

# Adapters and Tube Fittings Index

## Alphabetical Index

DESCRIPTION	PAGES
<b>Adapters</b>	<b>196</b>
Braze and weld to 37° flare	265
Braze and weld to split flange	263
BSPP to 37° flare	274
BSPT to 37° flare	275
Ermeto®	282
ISO 6149 to ORS	272
JIS 30° to 37° flare	275
Metric to 37° flare	269
O-Rings	199
Pipe to braze and weld	246
Pipe to 45° flare	243
Pipe to pipe	224
Pipe to SAE O-ring boss	244
Pipe to 37° flare	233
SAE flareless to 37° union	266
SAE O-ring to 37° flare	254
SAE split flange to SAE split flange	262
SAE split flange to 37° flare	259
SAE 37° (JIC) flare union	247
SAE Split Flange to ORS	257
Specials	268
Stainless Steel Adapters	276
Versil•Flare™ flare and flareless	267

DESCRIPTION	PAGES
<b>Assembly Instructions</b>	<b>309</b>
O-ring boss	316
ORS braze type tube fittings	313
ORS-TF tube fittings	311
ORS tube fittings	314
Pipe threads	314
SAE 37° (JIC)	314
Versil•Flare tube fittings	315
<b>ORS Tube Fittings</b>	<b>208</b>
ORS accessories	221
ORS braze type	209
ORS to Metric	273
ORS to NPTF	216
ORS to O-ring boss	212
ORS to ORS	218
ORS-TF	208

DESCRIPTION	PAGES
<b>Technical Data</b>	<b>343</b>
Assembly torque	376
BSPP threads	370
BSPT threads	370
Fluid Compatibility Chart (Hose, Seals, Metal)	349-355
Metric threads	367
Tube installation	379
Thread engagement dimensions	375
Through hole dimensions	363
Thread size chart	363
Thread style pressure performance	375
Tubing specifications	376
Versil•Flare Tube Fitting Connection	204

DESCRIPTION	PAGES
<b>Configuration Index</b>	<b>198</b>
<b>Fluid Compatibility Chart (Hose, Seals, Metal)</b>	<b>349-355</b>
<b>How To Order</b>	<b>206</b>
<b>Numerical Index</b>	<b>197</b>
<b>O-Rings</b>	<b>192</b>
<b>O-Ring Kits</b>	<b>194</b>
<b>ORS Connection</b>	<b>203</b>

SPECIALTY &  
TRUCK HOSE

LOW & MEDIUM  
PRESSURE HOSE

HIGH PRESSURE HOSE

HOSE FITTINGS

ADAPTERS &  
TUBE FITTINGS

ACCESSORIES &  
ASSEMBLY INSTRUCTIONS

HOSE ASSEMBLY  
EQUIPMENT

APPENDICES

# Adapter Part Index

<b>PART NUMBER</b>	<b>PAGE</b>	<b>PART NUMBER</b>	<b>PAGE</b>	<b>PART NUMBER</b>	<b>PAGE</b>	<b>PART NUMBER</b>	<b>PAGE</b>
15.000	273	2039	250	2240	233	202113	234
15.063	269	2040	226	2242	235	202114	234
15.117	270	2041	248	2243	236	202124	268
15.147	270	2041-1	248	2244	239	202232	265
15.163	270	2042	249	2246	244	202411	237
15.164	270	2042-1	249	2247	227	202413	238
15.165	270	2043	250	2249	239	202414	238
259-1290	281	2043-1	250	2250	238	202702	254
259-2021	279	2044	236	2251	229	202712	247
259-2022	280	2045	226	2252	229	202713	255
259-2023	279	2046	227	2253	231	202901	241
259-2024	280	2047	230	2254	231	203002	252
259-2027	280	2048	229	2255	231	203002-1	252
259-202702	281	2049	228	2256	230	203003	257
259-2039	280	2050	227	2257	230	203003-1	257
259-2062	281	2056	253	2266	255	203005	256
259-2071	280	2060	253	4624	263	203005-1	256
259-2081	277	2061	255	7015X	288	203006	240
259-2082	277	2061-1	255	7105X	287	203007	239
259-2083	277	2062	256	7129X	288	203008	252
259-2085	277	2062-1	256	7165X	287	203101	252
259-2087	278	2063	274	7205X	289	203102	252
259-2088	278	2066	245	7229X	288	203103	240
259-2089	278	2067	245	7255X	289	203104	241
259-2090	278	2067-1	245	7305X	288	203301	240
259-2091	278	2068	246	7306X	288	206209	255
259-2092	279	2068-1	246	7315X	290	206209-1	255
259-2096	279	2070	249	7325X	289	206801	246
259-2240	279	2071	250	7355X	290	206801-1	246
259-900605	281	2080	232	7405X	291	206804	246
1290	267	2081	225	7455X	291	206804-1	246
2000	243	2082	225	7505X	290	208006	232
2001	243	2083	224	7515X	291	208007	232
2002	244	2084	225	7605X	293	210212	253
2003	244	2085	228	7655X	293	210292	248
2004	268	2087	230	7705X	292	210294	266
2007	243	2088	228	7716X	292	221501	249
2015	224	2089	229	7755X	292	500023	261
2018	234	2090	232	7805X	292	500024	261
2020	253	2091	232	7924X	287	500025	259
2021	233	2092	231	8112X	287	500454	251
2022	235	2093	231	8165X	287	504089	262
2023	235	2096	227	71416	264	504095	251
2024	236	2214	256	71418	263	900598	223
2025	239	2215	249	71422	264	900598-1	223
2027	247	2216	245	71423	263	900599	248
2028	240	2216-1	245	73014	265	900605	267
2029	242	2220	223	73056	246	FC1102	264
2030	241	2222	226	200001	268	FC1132	264
2031	242	2229	224	202003	242	FC1229	209
2033	251	2239	234	202006	242	FC1851	208

SPECIALTY & TRUCK HOSE

LOW & MEDIUM PRESSURE HOSE

HIGH PRESSURE HOSE

HOSE FITTINGS

ADAPTERS & TUBE FITTINGS

ACCESSORIES & ASSEMBLY INSTRUCTIONS

HOSE ASSEMBLY EQUIPMENT

APPENDICIES

	<b>PART NUMBER</b>	<b>PAGE</b>	<b>PART NUMBER</b>	<b>PAGE</b>	<b>PART NUMBER</b>	<b>PAGE</b>	<b>PART NUMBER</b>	<b>PAGE</b>
SPECIALTY & TRUCK HOSE	FC2325	209	FF1981	269	FF2484T	273	FF6064T	258
	FC2326	212	FF1994T	219	FF2485T	272	FF6071T	259
	FC2875	267	FF2000T	218	FF2522T	259	FF6072T	259
	FF1010	223	FF2001T	217	FF2591	224	FF6073T	259
	FF1065	249	FF2030T	220	FF2593	275	FF9075	222
	FF1066	249	FF2031T	216	FF2742T	272	FF9173	266
	FF1159	246	FF2032T	217	FF2743T	272	FF9605	267
	FF1161	224	FF2033T	221	FF2744T	272	FF9766	222
	FF1162	228	FF2035T	220	FF2745T	272	FF9767	222
	FF1167	224	FF2068T	215	FF2746T	273	FF9768	221
LOW & MEDIUM PRESSURE HOSE	FF1315	266	FF2093T	217	FF5162	262	FF9863	222
	FF1327	268	FF2098T	219	FF5163	250	FF90102	208
	FF1353	269	FF2114T	221	FF5164	251	FF90103	208
	FF1354	269	FF2115T	211	FF5238	261	FF90396	273
	FF1851T	210	FF2127T	215	FF5239	260	GG106-NP	274
	FF1852T	213	FF2130T	212	FF5321	262	GG108-NP	271
	FF1854T	212	FF2133T	219	FF5539	260	GG110-NP	275
	FF1856T	211	FF2137	223	FF5540	262	GG308-NP	271
	FF1857T	221	FF2138	223	FF5541	260	GG310-NP	275
	FF1858T	211	FF2144T	219	FF5943T	257		
HIGH PRESSURE HOSE	FF1861T	215	FF2151T	218	FF5945T	258		
	FF1865T	216	FF2174T	220	FF5946T	258		
	FF1868T	214	FF2209T	218	FF6001T	257		
	FF1898T	220	FF2211T	212	FF6002T	257		
	FF1922T	210	FF2227T	214	FF6033T	257		
	FF1939	273	FF2281T	218	FF6062T	258		
	FF1980	269	FF2313T	218	FF6063T	258		

## Configuration Index

### ORS-TF



FC1851  
page 208



FF90102  
page 208



FF90103  
page 208

### ORS BRAZE TYPE



FC1229  
page 209



FC2325  
page 209



FF1922T  
page 210

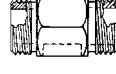
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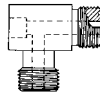
FF1851  
page 210



