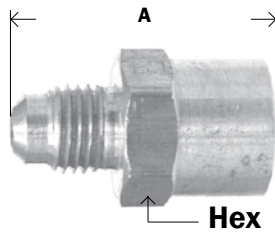
YOU'RE GOING TO GO THROUGH TOUGH TIMES - THAT'S LIFE. BUT I SAY, 'NOTHING HAPPENS TO YOU, IT HAPPENS FOR YOU.' SEE THE POSITIVE IN NEGATIVE EVENTS.

- JOEL OSTEEN

FEMALE ADAPTER

SAE# 010103

BRASS

46
U3

Part #	Male Flare x Female NPTF	A	Hex	Approx. Wt. Lbs.	List Price
10-227	3/16" x 1/8"	0.97	0.56	0.03	4.60
10-228L	1/4" x 1/8"	1.03	0.56	0.03	1.44
10-228	1/4" x 1/8"	1.03	0.56	0.04	2.98
10-229L	1/4" x 1/4"	1.06	0.68	0.06	3.73
10-229	1/4" x 1/4"	1.23	0.68	0.07	1.69
10-230	1/4" x 3/8"	1.18	0.81	0.08	4.20
10-231	1/4" x 1/2"	1.31	0.94	0.06	6.83
10-232	5/16" x 1/8"	1.06	0.56	0.05	16.77
10-233	5/16" x 1/4"	1.28	0.68	0.08	3.99
10-234	3/8" x 1/8"	1.09	0.62	0.08	4.17
10-235L	3/8" x 1/4"	1.25	0.68	0.08	3.08
10-235	3/8" x 1/4"	1.31	0.81	0.08	4.71
10-236L	3/8" x 3/8"	1.25	0.81	0.08	4.03
10-236	3/8" x 3/8"	1.25	0.81	0.10	6.75
10-237L	3/8" x 1/2"	1.31	0.94	0.08	3.51
10-237	3/8" x 1/2"	1.60	1.00	0.16	10.16
10-238	3/8" x 3/4"	1.41	1.18	0.11	9.49
10-239	1/2" x 1/4"	1.37	0.75	0.10	4.75
10-240L	1/2" x 3/8"	1.38	0.81	0.12	4.22
10-240	1/2" x 3/8"	1.50	0.81	0.14	8.30
10-241L	1/2" x 1/2"	1.42	0.87	0.10	6.02
10-241	1/2" x 1/2"	1.75	1.00	0.12	11.10
10-242	1/2" x 3/4"	1.60	1.12	0.16	5.83
10-243	5/8" x 3/8"	1.24	0.87	0.12	9.58
10-244	5/8" x 1/2"	1.62	0.94	0.12	5.74
10-245	5/8" x 3/4"	1.65	1.12	0.17	7.50
10-246	3/4" x 1/2"	1.74	1.18	0.32	19.86
10-247	3/4" x 3/4"	1.75	1.18	0.22	20.42
10-248	7/8" x 3/4"	1.94	1.31	0.26	20.08

**"L" means light pattern.**

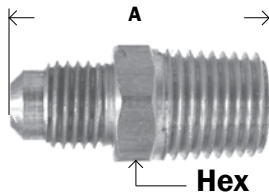
-These fittings are completely interchangeable with full pattern fittings, but have been modified in some way. This modification is usually in the length of the pipe threads. Used in plumbing and light industrial applications.

IF YOU CANNOT DO GREAT THINGS, DO SMALL THINGS IN A GREAT WAY.

- NAPOLEON HILL

MALE ADAPTER

SAE# 010102

U1
48

Part #	Male Flare x Male NPTF	A	Hex	Approx. Wt. Lbs.	List Price
10-253	1/8" x 1/8"	0.92	0.43	0.02	3.69
10-254	3/16" x 1/8"	1.00	0.43	0.03	1.96
10-255L	1/4" x 1/8"	1.06	0.43	0.03	1.33
10-255 *	1/4" x 1/8"	1.06	0.43	0.04	1.22
10-256L	1/4" x 1/4"	1.15	0.56	0.03	1.59
10-256 *	1/4" x 1/4"	1.25	0.56	0.04	1.60
10-257 *	1/4" x 3/8"	1.31	0.68	0.06	2.44
10-258	1/4" x 1/2"	1.44	0.87	0.11	5.79
10-259L	5/16" x 1/8"	1.15	0.50	0.04	3.18
10-259	5/16" x 1/8"	1.16	0.50	0.04	2.59
10-260L	5/16" x 1/4"	1.31	0.56	0.06	3.99
10-260	5/16" x 1/4"	1.34	0.56	0.06	3.04
10-261 *	5/16" x 3/8"	1.38	0.68	0.08	5.77
10-262	3/8" x 1/8"	1.25	0.62	0.07	2.13
10-263L	3/8" x 1/4"	1.31	0.62	0.06	2.42
10-263 *	3/8" x 1/4"	1.44	0.62	0.08	2.29
10-264L	3/8" x 3/8"	1.37	0.68	0.09	2.89
10-264 *	3/8" x 3/8"	1.44	0.68	0.09	2.70
10-265L	3/8" x 1/2"	1.44	0.89	0.12	3.19
10-265 *	3/8" x 1/2"	1.69	0.87	0.14	5.83
10-266	3/8" x 3/4"	1.81	1.06	0.18	7.39
10-267	1/2" x 1/4"	1.60	0.75	0.11	3.55
10-268L	1/2" x 3/8"	1.46	0.75	0.10	3.26
10-268	1/2" x 3/8"	1.62	0.75	0.12	3.65
10-269L	1/2" x 1/2"	1.62	0.87	0.13	3.47
10-269	1/2" x 1/2"	1.79	0.87	0.15	5.12
10-270	1/2" x 3/4"	1.75	1.06	0.22	6.86
10-271	5/8" x 1/4"	1.81	0.87	0.14	10.33
10-272L	5/8" x 3/8"	1.67	0.87	0.14	4.80
10-272	5/8" x 3/8"	1.81	0.87	0.18	7.87
10-273L	5/8" x 1/2"	1.80	0.87	0.11	4.92
10-273	5/8" x 1/2"	2.00	0.87	0.20	8.05
10-274	5/8" x 3/4"	1.85	1.06	0.21	5.70
10-275	3/4" x 1/2"	2.19	1.06	0.28	13.01
10-276	3/4" x 3/4"	2.08	1.06	0.28	8.46
10-277	7/8" x 1/2"	2.22	1.25	0.52	33.69
10-278	7/8" x 3/4"	2.35	1.25	0.41	22.35
10-279	1" x 3/4"	2.44	1.43	0.53	25.42
10-280	1" x 1"	2.44	1.43	0.53	31.21

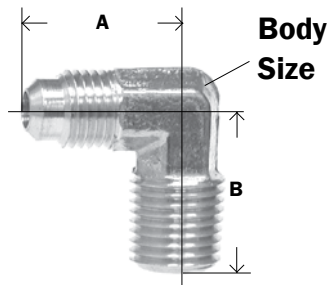
* Available in Stainless Steel. Add SS to the part#

**"L" means light pattern.**

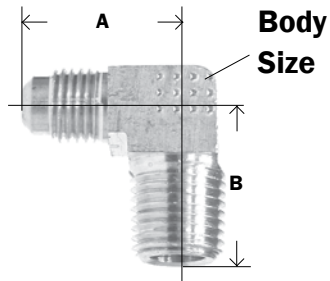
-These fittings are completely interchangeable with full pattern fittings, but have been modified in some way. This modification is usually in the length of the pipe threads. Used in plumbing and light industrial applications.