FF1856T  
page 211



FF1858T  
page 211



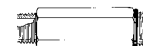
FF2115T  
page 211



FC2326,  
page 212



FF1852T  
page 213



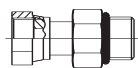
F2211T  
page 212



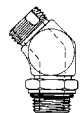
FF1854T  
page 212

### ORS/O-RING BOSS

### ORS/O-RING BOSS (CONTINUED)



FF2130T  
page 212



FF2068T  
page 215



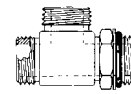
FF1868T  
page 214



FF2227T  
page 214



FF1861T  
page 215



FF1865  
page 216

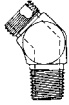


FF2127T  
page 215

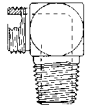
**ORS-NPTF**



FF2031T  
page 216



FF2093T  
page 217

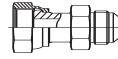


FF2032T  
page 217

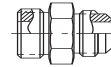


FF2001T  
page 217

**ORS TO SAE 37° (JIC) FLARE**



FF2209T  
page 218

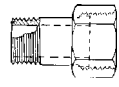


FF2313T  
page 218

**ORS/ORS**



FF2000T  
page 218



FF2281T  
page 218



FF1994T  
page 219



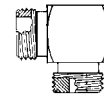
FF2133T  
page 219



FF2144T  
page 219

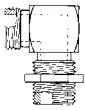


FF2098T  
page 219



FF2035T  
page 220

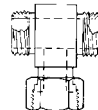
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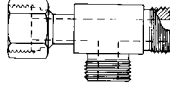
FF2030T  
page 220



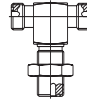
FF1898T  
page 220



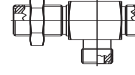
FF1857T  
page 221



FF2114T  
page 221



FF2033T  
page 221



FF2174T  
page 220



FF9768  
page 221

**ORS ACCESSORIES**

**ORS ACCESSORIES (CONTINUED)**



FF9767  
page 222



FF9863  
page 222

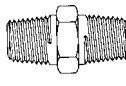


FF9766  
page 222



FF9075  
ORS Silver  
Braze Ring  
page 222

**PIPE TO PIPE**



2083  
page 224



2084  
page 225

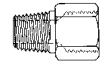


2015  
page 224

**PIPE TO PIPE (CONTINUED)**



2081  
page 225



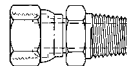
2040  
page 226



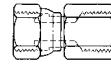
2082  
page 225



2222  
page 226



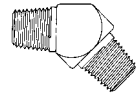
2045  
page 226



2045  
page 227

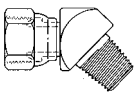


2096  
page 227

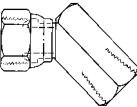


2247  
page 227

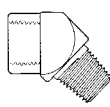
**PIPE TO PIPE (CONTINUED)**



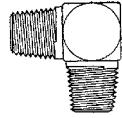
2049  
page 228



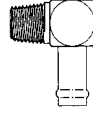
2050  
page 227



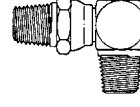
2068  
page 228



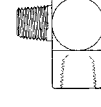
2085  
page 228



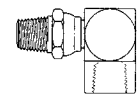
FF1162  
page 228



2251  
page 229



2089  
page 229

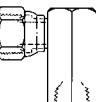


2252  
page 229

**PIPE TO PIPE (CONTINUED)**



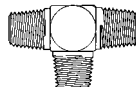
2047  
page 230



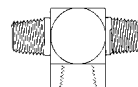
2048  
page 229



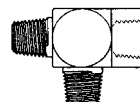
2087  
page 230



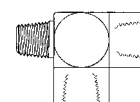
2257  
page 230



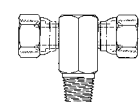
2256  
page 230



2093  
page 231



2092  
page 231



2254  
page 231

SPECIALTY &  
TRUCK HOSE

LOW & MEDIUM  
PRESSURE HOSE

HIGH PRESSURE HOSE

HOSE FITTINGS

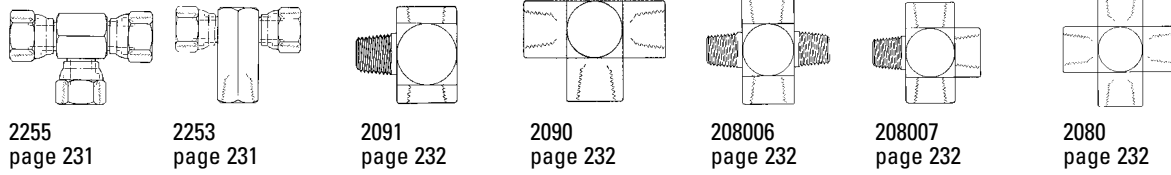
ADAPTERS &  
TUBE FITTINGS

ACCESSORIES &  
ASSEMBLY INSTRUCTIONS

HOSE ASSEMBLY  
EQUIPMENT

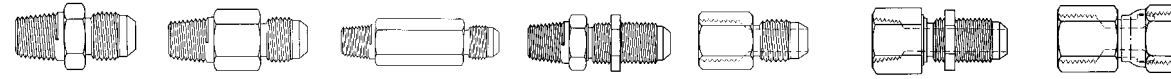
APPENDICES

**PIPE TO PIPE (CONTINUED)**



2255 page 231    2253 page 231    2091 page 232    2090 page 232    208006 page 232    208007 page 232    2080 page 232

**PIPE TO 37° FLARE**



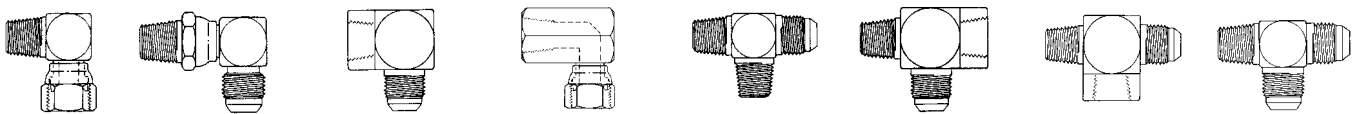
2021 page 233    202113 page 234    202114 page 234    2240 page 233    2022 page 235    2239 page 234    2242 page 235

**PIPE TO 37° FLARE (CONTINUED)**



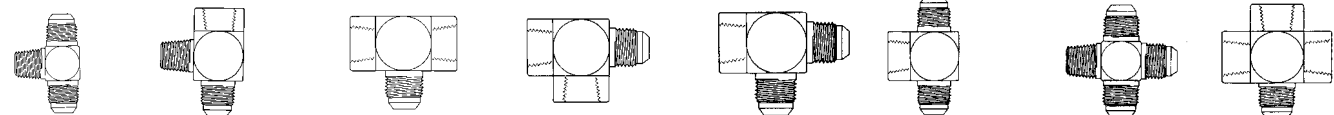
2018 page 234    2023 page 236    2044 page 236    2243 page 236    2024 page 237    202411 page 237    202413 page 238    202414 page 238

**PIPE TO 37° FLARE (CONTINUED)**



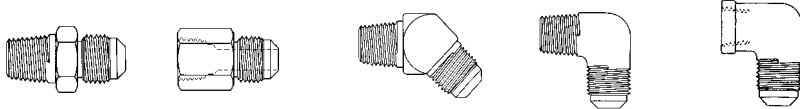
2250 page 238    2249 page 239    2025 page 239    2244 page 239    203007 page 239    203301 page 240    203103 page 240    2028 page 240

**PIPE TO 37° FLARE (CONTINUED)**



2030 page 241    203006 page 240    202901 page 241    203104 page 241    2029 page 242    2031 page 242    202003 page 242    202006 page 242

**PIPE TO 45° FLARE**



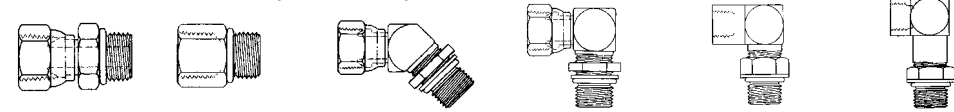
2000 page 243    2001 page 243    2007 page 243    2003 page 244    2002 page 244

**PIPE TO SAE O-RING BOSS**



2246 page 244

**PIPE TO SAE O-RING BOSS (CONTINUED)**



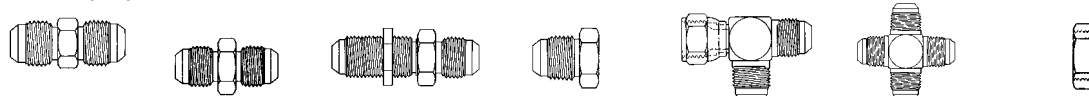
2066 page 245    2216 page 245    2067 page 245    2068 page 246    206801 page 246    206804 page 246

**PIPE TO BRAZE AND WELD**



73056 page 246    FF1159 page 246

**SAE 37° (JIC) FLARE UNION**



2027 page 247    202712 page 247    2041 page 248    900599 page 248    203102 page 252    2020 page 253    210212 page 253

SPECIALTY & TRUCK HOSE

LOW & MEDIUM PRESSURE HOSE

HIGH PRESSURE HOSE

HOSE FITTINGS


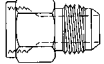
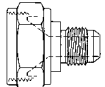
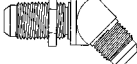
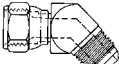
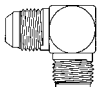
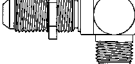

ADAPTERS & TUBE FITTINGS

ACCESSORIES & ASSEMBLY INSTRUCTIONS

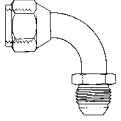
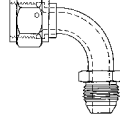
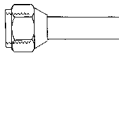
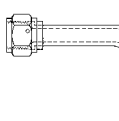
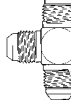
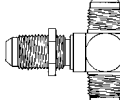
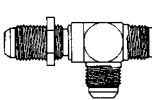
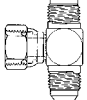
HOSE ASSEMBLY EQUIPMENT

APPENDICES

**SAE 37° (JIC) FLARE UNION (CONTINUED)**

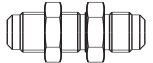
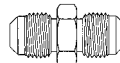
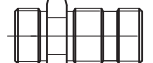


							
210292 page 248	2215 page 249	221501 page 249	2042 page 249	2070 page 249	2039 page 250	2043 page 250	2071 page 250

**SAE 37° (JIC) FLARE UNION (CONTINUED)**

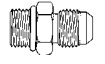
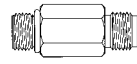
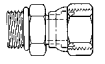
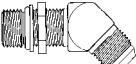

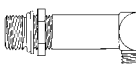

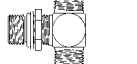

							
500454 page 251	FF5163 page 250	504095 page 251	FF5164 page 251	2033 page 251	203002 page 252	203008 page 252	203101 page 252

**SAE 45° FLARE UNION**

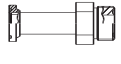






**ORB/ORB**

				
2056 page 253	2060 page 253	2220 page 223	2229 page 224	FF2591 page 224

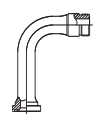
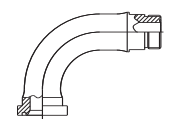
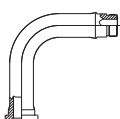
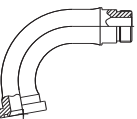
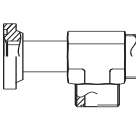
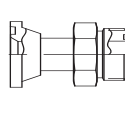
**SAE O-RING TO 37° FLARE**

								
202702 page 254	202713 page 255	2266 page 255	2061 page 255	2052 page 256	206209 page 255	203005 page 256	203003 page 251	2214 page 256

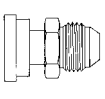
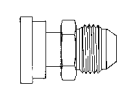
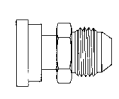
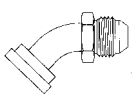
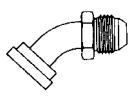
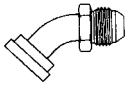
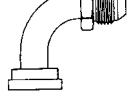
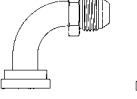
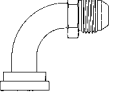
**SAE SPLIT FLANGE TO ORS**

						
FF5943T page 257	FF6001T page 257	FF6002T page 257	FF5946T page 258	FF5945T page 258	FF6062T page 258	FF6063T page 258

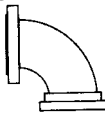
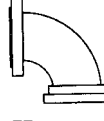
**SAE SPLIT FLANGE TO ORS (CONTINUED)**

					
FF6064T page 258	FF6071T page 259	FF6072T page 259	FF6073T page 259	FF2522T page 259	FF6033T page 257





**SAE SPLIT FLANGE TO 37° FLARE**

								
500025 page 259	FF5239 page 260	FF5541 page 260	500023 page 261	FF5238 page 261	FF5539 page 260	500024 page 261	FF5162 page 262	FF5540 page 262




**SAE SPLIT FLANGE TO SAE SPLIT FLANGE**

	
504089 page 262	FF5321 page 262



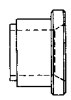

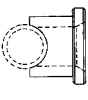


**SAE FLARELESS TO 37° UNION**

			
FF1315 page 266	210294 page 266	FF9173 page 266	FC2875 page 267



**FLARE AND FLARELESS**

		
FF9605 page 267	1290 page 267	900605 page 268

**BRAZE & WELD TO SPLIT FLANGE**

						
71418 page 263	4624 page 263	71423 page 263	71416 page 264	71422 page 264	FC1102 page 264	FC1132 page 264

**BRAZE & WELD TO 37° FLARE**

	
73014 page 265	202232 page 265

SPECIALTY & TRUCK HOSE

LOW & MEDIUM PRESSURE HOSE

HIGH PRESSURE HOSE

HOSE FITTINGS

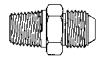
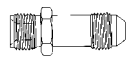
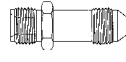
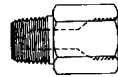
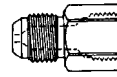
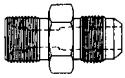
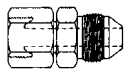
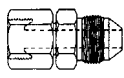
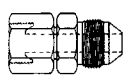
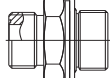
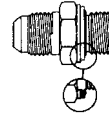
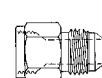
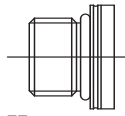
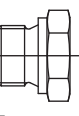
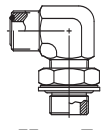
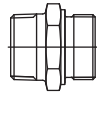
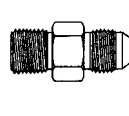
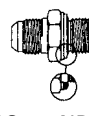
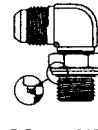
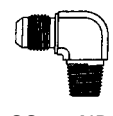
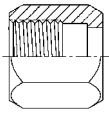
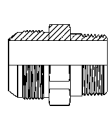
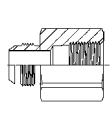
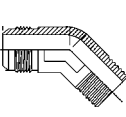
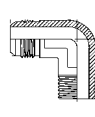
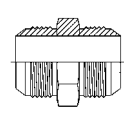
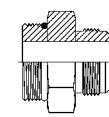
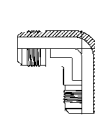
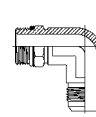
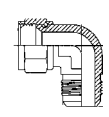
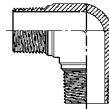
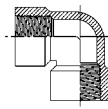
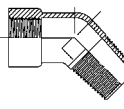
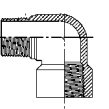
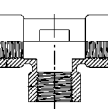
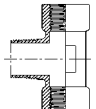
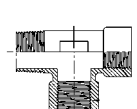
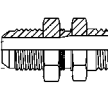
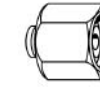
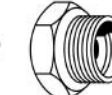
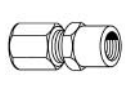
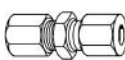
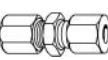
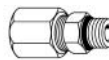
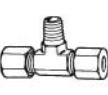
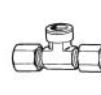
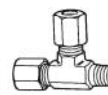
ADAPTERS & TUBE FITTINGS

HOSE ASSEMBLY INSTRUCTIONS

ACCESSORIES & ASSEMBLY INSTRUCTIONS

HOSE ASSEMBLY EQUIPMENT

APPENDICES

**SPECIALS**2004  
page 268202124/FF1327  
page 268FT1353/FF1354  
page 269200001  
page 268FF1980  
page 269FF1981  
page 26915.063  
page 26915.147  
page 270**METRIC THREAD****METRIC THREAD**15.117  
page 27015.164  
page 27015.163  
page 27015.165  
page 271FF2485T  
page 272GG108-NP  
page 271GG308-NP  
page 271FF2593  
page 275**JIS 30° THREAD****ORS TO METRIC**FF90396  
page 273FF1939  
page 273FF2484T  
page 27315.000  
page 273**BSPP THREAD**2063  
page 274GG106-NP  
page 274GG306-NP  
page 274**BSPT THREAD**GG110-NP  
page 275GG310-NP  
page 275**STAINLESS STEEL**259-1290  
page 281259-2021  
page 279259-2022  
page 280259-2023  
page 279259-2024  
page 280259-2027  
page 280259-202702  
page 281259-2039  
page 280259-2062  
page 281259-2071  
page 280**STAINLESS STEEL**259-2081  
page 277259-2082  
page 277259-2083  
page 277259-2085  
page 277259-2087  
page 278259-2088  
page 278259-2089  
page 278259-2090  
page 278259-2091  
page 278259-2092  
page 279**STAINLESS STEEL**259-2096  
page 279259-2240  
page 279259-900605  
page 2817015X  
page 2887105X  
page 2877129x  
page 2887165x  
page 2877205x  
page 2897229x  
page 2887255x  
page 289**ERMETO****ERMETO**7305x  
page 2887306x  
page 2887315x  
page 2907325x  
page 2897325x  
page 2897355x  
page 2907405x  
page 2917455x  
page 2917505x  
page 290**ERMETO**7515x  
page 2917605x  
page 2937655x  
page 2937716x  
page 2927755x  
page 2927805x  
page 2927924x  
page 2878112x  
page 2878165x  
page 287SPECIALTY &  
TRUCK HOSELOW & MEDIUM  
PRESSURE HOSE

HIGH PRESSURE HOSE

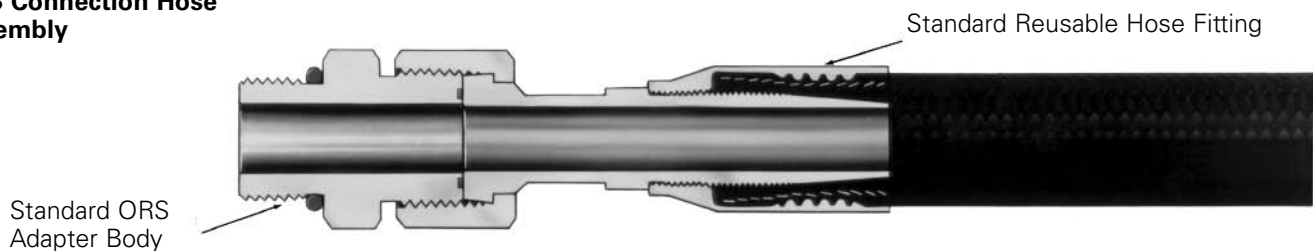
HOSE FITTINGS

ADAPTERS &  
TUBE FITTINGSACCESSORIES &  
ASSEMBLY INSTRUCTIONSHOSE ASSEMBLY  
EQUIPMENT

APPENDICES

**The Eaton ORS Connection is the Universal Answer to Troublesome Fluid Leakage Problems**

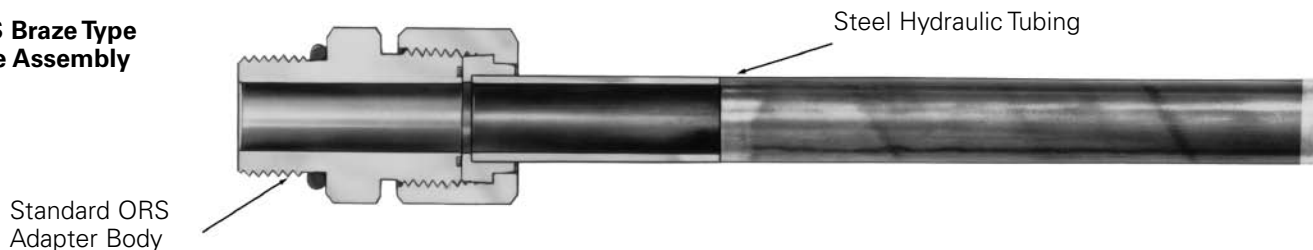
**ORS Connection Hose Assembly**



**ORS TF Tube Assembly**



**ORS Braze Type Tube Assembly**



**Hose Assemblies**

The ORS connection can be used with flexible hydraulic hose, combining the reusability of the hose fitting and the ORS connection. The result is the ultimate reusable fitting.