90° MALE ELBOW

SAE# 010202



Forged Elbow



Barstock Elbow

249F
49
E1
149F

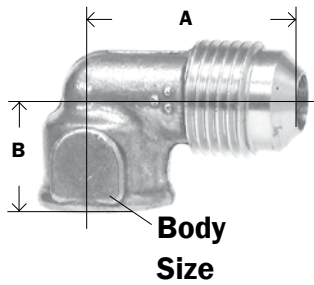
Part #	Male Flare x Male NPTF	A	B	Body Size	Approx. Wt. Lbs.	List Price
10-283	1/8" x 1/8"	0.63	0.73	0.37	0.04	9.40
10-283B*	1/8" x 1/8"	0.62	0.69	0.43	0.04	34.09
10-284	3/16" x 1/8"	0.75	0.75	0.44	0.04	7.98
10-284B*	3/16" x 1/8"	0.75	0.75	0.43	0.06	5.28
10-285	3/16" x 1/4"	0.81	0.88	0.44	0.08	6.04
10-286	1/4" x 1/8"	0.84	0.78	0.38	0.04	3.30
10-286B*	1/4" x 1/8"	0.81	0.78	0.47	0.05	2.36
10-287 **	1/4" x 1/4"	0.81	0.88	0.44	0.05	3.00
10-287B*	1/4" x 1/4"	0.91	0.93	0.59	0.08	3.81
10-288 **	1/4" x 3/8"	0.91	0.91	0.47	0.08	5.24
10-289	1/4" x 1/2"	1.03	1.09	0.59	0.10	6.59
10-290	5/16" x 1/8"	0.91	0.88	0.44	0.06	2.69
10-290B*	5/16" x 1/8"	0.91	0.78	0.52	0.06	8.11
10-291	5/16" x 1/4"	0.98	0.96	0.44	0.08	2.78
10-291B*	5/16" x 1/4"	0.95	0.92	0.62	0.08	12.33
10-292	5/16" x 3/8"	1.06	1.09	0.59	0.08	6.01
10-293	3/8" x 1/8"	1.00	0.91	0.53	0.08	6.07
10-293B*	3/8" x 1/8"	1.03	0.91	0.65	0.08	8.30
10-294	3/8" x 1/4"	1.01	0.89	0.48	0.08	3.52
10-294B*	3/8" x 1/4"	0.97	1.04	0.68	0.11	6.00
10-295 **	3/8" x 3/8"	1.00	0.88	0.47	0.10	3.66
10-295B*	3/8" x 3/8"	1.06	1.09	0.69	0.12	7.38
10-296 **	3/8" x 1/2"	1.10	1.09	0.59	0.12	5.23
10-297	3/8" x 3/4"	1.25	1.31	0.81	0.12	13.64
10-298	1/2" x 1/4"	1.19	1.00	0.59	0.12	5.06
10-298B*	1/2" x 1/4"	1.22	1.19	0.81	0.12	13.44
10-299	1/2" x 3/8"	1.10	1.00	0.59	0.13	5.02
10-299B*	1/2" x 3/8"	1.22	1.12	0.77	0.18	9.67
10-300	1/2" x 1/2"	1.16	1.13	0.59	0.14	5.80
10-300B*	1/2" x 1/2"	1.26	1.36	0.94	0.26	12.00
10-301	1/2" x 3/4"	1.42	1.25	0.81	0.24	10.52
10-311	5/8" x 1/4"	1.34	1.13	0.72	0.28	10.98
10-302	5/8" x 3/8"	1.35	1.22	0.72	0.20	9.50
10-302B*	5/8" x 3/8"	1.41	1.25	0.94	0.20	24.76
10-303	5/8" x 1/2"	1.35	1.22	0.72	0.20	7.81
10-303B*	5/8" x 1/2"	1.41	1.38	0.94	0.20	16.43
10-304	5/8" x 3/4"	1.44	1.31	0.81	0.25	13.19
10-305	3/4" x 1/2"	1.67	1.50	0.88	0.34	16.27
10-306	3/4" x 3/4"	1.67	1.63	0.88	0.30	14.77
10-306B*	3/4" x 3/4"	1.60	1.62	0.91	0.32	27.88
10-307	7/8" x 3/4"	1.75	1.68	1.00	0.44	43.22
10-308	1" x 3/4"	1.94	1.69	1.31	0.75	50.02
10-309	1" x 1"	1.94	1.75	1.25	0.78	44.48

* Barstock

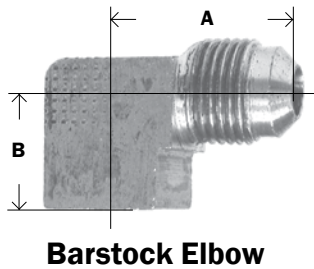
** Available in Stainless Steel. Add SS to the part#

90° FEMALE ELBOW

SAE# 010203



Forged Elbow



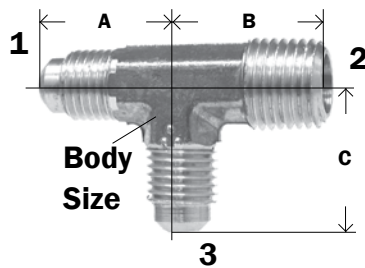
Barstock Elbow

E3
50
150F

Part #	Male Flare x Female NPTF	A	B	Body Size	Approx. Wt. Lbs.	List Price
10-312	3/16" x 1/8"	0.81	0.44	0.56	0.05	6.80
10-313	1/4" x 1/8"	0.90	0.46	0.56	0.06	4.13
10-313B*	1/4" x 1/8"	0.88	0.47	0.56	0.06	5.47
10-314	1/4" x 1/4"	0.97	0.59	0.75	0.08	5.81
10-315	1/4" x 3/8"	1.03	0.57	0.81	0.09	8.11
10-333	1/4" x 1/2"	1.08	0.66	1.00	0.12	10.39
10-316	5/16" x 1/8"	0.94	0.88	0.45	0.08	7.16
10-317	5/16" x 1/4"	1.03	0.58	0.75	0.06	11.64
10-318	3/8" x 1/8"	1.00	0.88	0.47	0.10	7.57
10-319	3/8" x 1/4"	1.06	0.59	0.75	0.09	3.53
10-319B*	3/8" x 1/4"	1.09	0.69	0.75	0.10	25.27
10-320	3/8" x 3/8"	1.06	0.57	0.81	0.10	5.33
10-321	3/8" x 1/2"	1.16	0.66	1.00	0.14	6.68
10-322	3/8" x 3/4"	1.28	0.72	1.25	0.12	11.58
10-323	1/2" x 1/4"	1.25	0.70	0.88	0.13	10.10
10-324	1/2" x 3/8"	1.25	0.70	0.88	0.12	7.51
10-325	1/2" x 1/2"	1.29	0.72	1.00	0.18	7.91
10-326	1/2" x 3/4"	1.41	0.72	1.25	0.20	10.78
10-327	5/8" x 3/8"	1.35	1.22	0.72	0.22	13.46
10-328	5/8" x 1/2"	1.38	0.75	1.00	0.20	11.79
10-329	5/8" x 3/4"	1.50	0.76	1.25	0.28	11.92
10-330	3/4" x 1/2"	1.63	1.06	1.06	0.42	22.52
10-331	3/4" x 3/4"	1.88	1.06	1.31	0.40	35.30

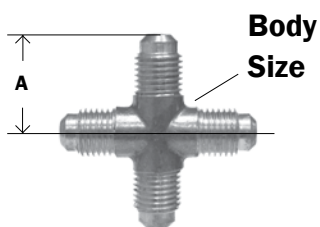
* Barstock

FORGED MALE RUN TEE

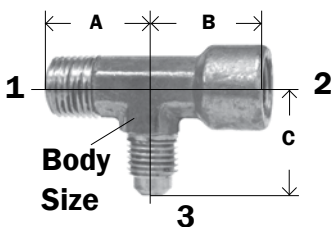


T3
151F
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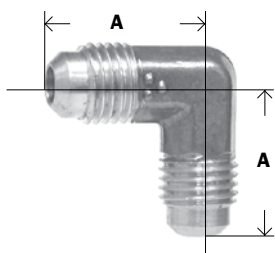
Part #	Male Flare x Male NPTF (1&3) x 2	A	B	C	Body Size	Approx. Wt. Lbs.	List Price
10-361	3/16" x 5/16" x 1/8"	0.87	0.78	0.97	0.44	0.08	5.57
10-343	3/16" x 1/8"	0.75	0.75	0.75	0.37	0.05	6.71
10-344	1/4" x 1/8"	0.78	0.75	0.78	0.37	0.06	5.78
10-345	1/4" x 1/4"	0.88	0.88	0.88	0.44	0.08	7.09
10-347	5/16" x 1/8"	0.88	0.80	0.88	0.44	0.08	6.18
10-348	5/16" x 1/4"	0.94	0.94	0.94	0.44	0.08	9.07
10-350	3/8" x 1/4"	1.00	0.94	1.00	0.44	0.12	9.07
10-351	3/8" x 3/8"	1.00	1.00	1.00	0.47	0.10	12.57
10-340	3/8" x 1/2" x 3/8"	1.09	1.09	1.16	0.59	0.18	11.65
10-352	3/8" x 1/2"	1.12	1.22	1.12	0.69	0.12	17.65
10-353	1/2" x 3/8" x 1/2"	1.22	1.22	1.15	0.69	0.22	13.82
10-354	1/2" x 3/8"	1.16	1.09	1.16	0.59	0.18	15.27
10-355	1/2" x 1/2"	1.22	1.22	1.22	0.69	0.22	14.27
10-357	5/8" x 1/2"	1.41	1.31	1.41	0.69	0.28	18.93
10-359	3/4" x 1/2"	1.63	1.59	1.63	0.88	0.48	37.27
10-360	3/4" x 3/4"	1.62	1.44	1.62	0.88	0.48	32.92

FORGED FLARE CROSS
SAE# 010501

 455
C1
147F
52

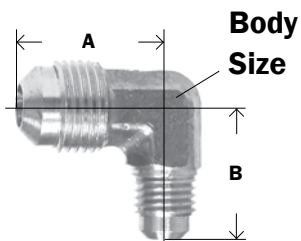
Part #	Thread Size UNF	A	Body Size	Approx. Wt. Lbs.	List Price
10-373	1/4"	0.88	0.44	0.10	13.64
10-374	5/16"	0.92	0.44	0.10	13.36
10-375	3/8"	1.00	0.44	0.16	12.75
10-376	1/2"	1.16	0.59	0.24	15.02

FORGED ADAPTER TEE / SERVICE TEE

 T17
53

Part #	Size 1 x 2 x 3	A	B	C	Body Size	Approx. Wt. Lbs.	List Price
10-382	1/8" x 1/8" x 1/4"	0.72	0.53	0.80	0.47	0.08	7.02
10-383	1/4" x 1/4" x 1/4"	0.88	1.00	0.91	0.47	0.11	8.88

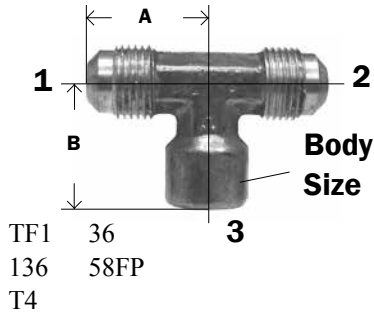
FORGED 90° FLARE ELBOW

 E2
155F

Part #	Thread Size UNF	A	Approx. Wt. Lbs.	List Price
10-404	1/8"	0.64	0.04	16.39
10-405	3/16"	0.75	0.06	10.91
10-406	1/4"	0.81	0.08	1.90
10-407	5/16"	0.91	0.10	5.96
10-408	3/8"	1.00	0.10	5.01
10-409	1/2"	1.16	0.14	7.57
10-410	5/8"	1.41	0.22	12.29
10-411	3/4"	1.66	0.68	24.66
10-412	7/8"	1.81	0.82	45.16

FORGED REDUCING ELBOW

 ER2
657F
55R

Part #	Male Flare x Male Flare	A	B	Body Size	Approx. Wt. Lbs.	List Price
10-416	3/8" x 1/4"	1.00	0.88	0.47	0.08	6.07
10-419	1/2" x 3/8"	1.19	1.02	0.59	0.14	7.71
10-421	5/8" x 1/2"	1.34	1.23	0.72	0.21	12.33

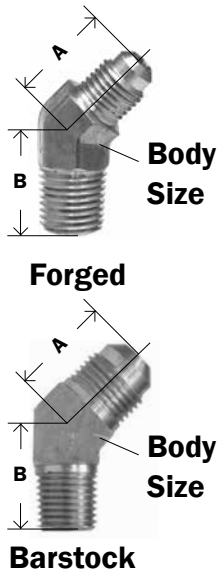
FORGED FEMALE BRANCH TEE



Part #	Male Flare x Female NPTF (1&2) x 3	A	B	Body Size	Approx. Wt. Lbs.	List Price
10-429	1/4" x 1/4"	0.97	0.75	0.69	0.12	10.38
10-430	3/8" x 1/4"	1.00	1.03	0.47	0.14	9.69
10-431	3/8" x 3/8"	1.17	0.69	1.05	0.22	14.99
10-432	3/8" x 1/2"	1.16	0.69	1.05	0.19	13.47
10-434	1/2" x 1/2"	1.31	0.69	1.06	0.22	22.52

45° ELBOW

SAE# 010302



Part #	Male Flare x Male NPTF	A	B	Body Size	Approx. Wt. Lbs.	List Price
10-448	1/4" x 1/8"	0.67	0.64	0.41	0.04	3.14
10-448B*	1/4" x 1/8"	0.67	0.64	0.44	0.04	10.90
10-449	1/4" x 1/4"	0.75	0.86	0.53	0.07	3.69
10-450	5/16" x 1/8"	0.78	0.64	0.53	0.06	3.70
10-451	5/16" x 1/4"	0.81	0.86	0.53	0.07	6.68
10-452	3/8" x 1/4"	0.91	0.86	0.53	0.09	5.95
10-452B*	3/8" x 1/4"	0.89	0.86	0.64	0.12	10.63
10-453	3/8" x 3/8"	0.93	0.94	0.59	0.11	6.16
10-454	3/8" x 1/2"	0.99	1.17	0.75	0.19	8.94
10-455	1/2" x 3/8"	1.07	0.88	0.59	0.12	7.01
10-455B*	1/2" x 3/8"	1.06	0.94	0.76	0.18	22.91
10-456	1/2" x 1/2"	1.12	1.18	0.75	0.20	10.18
10-460	5/8" x 3/8"	1.13	0.95	0.81	0.22	14.78
10-457	5/8" x 1/2"	1.12	1.17	0.78	0.18	11.09
10-458	3/4" x 1/2"	1.28	1.16	0.88	0.26	17.72
10-459	3/4" x 3/4"	1.41	1.20	0.88	0.31	18.16

E145 654F 47
54 59FF 4945
159F 254

* Barstock

BRASS GAS RANGE FITTINGS

BRASS MALE ADAPTERS



Part #	Male Flare x Male NPTF	List Price
35-132	1/2" x 1/2" (3/8" FIP TAP)	6.60
35-134	15/16" x 1/2"	6.33
35-135	15/16" x 3/4" (1/2" FIP TAP)	10.26

BRASS FEMALE ADAPTERS



Part #	Flare x FIP	List Price
35-136	15/16" x 1/2"	9.31
35-142	15/16" x 3/4"	11.25