**Tube Assemblies**

The ORS connection can be attached to hydraulic tubing to make a tube assembly. Two methods of attachment are available.

1. ORS-TF: The ORS female can be jointed directly to steel tubing with the patented ORS-TF (wedge-type) tube fitting, another Eaton innovation. The fitting becomes an integral part of your system at a fraction of the time and expense brazing requires.

The versatility these options provides make ORS the only connection you need for high-pressure situations.

It attaches to most types of fluid conveying lines, controlling most types of fluid, facing the toughest conditions.

2. ORS-Braze Type: The ORS component can be brazed to hydraulic tubing.

SPECIALTY & TRUCK HOSE

LOW & MEDIUM PRESSURE HOSE

HIGH PRESSURE HOSE

HOSE FITTINGS

ADAPTERS & TUBE FITTINGS

ACCESSORIES & ASSEMBLY INSTRUCTIONS

HOSE ASSEMBLY EQUIPMENT

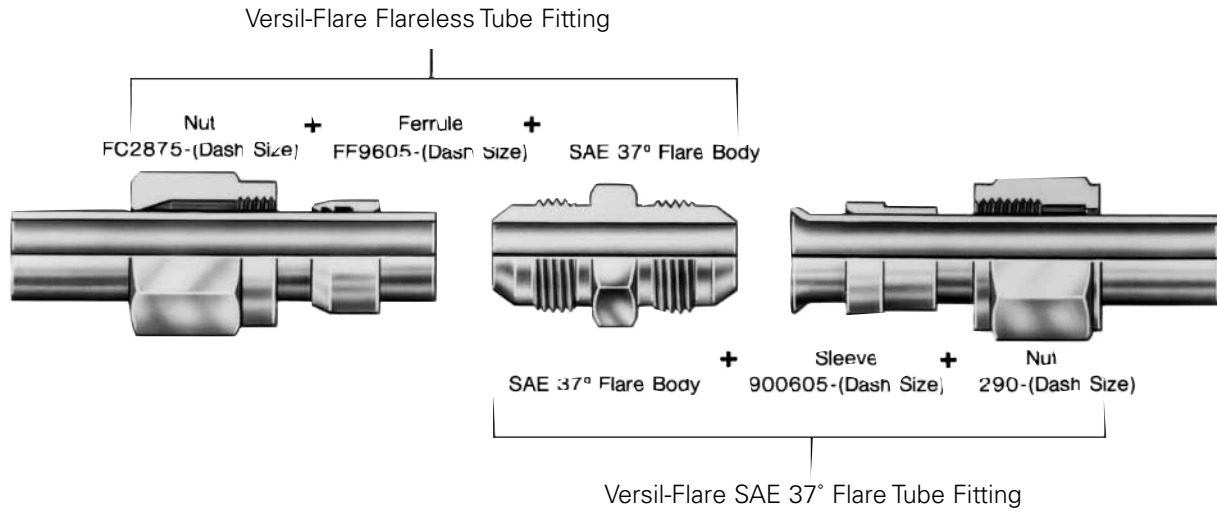
APPENDICES



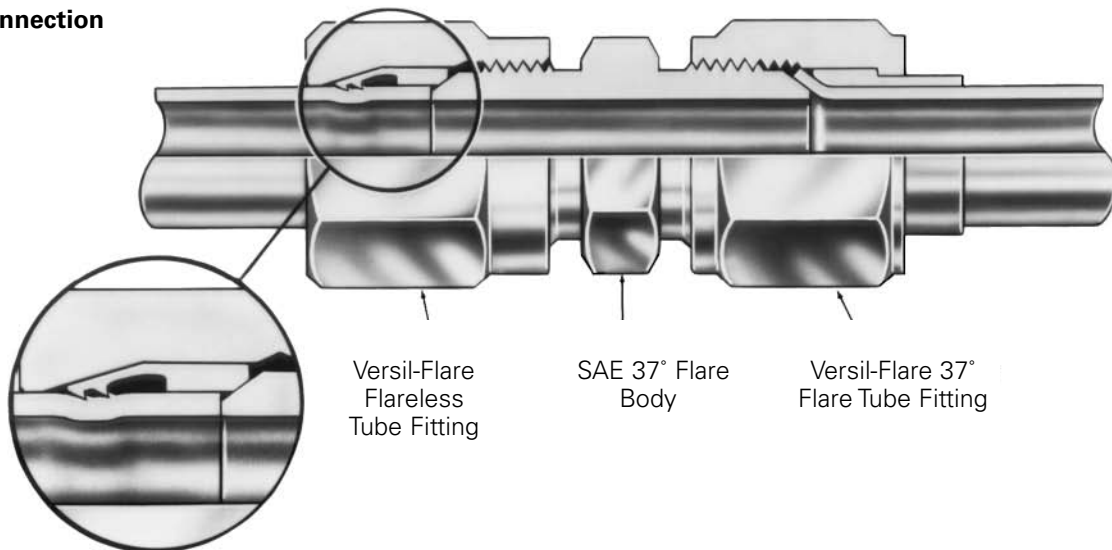
**Versil-Flare Flareless and  
Versil-Flare SAE 37° Flared type**

*both styles use the same  
SAE 37° flared body*

**Before Connection**



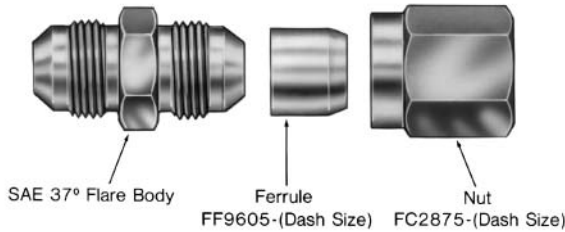
**After Connection**



One inventory of bodies (any standard SAE 37° flare fitting) allows both flareless and flared type connection of standard steel hydraulic tubing. It is no longer necessary

to inventory flared tube fittings plus the special bodies, nuts and sleeves for flareless tube fittings. The Eaton total tube fitting concept reduces inventory expense.

### Eaton Versil-Flare Flareless Tube Fitting

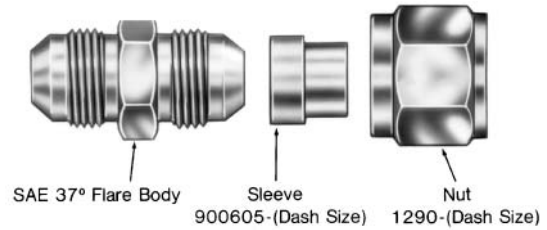


The Eaton Versil-Flare Flareless Tube Fitting can use any standard SAE 37° male flare adapter or hose fitting as a body. This eliminates the need to inventory special flareless tube fitting bodies and results in reduced inventory expense. Eaton Versil-Flare Flareless Tube Fittings are available in size from 3/16" tube O.D. to 2" tube O.D.

Presetting tools and extra assembly time are eliminat-

ed because there's no need for flaring, special preparation or presetting with the Eaton Versil-Flare Flareless Tube Fitting. The chance of assembly error is reduced because the ferrule can be installed only one way and assembly is the same for all sizes and tube wall thicknesses. This assures a tight joint every time. These features improve production rates.

### Eaton Versil-Flare Flared Tube Fitting



The Eaton industrial standard three piece flare type tube fitting can be used on the full range of standard steel hydraulic tubing in various wall thicknesses from 3/16" tube O.D. to 2" tube O.D. All three components are constructed from high quality zinc plated steel for long service life.

The standard SAE 37° flare angle is used to produce a highly efficient seal under hydraulic pressures. The sleeve is used to help support the tube and absorb vibration.

Assembly is easy. A properly sized wrench and flaring tool are all that is necessary. This is important in tight locations. Eaton standard SAE 37° flare type fittings can also be disassembled and re-assembled repeatedly.

Eaton quality is built into every component to assure leakproof connections.

The Eaton standard SAE 37° flare type tube fitting conforms to the following hydraulic tube fitting standards. Military specification, MIL-F-18866 and Society of Automotive Engineers, SAE J514.