DRUM ADAPTERS

RD
IF
K1



• Straight Thread

SAE# 010165

Part #	Male Flare x FIP	List Price
50-011	1/4" x 1/2"	28.35
50-001	1/4" x 3/4"	13.73

CAP



Part #	Size	List Price
35-186	15/16"	26.56

SAE 45° FLARE

BRASS FITTINGS

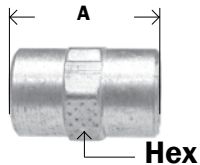
FEMALE 45° FLARE FITTINGS

• Use with Copper Gasket

UNION

SAE# 010107

2310
U4
660HD
32

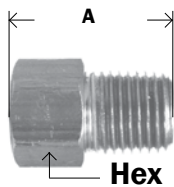


Part #	Female Flare x Female Flare	A	Hex	Approx. Wt. Lbs.	List Price
10-135	1/4"	1.00	0.62	0.06	11.52
10-136	3/8"	1.25	0.81	0.14	19.52
10-137	1/2"	1.43	0.94	0.18	24.93

FEMALE FLARE ADAPTER

SAE# 010106

U5
664FHD
33
48-FF

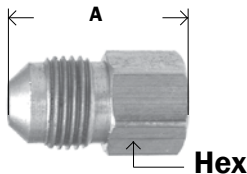


Part #	Female Flare x Male NPTF	A	Hex	Approx. Wt. Lbs.	List Price
10-440	1/4" x 1/8"	0.91	0.62	0.05	3.99
10-441	1/4" x 1/4"	1.01	0.62	0.06	5.85
10-442	3/8" x 1/4"	1.28	0.81	0.10	6.06
10-443	1/2" x 3/8"	1.36	0.94	0.14	25.04
10-444	1/2" x 1/2"	1.46	0.94	0.14	11.64

FLARE REDUCER

SAE# 010105

UR3
661FHD
227
46-FF



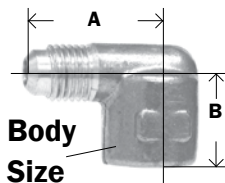
Part #	Male Flare x Female Flare	A	Hex	Approx. Wt. Lbs.	List Price
10-462	1/4" x 3/8"	1.22	0.81	0.10	6.80
10-461	1/4" x 1/2"	1.36	0.94	0.14	21.80
10-463 *	3/8" x 1/4"	1.12	0.62	0.06	4.69
10-464	3/8" x 1/2"	1.44	0.94	0.14	7.71
10-473	3/8" x 5/8"	1.63	1.12	0.16	16.95
10-467	1/2" x 3/8"	1.41	0.81	0.13	7.28
10-468	1/2" x 5/8"	1.68	1.06	0.20	33.83
10-469	5/8" x 1/2"	1.63	1.00	0.17	19.92
10-470	5/8" x 3/4"	1.97	1.31	0.31	20.34
10-471	3/4" x 5/8"	1.75	1.18	0.32	22.20

* Available in Stainless Steel. Add SS to the part#

90° ELBOW

• Use with Copper Gasket

E4
669F

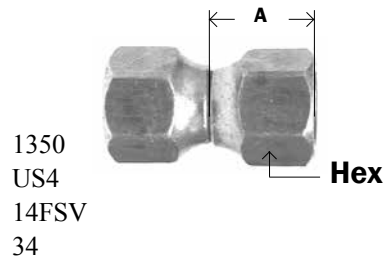


Part #	Male Flare x Female Flare	A	B	Body Size	Approx. Wt. Lbs.	List Price
10-500	1/4" x 1/4"	0.97	0.69	0.75	0.56	8.13
10-495	1/2" x 1/2"	1.41	1.12	0.81	0.72	29.56

BRASS FLARE SWIVEL FITTINGS

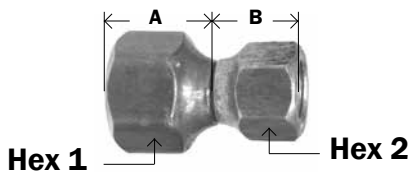
FORGED SWIVEL

SAE# 010108



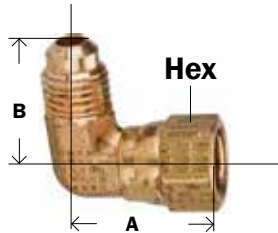
Part #	Female Flare UNF	A	Hex	Approx. Wt. Lbs.	List Price
10-481	1/4"	0.59	0.62	0.04	6.14
10-482	5/16"	0.62	0.68	0.06	8.79
10-483	3/8"	0.69	0.81	0.10	6.54
10-484	1/2"	0.81	0.94	0.16	8.98
10-485	5/8"	0.94	1.06	0.24	11.05
10-486	3/4"	1.12	1.31	0.34	35.52

REDUCING SWIVELS



Part #	Female Flare UNF	A	B	Hex 1	Hex 2	Approx. Wt. Lbs.	List Price
10-487	3/8" x 1/4"	0.72	0.60	0.81	0.62	0.08	13.37
10-488	1/2" x 3/8"	0.84	0.70	0.94	0.81	0.12	16.33
10-489	5/8" x 1/2"	0.98	0.82	1.03	0.94	0.22	19.96

FORGED SWIVEL ELBOWS



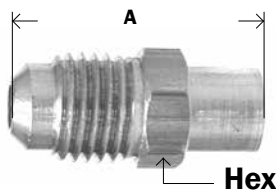
ES4

Part #	Male Flare x Female Flare	A	B	Hex	Approx. Wt. Lbs.	List Price
10-493	1/4"	0.93	0.86	.563	0.12	12.94
10-494	3/8"	1.12	1.0	.75	0.20	20.86
10-495	1/2"	1.29	1.20	.88	0.25	29.56
10-496	5/8"	1.50	1.30	1.00	0.37	39.56
10-497	3/4"	1.83	1.60	1.25	0.54	69.05

BRASS SOLDER FITTINGS

FLARE TO SWT UNION

SAE# 010104



4085 46FS
US3 277
672FS

Part #	Male Flare x SWT	A	Hex	Approx. Wt. Lbs.	List Price
10-602	1/4" x 3/8"	1.00	0.50	0.06	5.88
10-611	1/2" x 5/8"	1.56	0.75	0.12	20.90
10-615	3/4" x 3/4"	2.06	1.06	0.32	20.24

FLARE BALL VALVES



MIP x FLARE w/ CHECK VALVE

Part #	Size	A	B	C	D	List Price
944-060	1/4 x 1/4	2.18	2.78	0.73	1.25	15.51

FLARE x MIP WITHOUT CHECK VALVE

Part #	Size	A	B	C	D	List Price
944-026	1/4 x 1/4	1.44	2.64	0.75	1.44	17.74

JIC 37° FLARE

Thread Chart	
Size	JIC Thread
1/8	5/16-24
3/16	3/8-24
1/4	7/16-20
5/16	1/2-20
3/8	9/16-18
1/2	3/4-16
5/8	7/8-14
3/4	1-1/16-12
1	1-5/16-12

STRAIGHT

FTXB



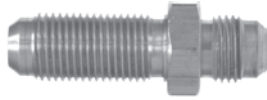
Part #	JIC Thread	Pipe Size	List Price
28-701	7/16-20	1/8	2.98
28-702	7/16-20	1/4	6.03
28-703	7/16-20	3/8	15.90
28-704	1/2-20	1/8	46.20
28-705	1/2-20	1/4	20.91
28-706	9/16-18	1/8	6.98
28-707	9/16-18	1/4	6.21
28-708	9/16-18	3/8	4.98
28-709	9/16-18	1/2	9.90
28-710	3/4-16	1/4	12.35
28-711	3/4-16	3/8	9.73
28-712	3/4-16	1/2	13.32
28-713	3/4-16	3/4	28.86
28-714	7/8-14	3/8	21.78
28-715	7/8-14	1/2	20.19
28-716	7/8-14	3/4	22.28
28-717	1-1/16-12	3/4	21.58
28-748	1-1/16-1/2	1/2	28.64
28-749	1-1/16-1	1	45.84
28-718	1-5/16-12	1	40.56

45° FORGED ELBOW

VTXB



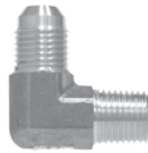
Part #	JIC Thread	Pipe Size	List Price
28-722F	7/16-20	1/8	8.52
28-724F	7/16-20	1/4	11.41
28-728F	1/2-20	1/4	4.65
28-729F	9/16-18	1/8	28.62
28-731F	9/16-18	1/4	8.84
28-733F	9/16-18	3/8	8.01
28-734F	9/16-18	1/2	17.23
28-736F	3/4-16	3/8	11.96
28-738F	3/4-16	1/2	37.05
28-740F	7/8-14	1/2	19.53
28-742F	1-1/16-12	3/4	64.52

BULKHEAD TUBE UNION

Part #	JIC Thread	List Price
28-797	9/16-18	56.60
28-955	1-1/16-12	60.32

90° FORGED ELBOW

CTXB



Part #	JIC Thread	Pipe Size	List Price
28-760F	7/16-20	1/8	7.74
28-762F	7/16-20	1/4	7.00
28-766F	1/2-20	1/4	12.65
28-768F	9/16-18	1/8	20.00
28-770F	9/16-18	1/4	7.10
28-772F	9/16-18	3/8	13.66
28-773F	9/16-18	1/2	23.10
28-774F	3/4-16	3/8	19.92
28-777F	3/4-16	1/2	17.02
28-778F	3/4-16	3/4	34.33
28-780F	7/8-14	1/2	28.15
28-781F	1-1/16-12	1/2	57.38
28-783F	1-1/16-12	3/4	31.13
28-784F	1-5/16-12	3/4	50.11
28-786F	1-5/16-12	1	48.38

For Steel 37° Flare JIC fittings
see page 393

ROCHESTER INDUSTRIAL PRODUCTS

BRASS FITTINGS**STRAIGHT SWIVEL ADAPTER**

Part #	JIC Thread	Pipe Size	List Price
28-753	9/16-18	1/4	12.77
28-754	9/16-18	3/8	19.44
28-756	3/4-16	1/2	20.33

FEMALE STRAIGHT ADAPTER

GTXB



Part #	JIC Thread	Pipe Size	List Price
28-957	7/16-20	1/8	8.04
28-958	7/16-20	1/4	10.19
28-959	9/16-18	1/4	22.98
28-960	9/16-18	3/8	16.75
28-961	3/4-16	3/8	8.94
28-962	3/4-16	1/2	25.27
28-963	7/8-14	1/2	18.61
28-964	1-1/16-12	3/4	44.20

STRAIGHT TUBE UNION

HTXB



Part #	JIC Thread	List Price
28-966	7/16-20	8.37
28-969	9/16-18	10.59
28-970	3/4-16	12.85
28-971	1-1/16-12	63.05
28-972	1-5/16-12	38.42

TUBE TEE

JTXB



Part #	JIC Thread	List Price
28-981	7/16-20	61.93
28-982	9/16-18	68.99

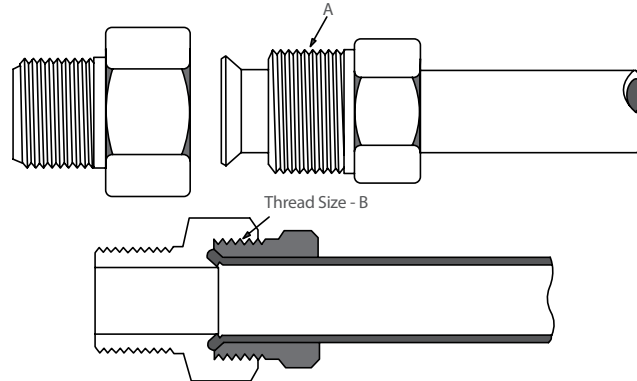
FEMALE ELBOW (FORGED BODY)

DTXB



Part #	JIC Thread	Pipe Size	List Price
28-973	7/16-20	1/8	14.33
28-974	7/16-20	1/4	21.86
28-975	9/16-18	1/4	20.83

Inverted Flare



Tube O.D.	1/8	3/16	1/4	5/16	3/8	7/16	1/2	5/8	3/4	7/8	1
Thread O.D. threads per inch	5/16-24	3/8-24	7/16-24	1/2-20	5/8-18	11/16-18	3/4-18	7/8-18	1-1/16-16	1-3/16-16	1-5/16-16

•Typical Application

Hydraulic brake, power steering, fuel lines and transmission cooler lines, LP and natural gas.

•Working Pressure Ranges

Temperature and type of tubing used are important factors. However, the following table is a good guide for proper selection. Temperature 73°F with copper tubing:

PSI	Tube O.D. (in.)	Tube Wall (in.)
2800	1/8	.030
1900	3/16	.030
1400	1/4	.030
1200	5/16	.032
1000	3/8	.032
750	1/2	.032
650	5/8	.035
550	3/4	.035

•Vibration

Excellent resistance.

•Temperature Range

-65°F to +250°F (-53°C to +121°C) range at maximum operating pressures.

•Material

CA360 Brass.

•Used With

Copper, brass, aluminum and steel hydraulic tubing that can be flared.

•Advantages

Very low cost and reusable. Seats and threads are internal and protected. Compact, excellent vibration life. Short nut affords very close tube bends. Steel or brass tube nut.

•Tolerance

+/- .03 on all dimensions. Dimension data can change without notice. Please call us when dimensions are critical

•Conformance

Meets specifications and standards of ASA, ASME, SAE and MS (Military Standards).

•Assembly Instructions

- 1-Cut tubing to desired length. Make sure all burrs are removed and the ends are cut square.
- 2- Slide nut on tube. Threaded end "A" of nut must face out.
- 3- Flare end of tube with a 45° flaring tool.
 - a- Measure flare diameter.
 - b- Examine flare for excessive thin out.
 - c- On thin wall, welded or brazed tubing, use double flare to prevent pinch-off and cracked flares.
- 4- Lubricate threads and assemble to fitting body. Nut should be turned hand tight.
- 5- Tighten assembly with wrench until a solid feeling is encountered. From that point, apply a one-sixth turn.

Note: Do not over-torque as it may damage the fitting or split the tubing at the flare.

STANDARD METRIC THREADS

Description Tube Size	Thread O.D.	Crest (Pitch)	Thread Description
Japanese 3/16"	10mm	1.0mm	M10 x 1.0
European 3/16"	10mm	1.0mm	M10 x 1.0
GM 6mm	12mm	1.0mm	M12 x 1.0
Fuel 5/16"	14mm	1.5mm	M14 x 1.5
Fuel 3/8"	16mm	1.5mm	M16 x 1.5

Measuring Metric Threads: Measure the O.D. of the threads and the crest to crest distance (pitch) in millimeters between threads.