### Tubing selection and sizing

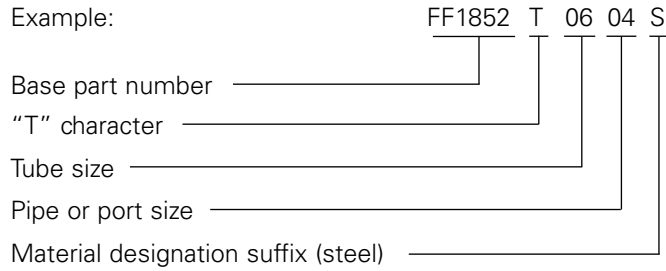
Eaton Versil-Flare Flareless and standard SAE 37° flare type, tube fittings can be used with SAE J-525 electric resistance welded, cold worked annealed, SAE J-524 seamless annealed tubing and SAE J527 brazed double wall low carbon steel tubing. SAE J356

welded flash controlled normalized steel tubing can only be used with Eaton Versil-Flare Flareless tube fittings. **The maximum hardness of the above tubing should not exceed Rockwell B65.** Selection of proper tubing material, size and wall thickness depends

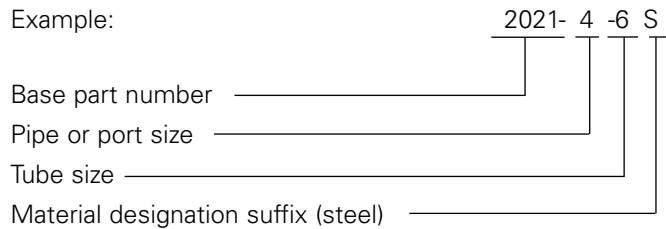
on corrosion conditions, pressure and flow requirements and other operating requirements of the system.

## Adapter Part Numbers

Adapter part numbers consist of a base number followed by a size designation. If the part number contains a "T" character between the base number and size designator, the first size designator signifies the tube size.

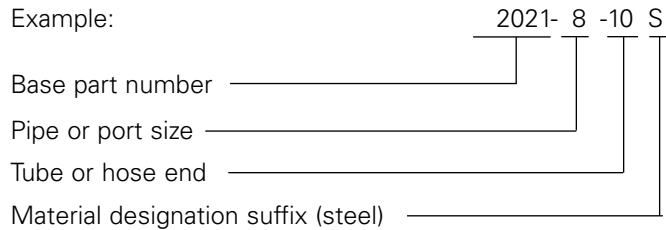


If the part number does not contain a "T" character between the base number and the size description, the first size designation signifies the port size.



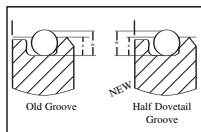
## How to Order Adapters

Adapters are ordered using the complete part number as shown on the adapter pages.



## ORS Adapter Conversion\*

ORS adapters have been replaced with the half dovetail groove design. The half dovetail groove is manufactured with an angle on the OD wall. This angle captures the o-ring for maximum retention. For ease of installation, a half dovetail groove installation tool may be used.



## Half Dovetail Groove Installation Tool

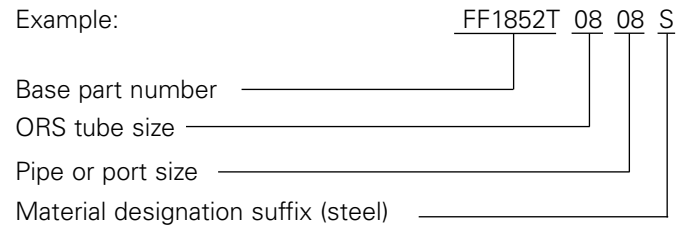
The half dovetail groove installation tool compresses the o-ring, allowing it to easily slide into the groove in the adapter. Use of the tool maximizes efficiency and minimizes any fatigue that may be associated with repeated insertions over an extended period of time. One tool is required per dash size (or by adapter size). Each tool comes with an illustrated instruction sheet. Tools are available by using the following part numbers: FT1405-04, FT1405-06, FT1405-08, FT1405-10, FT1405-12, FT1405-16, FT1405-20, FT1405-24.



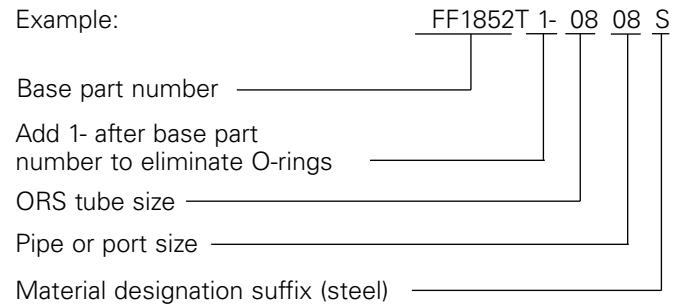
\*Eaton reserves the right to use straight groove on some ORS.

## How to order ORS Adapters and Tube Fittings

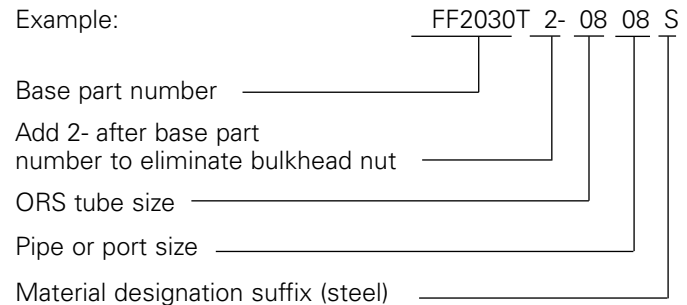
### ORS tube fitting body with o-ring, locknut and washer, where applicable.



### ORS tube fitting body without o-rings

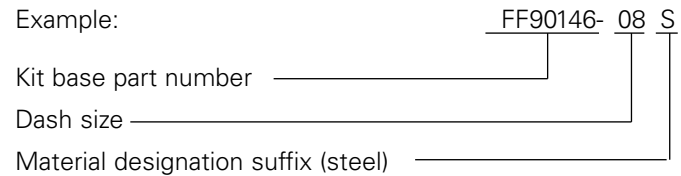


### ORS bulkhead tube fitting body without bulkhead nut or o-rings

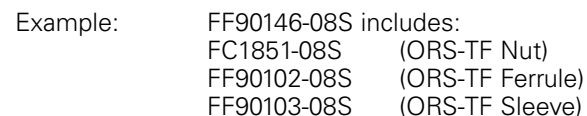


## ORS-TF Tube Fitting Components

ORS-TF tube fittings, nut, ferrules, and sleeves can be ordered under the following kit part number:



By ordering a single part number in kit form, you will receive the components ready to be assembled to an ORS tube fitting body:

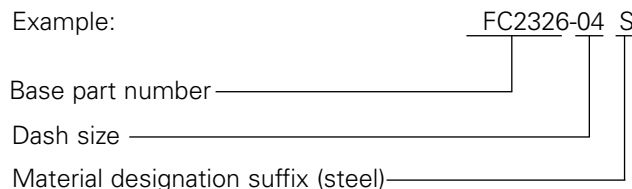


*Continued on next page.*

## How to order ORS Adapters and Tube Fittings (cont.)

### Nuts and Shoulders (Braze Type)

Nuts and shoulders can be ordered separately. Simply use the base number, dash size, and material designation.



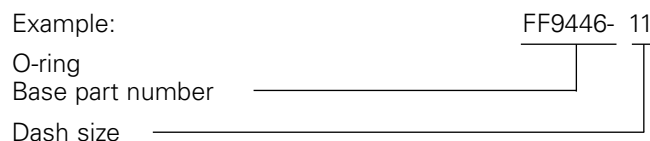
### O-Rings

Buna-N O-rings are standard. Other materials may also be specified by adding a material designator prefix if the part number begins with a numeric, and a material designator suffix if the part number begins with an alpha character. In all cases, the suffix "S" shall be omitted.

MATERIAL DESIGNATION PREFIX/SUFFIX	MATERIAL	OPERATING TEMPERATURE RANGE
S (standard)	90 Durometer Buna-N Nitrile Rubber	-40°F to +250°F (-40°C to +121°C)
212	EPR Ethylene Propylene Rubber	-65°F to +300°F (-55°C to +150°C)
213	Viton Fluoroelastomer	-15°F to +400°F (-26°C to +204°C)
214	Buna-N, Low Temperature Nitrile Rubber	-65°F to +225°F (-55°C to +100°C)
352	Neoprene	-65°F to +300°F (-55°C to +150°C)



### O-rings can be ordered separately.

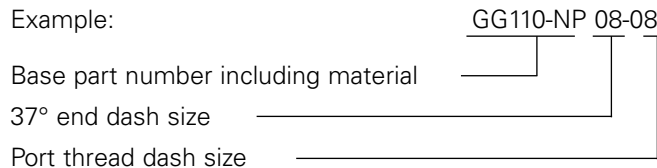


### Body Material

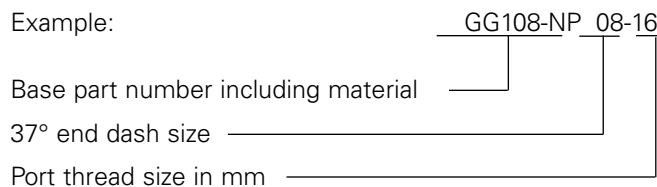
Steel is standard. Other materials may also be specified by adding a material designator prefix if the part number begins with a numeric, and a material designator suffix if the part number begins with an alpha character. In all cases, the suffix "S" shall be omitted.

MATERIAL DESIGNATOR PREFIX/SUFFIX	MATERIAL
B (suffix only)	Brass
259	316-Stainless
4	Monel
S	Steel

## How to Order Conversion Adapters BSPP/BSPT



### Metric



### Dimensions

Eaton tube fittings are ordinarily designed and produced to the functional requirements set forth in SAE Standards J512, J513, J514, J1926 and J1453. However, in some cases the envelope dimensions of certain components vary slightly from cataloged or SAE referenced dimensions. The SAE reference numbers and fitting descriptions given are in accordance with SAE Standard J846.