Actual O.D. of male inverted flare threads

5/16"-24 2800 PSI	3/8"-24 1900 PSI	7/16"-24 1400 PSI	1/2"-20 1200 PSI	5/8"-18 1000 PSI	3/4"-18 750 PSI	7/8"-18 650 PSI	1-1/16"-16 550 PSI
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1/8"

3/16"

1/4"

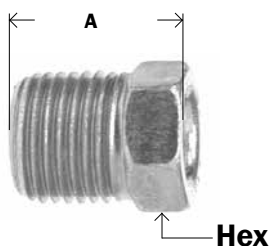
5/16"

3/8"

1/2"

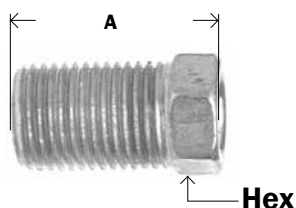
5/8"

3/4"

INVERTED FLARE**BRASS FITTINGS****ZINC CHROMATE STEEL NUT****SAE# 040110**

121XXX
2105
411FS
105
41W

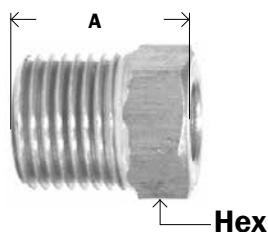
Part #	Size	Thread	A	Hex	Approx. Wt. Lbs.	List Price
12-001	1/8"	5/16-24	0.52	0.31	0.01	2.48
12-002	3/16"	3/8-24	0.56	0.37	0.02	0.41
12-018	3/16"	7/16-24				1.98
12-003	1/4"	7/16-24	0.56	0.43	0.02	0.46
12-004	5/16"	1/2-20	0.62	0.50	0.02	0.53
12-005	3/8"	5/8-18	0.66	0.62	0.03	0.89
12-000	7/16"	11/16-18	0.68	0.68	0.04	4.73
12-011	3/8"	11/16-18	0.66	0.68	0.05	6.06
12-006	1/2"	3/4-18	0.74	0.75	0.08	2.94
12-007	5/8"	7/8-18	0.80	0.87	0.10	3.31
12-008	3/4"	1-1/16-16	0.88	1.06	0.10	5.86

LONG STEEL NUT

7896

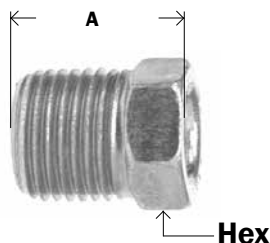
for Domestic lines

Part #	Size	A	Hex	Approx. Wt. Lbs.	List Price
12-009	3/16"	0.84	0.37	0.02	1.43
12-010	1/4"	0.81	0.43	0.02	1.64

INVERTED FLARE BRASS NUT**SAE# 040110**

2100
411F
100
411B

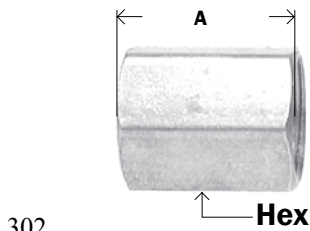
Part #	Size	A	Hex	Approx. Wt. Lbs.	List Price
12-012	1/8"	0.52	0.31	0.01	2.90
12-013	3/16"	0.56	0.37	0.01	1.78
12-014	1/4"	0.56	0.43	0.02	0.62
12-015	5/16"	0.62	0.50	0.03	1.25
12-016	3/8"	0.66	0.62	0.04	1.63
12-017	1/2"	0.74	0.75	0.05	4.41

ZINC STEEL METRIC TUBE NUTS

Part #	Tube size	Thread	Ref#	List Price
12-260	3/16 British	3/8-24 Bubble	---	2.04
12-261	3/16 European	M10 x 1.0 Bubble	276110	1.98
12-262	3/16 Japanese	M10 x 1.0 Inv.	121050	1.98
12-263	3/16 Domestic	1/2 x 20 Inv.	---	2.52
12-264	3/16 Domestic	9/16 - 18 Inv.	121039	2.52
12-265	3/16 Imported	M11 x 1.5 Bubble	276011	2.52
12-266	3/16 Imported	M12 x 1.0 Bubble	276012	2.46
12-267	3/16 Imported	M13 x 1.5 Bubble	276013	2.58
12-268	1/4 Domestic	9/16 x 18 Inv.	121049	2.46
12-269	1/4 Domestic	1/2 x 20 Inv.	121045	2.58
12-270	6mm Imported	M12 x 1.0 Bubble		2.58
12-271	6mm GM	M12 x 1.0 Bubble		2.58
12-272	6mm GM	M12 x 1.5 Bubble		2.64
12-273	6mm GM	M14 x 1.5 Bubble		2.64
12-274	5/16 Domestic	M14 x 1.5 Surface Seal	121069	7.80
12-275	3/8 Domestic	M16 x 1.5 Surface Seal	121070	8.16

UNION INTERNAL

SAE# 040101



302
2300
42IFHD

Part #	Inv. Flare X Inv. Flare	A	Hex	Approx. Wt. Lbs.	List Price
12-022	1/8"	0.59	0.40	0.02	10.27
12-023	3/16"	0.62	0.47	0.02	0.80
12-024	1/4"	0.62	0.50	0.03	1.70
12-025	5/16"	0.70	0.56	0.04	2.50
12-026	3/8"	0.80	0.75	0.08	3.02
12-027	1/2"	0.91	0.90	0.10	8.18

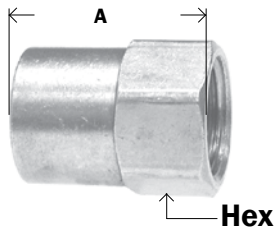
see page 70 for metric unions

BRASS

LOWER

FEMALE ADAPTER

SAE# 040103



46IFHD
252
46W

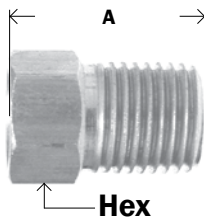
Part #	Inv. Flare X Female NPTF	A	Hex	Approx. Wt. Lbs.	List Price
12-032	3/16" x 1/8"	0.75	0.50	0.02	3.00
12-033	1/4" x 1/8"	0.75	0.53	0.02	1.89
12-034	5/16" x 1/8"	0.78	0.59	0.04	5.84
12-035	3/8" x 1/4"	1.03	0.75	0.08	6.30
12-036	1/2" x 3/8"	1.10	0.90	0.12	12.29

LOWER

LOWER

MALE ADAPTER

SAE# 040102



2200
48IFHD
202
48W
200

Part #	Inv. Flare X Male NPTF	A	Hex	Approx. Wt. Lbs.	List Price
12-041	1/8" x 1/8"	0.63	0.40	0.02	2.69
12-042	3/16" x 1/8"	0.70	0.43	0.02	1.25
12-043	1/4" x 1/8"	0.74	0.50	0.03	1.25
12-044	1/4" x 1/4"	0.89	0.56	0.04	1.50
12-045	5/16" x 1/8"	0.79	0.56	0.03	2.00
12-046	5/16" x 1/4"	0.98	0.56	0.05	2.05
12-047	3/8" x 1/8"	0.88	0.72	0.05	2.75
12-048	3/8" x 1/4"	1.02	0.75	0.06	2.27
12-049	3/8" x 3/8"	1.02	0.75	0.08	4.58
12-038	1/2" x 1/4"	0.97	0.87	0.10	5.20
12-050	1/2" x 3/8"	1.06	0.87	0.08	6.24
12-051	1/2" x 1/2"	1.06	0.87	0.11	6.02
12-052	5/8" x 1/2"	1.32	1.06	0.15	5.25
12-040	3/4" x 3/4"	1.39	1.25	0.24	23.66

LOWER

LOWER

LOWER

LOWER

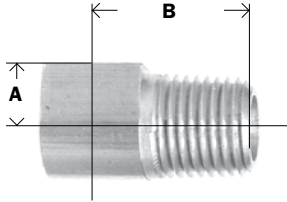
LOWER

INVERTED FLARE

BRASS FITTINGS

ELBOW

SAE# 040202



400
2400
249IFHD 249IF
402 49W

Part #	Inv. Flare X Male NPTF	A	B	Approx. Wt. Lbs.	List Price
12-057	1/8" x 1/8"	0.26	0.59	0.03	8.83
12-058	3/16" x 1/8"	0.26	0.61	0.03	2.81
12-059	1/4" x 1/8"	0.33	0.65	0.04	1.60
12-054*	1/4" x 1/8"	0.33	0.65	0.04	28.67
12-060	1/4" x 1/4"	0.28	0.82	0.06	3.20
12-061	5/16" x 1/8"	0.47	0.68	0.05	2.20
12-062	5/16" x 1/4"	0.45	0.85	0.08	3.20
12-063	3/8" x 1/8"	0.54	0.76	0.14	5.26
12-064	3/8" x 1/4"	0.53	0.92	0.14	4.73
12-065	3/8" x 3/8"	0.50	0.94	0.12	9.80
12-066	1/2" x 3/8"	0.59	1.03	0.16	6.60
12-067	1/2" x 1/2"	0.66	1.22	0.25	8.60
12-056	5/8" x 3/8"	0.67	1.09	0.20	16.93
12-068	5/8" x 1/2"	0.67	1.29	0.18	9.43
12-069	3/4" x 1/2"	0.80	1.39	0.42	53.25
12-080	7/8" x 3/4"	0.94	1.43	0.48	83.49
12-081	1" x 1"	1.02	1.69	0.60	97.97

LOWER

LOWER

LOWER

LOWER

LOWER

LOWER

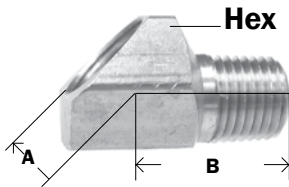
LOWER

LOWER

* Restricted pipe end .062

45° ELBOW

SAE# 040302



154
2352
259IFHD
352 94W

Part #	Inv. Flare X Male NPTF	A	B	Hex	Approx. Wt. Lbs.	List Price
12-072	3/16" x 1/8"	0.25	0.55	0.53	0.02	8.16
12-073	1/4" x 1/8"	0.27	0.58	0.56	0.04	3.91
12-074	5/16" x 1/8"	0.36	0.56	0.62	0.06	6.03
12-075	5/16" x 1/4"	0.23	0.83	0.62	0.06	19.05
12-076	3/8" x 1/4"	0.51	0.84	0.78	0.09	12.67
12-077	1/2" x 3/8"	0.38	0.91	0.84	0.11	13.14
12-079	5/8" x 1/2"	0.44	1.00	1.06	0.21	56.26

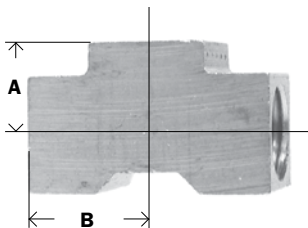
LOWER

LOWER

LOWER

UNION TEE

SAE# 040401

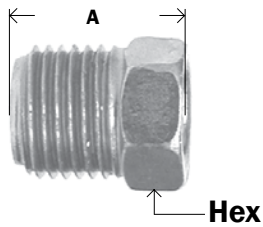


244IFHD
702
44I

Part #	Size	A	B	Approx. Wt. Lbs.	List Price
12-085	1/8"	0.33	0.47	0.04	22.74
12-086	3/16"	0.39	0.55	0.04	4.12
12-087	1/4"	0.42	0.56	0.08	6.63
12-088	5/16"	0.45	0.63	0.09	11.65
12-089	3/8"	0.56	0.74	0.17	12.69
12-090	1/2"	0.67	0.88	0.24	28.86

STEEL PLUG

• cored



106
41IP
131
2131

SAE# 040109

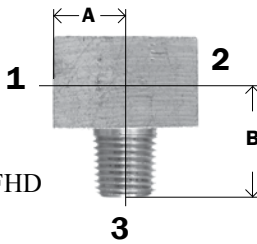
Part #	Size	A	Hex	Approx. Wt. Lbs.	List Price
12-091	3/16"	0.53	0.37	0.01	0.83
12-092	1/4"	0.54	0.43	0.02	1.04
12-093	5/16"	0.59	0.50	0.03	1.15
12-094	3/8"	0.66	0.62	0.04	2.69

BRASS

LOWER

MALE BRANCH TEE

SAE# 040425

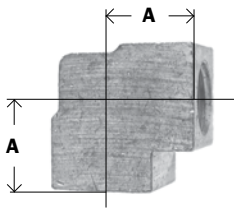


145
245IFHD
602
2600
600

Part #	Inv. Flare x Male NPTF (1&2)x3	A	B	Approx. Wt. Lbs.	List Price
12-100	3/16" x 1/8"	0.41	0.60	0.04	4.69
12-101	1/4" x 1/8"	0.42	0.64	0.06	6.56
12-102	5/16" x 1/8"	0.47	0.68	0.07	10.56
12-103	3/8" x 1/4"	0.58	0.93	0.15	34.17

FEMALE ELBOW

SAE# 040203



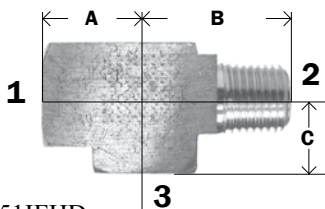
450

Part #	Inv. Flare x Female NPTF	A	Approx. Wt. Lbs.	List Price
12-110	1/4" x 1/8"	0.55	0.07	11.11
12-111	5/16" x 1/8"	0.51	0.08	20.71
12-112	3/8" x 1/4"	0.68	0.10	12.12

LOWER

MALE RUN TEE

SAE# 040424



251IFHD
752
550
151

Part #	Inv. Flare x Male NPTF (1&3)x2	A	B	C	Approx. Wt. Lbs.	List Price
12-118	3/16" x 1/8"	0.53	0.72	0.39	0.06	36.97
12-119	1/4" x 1/8"	0.56	0.75	0.42	0.08	36.52
12-120	5/16" x 1/8"	0.62	0.85	0.45	0.10	11.90
12-121	3/8" x 1/4"	0.75	1.08	0.56	0.14	33.71

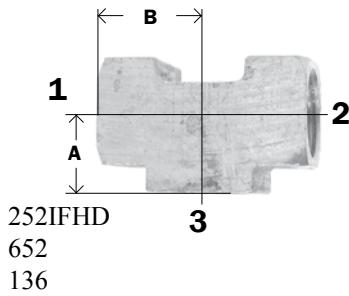
LOWER

INVERTED FLARE

BRASS FITTINGS

FEMALE BRANCH TEE

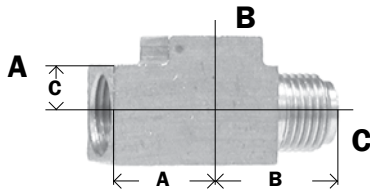
SAE# 040427



Part #	Inv. Flare x Female NPTF (1&2)x3	A	B	Approx. Wt. Lbs.	List Price
12-127	3/16" x 1/8"	0.39	0.55	0.06	15.55
12-129	5/16" x 1/8"	0.45	0.63	0.12	31.10
12-130	3/8" x 1/4"	0.56	0.74	0.17	25.25

LOWER

TOWED TRAILER BRAKE TEE

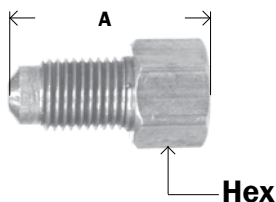


Part #	A	B	C	Reference #	Approx. Wt. Lbs.	List Price
12-147	3/16" 0.57	3/16" 0.76	3/16" 0.42	7900	0.08	7.00
12-145	3/16" (1/2-20) 0.68	3/16" (3/8-24) 0.94	3/16" (1/2-20) 0.47	7906	0.17	35.37
12-148	3/16" (9/16-18)	3/16" (3/8-24)	3/16" (9/16/18)	7933	0.10	13.62
12-144	3/16" (9/16-20) 0.82	3/16" (3/8-24) 0.94	3/16" (9/16-20) 0.47	7905	0.18	51.47
12-146	3/16" (7/16-24) 0.54	3/16" (3/8-24) 0.78	1/4" (7/16-24) 0.42	7914	0.08	30.18
12-150	1/4" 0.56	3/16" 0.77	1/4" 0.43	7901	0.10	28.68
12-149	1/4" (9/16-18) 0.81	3/16" (3/8-24) 0.93	1/4" (9/16-18) 0.50	7904	0.10	45.81
12-151	1/4" 0.56	1/4" 0.77	1/4" 0.43	7898	0.12	16.62

LOWER

INVERTED FLARE AUTO FITTINGS

DUAL MASTER CYLINDER ADAPTER

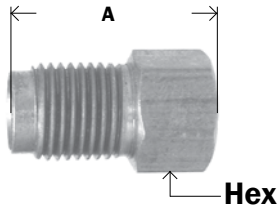


Part #	Male Flare x Female Inv.	A	Hex	Reference #	Approx. Wt. Lbs.	List Price
12-200	3/16" x 3/16"	1.00	0.50	1441	0.03	3.89
12-202	5/16" x 3/16"	0.96	0.68	7897	0.07	8.94

YOU MISS 100% OF THE SHOTS YOU DON'T TAKE.