### Availability

All items listed in the current price schedule are normally carried in stock. Price and delivery of non-stocked and special parts may be obtained from your Eaton Sales Representative or Distributor.

### Loctite\* Vibra-Seal 516 for External Pipe Threads

Loctite Vibra-Seal has the following characteristics:

- Non-hardening thread sealant
- Resists shredding and peeling during assembly
- Can be reused up to 5 times without recoating
- Provides resistance to vibrational loosening
- Excellent resistance to solvents and oils
- Operating temperatures range -65°F to +250°F

Machine applied so that it leaves first 1/2 to 2 threads uncovered for ease of assembly. Because of the excellent characteristics of this product, we are offering Loctite Vibra-Seal on all of our parts that have male pipe threads. Factory applied Loctite for external pipe threads may be ordered for steel parts by adding the prefix "307-" to the completed part number, and dropping suffix "S" if the part number begins with a numeral. Example: 307-2021-8-8. If the part number begins with an alpha character, add the suffix "-307" to the completed part number and drop the suffix "S". Example: FF2031T0606-307.

\*Loctite is a trademark of Henkel Corporation.

# ORS-TF Tube Fittings

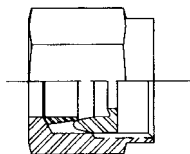
The patented\* ORS-TF tube fitting utilizing the ORS-TF nut, ferrule and sleeve can be joined directly to steel tubing to solve your fluid leakage problems. It does not require the time and expense of brazing and provides the advantage of repetitive reuse. It is a compression type fitting that works on a variety of tubing (See page 376 for tubing specifications). See page 309 for assembly instructions.

## ORS-TF Kit Part No. FF90146-(Size)

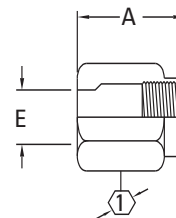
Includes:

FC1851 ORS-TF Nut  
FF90102 ORS-TF Ferrule  
FF90103 ORS-TF Sleeve

\*Patent #5,217,261

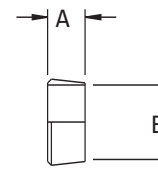


## ORS-TF Nut Part No. FC1851- (Size)



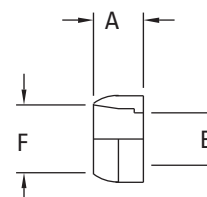
Dash Size	Tube O.D.		Thread T1	A		E		①	
	mm	in		mm	in	mm	in	mm	in
04S	6,3	0.25	9/16-18	21,3	0.84	6,6	0.26	17,5	0.69
06S	9,6	0.38	11/16-16	23,6	0.93	9,6	0.38	20,6	0.81
08S	12,7	0.50	13/16-16	26,9	1.06	12,9	0.51	23,9	0.94
10S	16,0	0.63	1-14	28,7	1.13	16,0	0.63	28,4	1.12
12S	19,0	0.75	13/16-12	32,5	1.28	19,3	0.76	35,0	1.38
16S	25,4	1.00	17/16-12	34,3	1.35	25,6	1.01	41,1	1.62
20S	31,7	1.25	111/16-12	35,8	1.41	32,0	1.26	47,7	1.88
24S	38,1	1.50	2-12	37,3	1.47	38,3	1.51	57,1	2.25

## ORS-TF Ferrule Part No. FF90102- (Size)



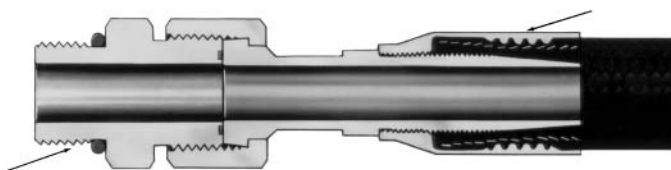
Dash Size	Tube O.D.		A		E	
	mm	in	mm	in	mm	in
04S	6,3	0.25	6,3	.25	6,6	0.26
06S	9,6	0.38	6,3	0.25	9,6	0.38
08S	12,7	0.50	7,6	1.50	12,9	0.51
10S	16,0	0.63	7,6	1.50	16,0	0.63
12S	19,0	0.75	7,6	1.50	19,3	0.76
16S	25,4	1.00	7,6	1.50	25,6	1.01
20S	31,7	1.25	7,6	1.50	32,0	1.26
24S	38,1	1.50	7,6	1.50	38,3	1.51

## ORS-TF Sleeve Part No. FF90103- (Size)



Dash Size	Tube O.D.		A		E		F	
	mm	in	mm	in	mm	in	mm	in
04S	6,3	0.25	8,1	0.32	4,3	0.17	6,3	0.25
06S	9,6	0.38	8,6	0.34	6,6	0.26	9,6	0.38
08S	12,7	0.50	9,4	0.37	9,6	0.38	12,7	0.50
10S	16,0	0.63	10,2	0.40	12,2	0.48	16,0	0.63
12S	19,0	0.75	11,2	0.44	15,5	0.61	19,3	0.76
16S	25,4	1.00	12,7	0.50	20,6	0.81	25,4	1.00
20S	31,7	1.25	14,2	0.56	26,7	1.05	32,0	1.26
24S	38,1	1.50	15,7	0.62	32,0	1.26	38,3	1.51

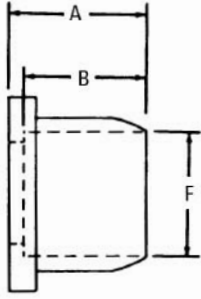
**Material: Corrosion-resistant plated steel.**



**Keep It Simple and Clean with ORS**

# ORS Braze Type

## ORS-BR Shoulder Internal Braze



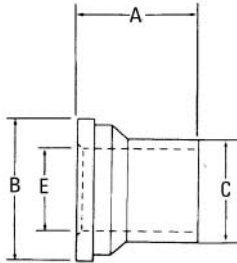
### CAUTION

In applications exceeding +480°F (such as during brazing) order the oil-coated/non-plated nut by using part number FC1857-Size-186. When plating is heated above +480°F, toxic gases are given off.

## Part No. FC1229- (Dash size)\* (Ref. SAE 520115)

Dash Size	Tube O.D.		A		B		F	
	mm	in	mm	in	mm	in	mm	in
0404S	6,4	0.25	7,4	0.29	6,4	0.25	6,4	0.25
0604S	9,7	0.38	8,4	0.33	6,4	0.25	6,4	0.25
0606S	9,7	0.38	7,4	0.29	6,4	0.25	9,7	0.38
0806S	12,7	0.50	9,9	0.39	6,4	0.25	9,7	0.38
0808S	12,7	0.50	10,7	0.42	9,7	0.38	12,7	0.50
1008S	16,0	0.63	14,5	0.57	9,7	0.38	12,7	0.50
1208S	12,7	0.50	15,5	0.61	9,7	0.38	12,7	0.50
1010S	16,0	0.63	10,7	0.42	9,7	0.38	15,7	0.62
1210S	19,0	0.75	15,5	0.61	9,7	0.38	15,7	0.62
1212S	19,0	0.75	11,2	0.44	9,7	0.38	19,0	0.75
1414S	22,3	0.88	17,3	0.68	15,7	0.62	22,3	0.88
1612S	25,4	1.00	14,0	0.55	9,7	0.38	19,0	0.75
1614S	25,4	1.00	14,2	0.56	11,2	0.44	22,3	0.88
1616S	25,4	1.00	14,2	0.56	12,7	0.50	25,4	1.00
2016S	31,8	1.25	17,3	0.68	12,7	0.50	25,4	1.00
2020S	31,8	1.25	14,2	0.56	12,7	0.50	31,8	1.25
2420S	38,1	1.50	18,8	0.74	12,7	0.50	31,8	1.25
2424S	38,1	1.50	14,2	0.56	12,7	0.50	38,1	1.50

## ORS-BR Shoulder External Braze/Weld



### CAUTION

In applications exceeding +480°F (such as during brazing) order the oil-coated/non-plated nut by using part number FC1857-Size-186. When plating is heated above +480°F, toxic gases are given off.

## Part No. FC2325- (Dash size)\* (Ref. SAE 520172)

Dash Size	Tube O.D.		A		B		C		E	
	mm	in	mm	in	mm	in	mm	in	mm	in
0404S	6,4	0.25	22,3	0.88	12,7	0.50	6,4	0.25	4,3	0.17
0604S	9,7	0.38	24,4	0.96	15,7	0.62	6,4	0.25	4,0	0.16
0606S	9,7	0.38	24,4	0.96	15,7	0.62	9,7	0.38	6,6	0.26
0806S	12,7	0.50	28,5	1.12	18,8	0.74	9,7	0.38	6,6	0.26
0808S	12,7	0.50	31,8	1.25	18,8	0.74	12,7	0.50	9,1	0.36
1008S	16,0	0.63	34,0	1.34	23,4	0.92	12,7	0.50	9,1	0.36
1010S	16,0	0.63	34,0	1.34	23,4	0.92	15,7	0.62	11,4	0.45
1210S	19,0	0.75	36,6	1.44	27,7	1.09	15,7	0.62	11,4	0.45
1212S	19,0	0.75	36,6	1.44	27,7	1.09	19,0	0.75	14,0	0.55
1612S	25,4	1.00	38,3	1.51	34,0	1.34	19,0	0.75	14,0	0.55
1616S	25,4	1.00	41,4	1.63	34,0	1.34	25,4	1.00	19,8	0.78
2016S	31,8	1.25	41,4	1.63	40,4	1.59	25,4	1.00	19,8	0.78
2020S	31,8	1.25	41,4	1.63	40,4	1.59	31,8	1.25	26,7	1.05
2416S	38,1	1.50	41,4	1.63	48,5	1.91	25,4	1.00	19,8	0.78
2424S	38,1	1.50	41,4	1.63	48,5	1.91	38,1	1.50	32,0	1.26

\*Eaton braze counterbores are dimensioned for sized or emeryed tubing. If tubing is used as received, contact Eaton for appropriate part number.