- WAYNE GRETZKY

DUAL MASTER CYLINDER ADAPTER

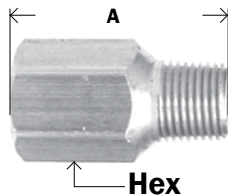


- Other sizes available
- * Seals on hex face

47W

Part #	Male	Female	Ref#	List Price
12-210	3/8-24 (3/16)	7/16-24 (1/4)	7828	2.96
12-212	7/16-24 (1/4)	3/8-24 (3/16)	7818	2.69
12-214*	7/16-20	1/4	7732	7.85
12-217	7/16-24 Inv. (1/4)	1/2-20 (5/16)	7917	5.82
12-216	1/2-20 (5/16)	3/8-24 (3/16)	7909	4.79
12-218*	5/16"	1/4	7727	7.55
12-220	1/2-20 (5/16)	7/16-24 (1/4)	7829	5.45
12-222*	5/16"	5/16	1074	2.18
12-208	1/2-20 (5/16)	9/16-18	7912	6.42
12-206	9/16-18	3/8-24 (3/16)	7911	7.02
12-211	9/16-18	7/16-24 (1/4)	7908	6.42
12-209	9/16-18	1/2-20 (5/16)	7913	6.42
12-217	5/8-18 (3/8)	1/2-20 (5/16)	7916	5.82
12-224	3/8" MPT	5/16	7771	16.79
12-205	M10 x 1.0 Japanese	3/8-24 (3/16)	1443	4.68
12-335	M10 x 1.0 European	3/8-24 (3/16)	1442	3.78
12-336	M11 x 1.5 Metric Bubble	3/8-24 (3/16)	7973	11.22
12-341	M12 x 1.0 Metric Bubble	3/8-24 (3/16)	7974	18.13
12-339	M13 x 1.5 Metric Bubble	3/8-24 (3/16)	7972	21.34
12-326	M11 x 1.5 Metric Bubble	M10 x 1.0 (3/16)	7935	17.40
12-327	M12 x 1.0 GM 6mm	M10 x 1.0 (3/16)	7936	16.79
12-328	M13 x 1.5 Metric Bubble	M10 x 1.0 (3/16)	7937	17.40
12-329	M9 x 1.0 Metric Inv.	3/8-24 (3/16)	-	9.18
12-330	7/16-20 Bubble	3/8-24 (3/16)	-	6.18

CARBURETOR TO FUEL LINE ADAPTER - FORD

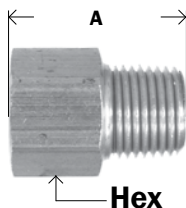


1513

Part #	Size	A	Hex	Ref #	Approx. Wt. Lbs.	List Price
12-230	1/4"(1/2-20) x 1/8"MPT	1.06	0.56	1513	0.04	17.18

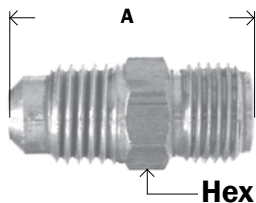
RESTRICTION PIPE ADAPTER

(.0625 ORIFICE)



1510

Part #	Size FIP x MIP	A	Hex	Ref #	Approx. Wt. Lbs.	List Price
12-310	1/8"	0.75	0.50	1512	0.02	7.27

INVERTED FLARE**BRASS FITTINGS****SAE FLARE X INVERTED FLARE**

4205

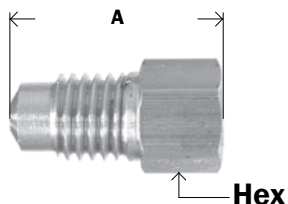
Part #	SAE Flare x Inv. Flare	A	Hex	Ref #	Approx. Wt. Lbs.	List Price
12-250	1/4" x 3/16"	1.03	0.43	1518	0.02	19.05
12-252	1/4" x 1/4"	1.03	0.43	1522	0.03	2.69
12-254	3/8" x 5/16"	1.34	0.63	1553	0.08	24.33
12-256	3/8" x 3/8"	1.37	0.63	1563	0.09	11.55
12-257	3/8" x 7/16"	1.40	0.68	1554	0.10	21.53

LOWER

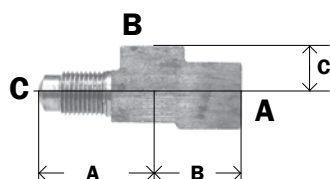
LOWER

LOWER

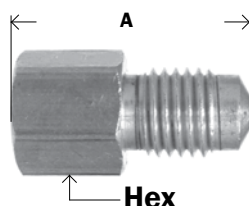
LOWER

METRIC HYDRAULIC BRAKE FITTINGS**METRIC ADAPTER**

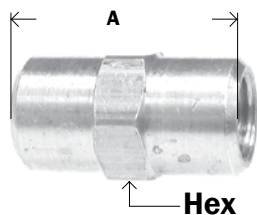
Part #	Male	O.D.	A	Hex	Ref #	Approx. Wt. Lbs.	List Price
12-335	M10x1.0	3/16" (3/8-24)	1.02	0.50	1442	0.02	3.78
12-326	M11x1.5	3/16" (M10x1.0)	1.06	0.50	7935	0.02	17.40
12-327	M12x1.0	3/16" (M10x1.0)	1.02	0.53	7936	0.04	16.79
12-328	M16x1.5	3/16" (M10x1.0)	1.02	0.56	7937	0.06	17.40

METRIC TOWED TRAILER BRAKE TEE

Part #	A	B	C	Ref #	Approx. Wt. Lbs.	List Price
12-333	3/16" (M12x1.0) 1.03	3/16" (3/8-24) 0.75	3/16" (M12x1.0) 0.49	7921	0.16	39.78

ADAPTER STANDARD TO METRIC BUBBLE

Part #	Female	Male	A	Hex	Reference #	Approx. Wt. Lbs.	List Price
12-337	3/16" (3/8-24)	4.762(3/16") (10x1.25)	1.00	0.50	7970	0.02	19.86
12-339	3/16" (3/8-24)	13x1.5	1.03	0.56	7972	0.04	21.34
12-341	3/16" (3/8-24)	12x1.0	1.02	0.53	7974	0.04	18.13

METRIC UNION

Part #	Size	A	Hex	Ref #	Approx. Wt. Lbs.	List Price
12-342	British Brake Lines 3/16 (3/8-24 Bubble)			1594		7.32
12-343	European Brake Lines 3/16"(10.0MM)	1.04	0.56	7975	0.04	16.50
12-344	Japanese Brake Lines 3/16 (M10 x 1.0) Inverted			7934A		7.32
12-345	GM Brake Lines 6mm M12 x 1.0 Bubble					7.20