SPECIALTY & TRUCK HOSE

LOW & MEDIUM PRESSURE HOSE

HIGH PRESSURE HOSE

HOSE FITTINGS

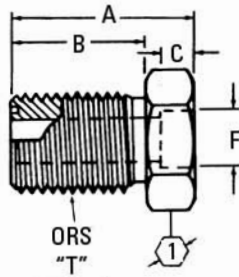
ADAPTERS & TUBE FITTINGS

ACCESSORIES & ASSEMBLY INSTRUCTIONS

HOSE ASSEMBLY EQUIPMENT

APPENDICES

**ORS Bulkhead  
Male/Braze Adapter**

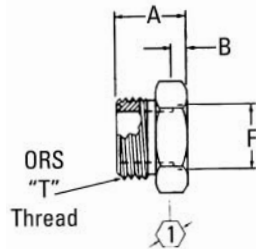


Thread

Part No. FF1922T(Size)\* (Ref. SAE 520604)

Dash Size	Tube O.D.		Thread T1	A		B		C		D		①
	mm	in		mm	in	mm	in	mm	in	mm	in	
0404S	6,4	0.25	9/16-18	40,9	1.61	31,5	1.24	6,4	0.25	6,4	0.25	0.81
0606S	9,7	0.38	1 1/16-16	43,7	1.72	34,0	1.34	6,4	0.25	9,7	0.38	1.00
0808S	12,7	0.50	1 3/16-16	49,3	1.94	36,6	1.44	9,7	0.38	12,7	0.50	1.12
0810S	12,7	0.50	1 3/16-16	49,3	1.94	36,6	1.44	9,7	0.38	15,7	0.62	1.12
1010S	16,0	0.63	1-14	53,6	2.11	40,6	1.60	9,7	0.38	15,7	0.62	1.31
1212S	19,0	0.75	1 3/16-12	55,4	2.18	41,6	1.64	9,7	0.38	19,0	0.75	1.50
1214S	19,0	0.75	1 3/16-12	55,4	2.18	41,6	1.64	9,7	0.38	22,3	0.88	1.50
1616S	25,4	1.00	1 7/16-12	61,7	2.43	42,2	1.66	12,7	0.50	25,4	1.00	1.75
2020S	31,8	1.25	1 11/16-12	61,7	2.43	42,2	1.66	12,7	0.50	31,8	1.25	2.00
2024S	31,8	1.25	1 11/16-12	61,7	2.43	42,2	1.66	12,7	0.50	38,1	1.50	2.12
2424S	38,1	1.50	2-12	61,7	2.43	42,2	1.66	12,7	0.50	38,1	1.50	2.38

**ORS/Braze Adapter**

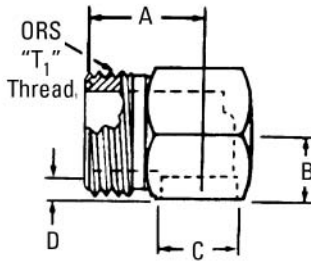


Part No. FF1851T(Size)\* (Ref. SAE 520104)

Dash Size	Tube O.D.		Thread T1	A		B		F		①
	mm	in		mm	in	mm	in	mm	in	
0404S	6,4	0.25	9/16-18	19,8	0.78	6,4	0.25	6,4	0.25	0.62
0406S	6,4	0.25	9/16-18	19,8	0.78	6,4	0.25	9,7	0.38	0.62
0604S	9,7	0.38	1 1/16-16	21,0	0.83	6,4	0.25	6,4	0.25	0.75
0606S	9,7	0.38	1 1/16-16	21,0	0.83	6,4	0.25	9,7	0.38	0.75
0608S	9,7	0.38	1 1/16-16	24,1	0.95	9,7	0.38	12,7	0.50	0.75
0806S	12,7	0.50	1 3/16-16	22,3	0.88	6,4	0.25	9,7	0.38	0.88
0808S	12,7	0.50	1 3/16-16	25,7	1.01	9,7	0.38	12,7	0.50	0.88
0810S	12,7	0.50	1 3/16-16	25,7	1.01	9,7	0.38	15,7	0.62	0.88
1008S	16,0	0.63	1-14	28,5	1.12	9,7	0.38	12,7	0.50	1.06
1010S	16,0	0.63	1-14	28,5	1.12	9,7	0.38	15,7	0.62	1.06
1210S	19,0	0.75	1 3/16-12	29,7	1.17	9,7	0.38	15,7	0.62	1.25
1212S	19,0	0.75	1 3/16-12	30,7	1.21	9,7	0.38	19,0	0.75	1.25
1214S	19,0	0.75	1 3/16-12	30,7	1.21	9,7	0.38	22,3	0.88	1.25
1216S	19,0	0.75	1 3/16-12	36,8	1.45	12,7	0.50	25,4	1.00	1.50
1612S	25,4	1.00	1 7/16-12	30,7	1.21	9,7	0.38	19,0	0.75	1.50
1616S	25,4	1.00	1 7/16-12	37,3	1.47	12,7	0.50	25,4	1.00	1.50
1620S	25,4	1.00	1 7/16-12	37,3	1.47	12,7	0.50	31,8	1.25	1.75
2016S	31,8	1.25	1 11/16-12	37,3	1.47	12,7	0.50	25,4	1.00	1.75
2020S	31,8	1.25	1 11/16-12	37,3	1.47	12,7	0.50	31,8	1.25	1.75
2024S	31,8	1.25	1 11/16-12	37,3	1.47	12,7	0.50	38,1	1.50	2.12
2424S	38,1	1.50	2-12	37,3	1.47	12,7	0.50	38,1	1.50	2.12
2428S	38,1	1.50	2-12	40,6	1.60	15,7	0.62	44,4	1.75	2.38

\*Eaton braze counterbores are dimensioned for sized or emerged tubing. If tubing is used as received, contact Eaton for appropriate part number.

**90° ORS/  
Braze Port Adapter**



**No. FF1856T(Size)\* (Ref. SAE 520204)**

Dash Size	Tube O.D.		Thread T1	A		B		C		D	
	mm	in		mm	in	mm	in	mm	in	mm	in
0404S	6,4	0.25	9/16-18	21,6	0.85	9,7	0.38	6,4	0.25	6,4	0.25
0606S	9,7	0.38	11/16-16	24,9	0.98	10,4	0.41	9,7	0.38	6,4	0.25
0808S	12,7	0.50	13/16-16	27,9	1.10	15,0	0.59	12,7	0.50	9,7	0.38
0810S	12,7	0.50	13/16-16	30,5	1.20	16,8	0.66	15,7	0.62	9,7	0.38
1010S	16,0	0.63	1-14	33,3	1.31	16,8	0.66	15,7	0.62	9,7	0.38
1012S	16,0	0.63	1-14	35,8	1.41	18,3	0.72	19,0	0.75	9,7	0.38
1208S	19,0	0.75	13/16-12	37,3	1.47	18,8	0.74	12,7	0.50	9,7	0.38
1212S	19,0	0.75	13/16-12	37,3	1.47	18,3	0.72	19,0	0.75	9,7	0.38
1216S	19,0	0.75	13/16-12	41,1	1.62	23,9	0.94	25,4	1.00	13,2	0.52
1616S	25,4	1.00	17/16-12	41,6	1.64	23,9	0.94	25,4	1.00	13,2	0.52
1620S	25,4	1.00	17/16-12	44,7	1.76	28,5	1.12	31,8	1.25	13,5	0.53
2016S	31,8	1.25	111/16-12	54,3	2.14	28,7	1.13	25,4	1.00	13,5	0.53
2020S	31,8	1.25	111/16-12	44,7	1.76	28,5	1.12	31,8	1.25	13,5	0.53
2424S	38,1	1.50	2-12	48,8	1.92	31,8	1.25	38,1	1.50	13,2	0.52

SPECIALTY &  
TRUCK HOSE

LOW & MEDIUM  
PRESSURE HOSE

HIGH PRESSURE HOSE

HOSE FITTINGS

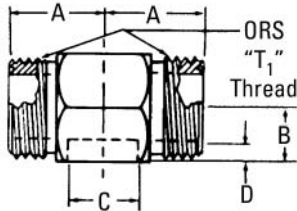
ADAPTERS &  
TUBE FITTINGS

ACCESSORIES &  
ASSEMBLY INSTRUCTIONS

HOSE ASSEMBLY  
EQUIPMENT

APPENDICES

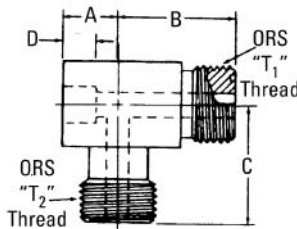
**ORS/ORS/  
Braze Port Adapter**



**Part No. FF1858T(Size)\* (Ref. SAE 520472)**

Dash Size	Tube O.D.		Thread T1	A		B		C		D	
	mm	in		mm	in	mm	in	mm	in	mm	in
0404S	6,4	0.25	9/16-18	21,6	0.85	9,1	0.36	6,4	0.25	6,4	0.25
0606S	9,7	0.38	11/16-16	24,9	0.98	9,9	0.39	9,7	0.38	6,4	0.25
0608S	9,7	0.38	11/16-16	26,4	1.04	14,0	0.55	12,7	0.50	9,7	0.38
0808S	12,7	0.50	13/16-16	27,9	1.10	14,5	0.57	12,7	0.50	9,7	0.38
1010S	16,0	0.63	1-14	33,3	1.31	16,2	0.64	15,7	0.62	9,7	0.38
1212S	19,0	0.75	13/16-12	37,3	1.47	17,5	0.69	19,0	0.75	9,7	0.38
1216S	19,0	0.75	13/16-12	41,1	1.62	23,1	0.91	25,4	1.00	13,2	0.52
1616S	25,4	1.00	17/16-12	41,6	1.64	23,1	0.91	25,4	1.00	13,2	0.52
2020S	31,8	1.25	111/16-12	44,7	1.76	27,9	1.10	31,8	1.25	13,5	0.53
2424S	38,1	1.50	2-12	48,8	1.92	31,8	1.25	38,1	1.50	13,2	0.52

**ORS/Braze/  
ORS Port Adapter**



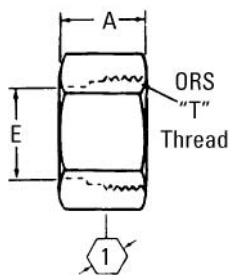
**Part No. FF2115T(Size)\* (Ref. SAE 520472)**

Dash Size	Tube O.D.		Thread T1	Thread T2	A		B		C		D	
	mm	in			mm	in	mm	in	mm	in	mm	in
0404S	6,4	0.25	9/16-18	9/16-18	9,7	0.38	21,6	0.85	21,6	0.85	6,4	0.25
0606S	9,7	0.38	11/16-16	11/16-16	10,4	0.41	24,9	0.98	24,9	0.98	6,4	0.25
0808S	12,7	0.50	13/16-16	13/16-16	15,0	0.59	27,9	1.10	27,9	1.10	9,7	0.38
1010S	16,0	0.63	1-14	1-14	16,8	0.66	33,3	1.31	33,3	1.31	9,7	0.38
1212S	19,0	0.75	13/16-12	13/16-12	18,3	0.72	37,3	1.47	37,3	1.47	9,7	0.38
1616S	25,4	1.00	17/16-12	17/16-12	23,9	0.94	41,6	1.64	41,6	1.64	13,5	0.53
2020S	31,8	1.25	111/16-12	111/16-12	28,7	1.13	44,7	1.76	44,7	1.76	13,5	0.53
2424S	38,1	1.50	2-12	2-12	31,8	1.25	48,8	1.92	48,8	1.92	13,2	0.52

\*Eaton braze counterbores are dimensioned for sized or emerged tubing. If tubing is used as received, contact Eaton for appropriate part number.



## ORS-BR Nut

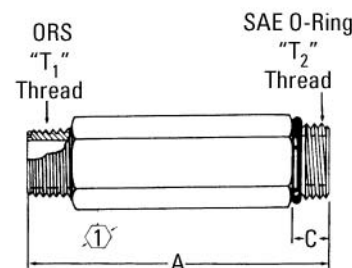


### CAUTION

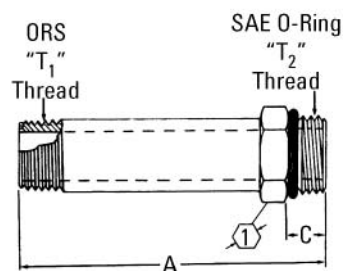
In applications exceeding +480°F (such as during brazing), order the oil-coated/non-plated nut by using part number FC1857-Size-186. When plating is heated above +480°F, toxic gases are given off.

## ORS/O-Ring Boss

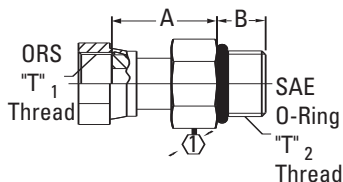
### ORS/SAE O-Ring Boss Adapter



### ORS/SAE O-Ring Boss Long Adapter



### ORS Female Swivel/SAE O-Ring Boss Adapter



## Part No. FC2326-(Size) (Ref. SAE 520110)

Dash Size	Tube O.D.		Thread T1	A		E		⌀	
	mm	in		mm	in	mm	in	mm	in
04S	6,4	0.25	9/16-18	14,7	0.58	10,4	0.41	17,5	0.69
06S	9,7	0.38	11/16-16	17,0	0.67	13,5	0.53	20,6	0.81
08S	12,7	0.50	13/16-16	21,0	0.83	16,5	0.65	23,9	0.94
10S	16,0	0.63	1-14	23,4	0.92	21,0	0.83	28,5	1.12
12S	19,0	0.75	13/16-12	25,9	1.02	24,1	0.95	35,1	1.38
14S	22,3	0.88	13/16-12	31,0	1.22	25,1	0.99	35,1	1.38
16S	25,4	1.00	17/16-12	27,9	1.10	29,0	1.14	41,1	1.62
20S	31,8	1.25	11/16-12	27,9	1.10	36,1	1.42	47,7	1.88
24S	38,1	1.50	2-12	27,9	1.10	43,9	1.73	57,2	2.25

## Part No. FF2211T(Size) (Ref. SAE 520122)

Dash Size	Tube O.D.		Thread T1	Thread T2	A		C		⌀	
	mm	in			mm	in	mm	in	mm	in
0606S	9,7	0.38	11/16-16	9/16-18	50,0	1.97	11,9	0.47	19,0	0.75
0608S	9,7	0.38	11/16-16	3/4-16	54,1	2.13	14,0	0.55	22,3	0.88
0808S	12,7	0.50	13/16-16	3/4-16	68,1	2.68	14,0	0.55	22,3	0.88
1010S	16,0	0.63	1-14	7/8-14	75,9	2.99	16,0	0.63	26,9	1.06
1212S	19,0	0.75	13/16-12	11/16-12	72,9	2.87	18,5	0.73	31,8	1.25
1616S	25,4	1.00	17/16-12	15/16-12	104,5	4.11	18,5	0.73	38,1	1.50

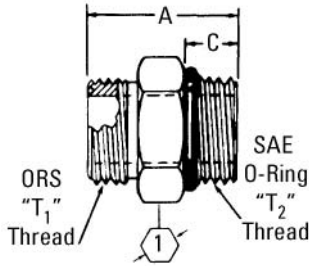
## Part No. FF1854T(Size) (Ref. SAE 520122)

Dash Size	Tube O.D.		Thread T1	Thread T2	A		C		⌀	
	mm	in			mm	in	mm	in	mm	in
0404S	6,4	0.25	9/16-18	7/16-20	52,6	2.07	10,9	0.43	15,7	0.62
0606S	9,7	0.38	11/16-16	9/16-18	57,6	2.27	11,9	0.47	19,0	0.75
0608S	9,7	0.38	11/16-16	3/4-16	66,3	2.61	14,0	0.55	22,3	0.88
0808S	12,7	0.50	13/16-16	3/4-16	67,8	2.67	14,0	0.55	22,3	0.88
1010S	16,0	0.63	1-14	7/8-14	79,5	3.13	16,0	0.63	26,9	1.06
1212S	19,0	0.75	13/16-12	11/16-12	95,2	3.75	18,5	0.73	31,8	1.25
1214S	19,0	0.75	13/16-12	13/16-12	95,2	3.75	18,5	0.73	35,1	1.38
1616S	25,4	1.00	17/16-12	15/16-12	104,9	4.13	18,5	0.73	38,1	1.50
2020S	31,8	1.25	11/16-12	15/8-12	120,6	4.75	18,5	0.73	47,7	1.88
2424S	38,1	1.50	2-12	17/8-12	133,6	5.26	18,5	0.73	53,9	2.12

## Part No. FF2130T(Size) (Ref. SAE 520181)

Dash Size	Tube O.D.		Thread T1	Thread T2	A		B		⌀	
	mm	in			mm	in	mm	in	mm	in
0606S	9,7	0.38	11/16-16	9/16-18	28,2	1.11	11,9	0.47	17,5	0.69
0808S	12,7	0.50	13/16-16	3/4-16	35,3	1.39	14,0	0.55	22,3	0.88
1212S	19,0	0.75	13/16-12	11/16-12	41,1	1.62	18,5	0.73	31,8	1.25
1616S	25,4	1.00	17/16-12	15/16-12	49,0	1.93	18,5	0.73	38,1	1.50
2020S	31,8	1.25	11/16-12	15/8-12	47,2	1.86	18,5	0.73	47,7	1.88

**ORS/SAE O-Ring  
Boss Adapter**



**Part No. FF1852T(Size)** (Ref. SAE 520120)

Dash Size	Tube O.D.		Thread T1	Thread T2	A		C		①	
	mm	in	in	in	mm	in	mm	in	mm	in
0403S	6,4	0.25	9/16-18	3/8-24	27,2	1.07	9,4	0.37	15,7	0.62
0404S	6,4	0.25	9/16-18	7/16-20	28,7	1.13	10,9	0.43	15,7	0.62
0405S	6,4	0.25	9/16-18	1/2-20	28,7	1.13	10,9	0.43	15,7	0.62
0406S	6,4	0.25	9/16-18	9/16-18	30,5	1.20	11,9	0.47	17,5	0.69
0408S	6,4	0.25	9/16-18	3/4-16	33,6	1.32	14,0	0.55	22,3	0.88
0603S	9,7	0.38	11/16-16	3/8-24	32,5	1.28	9,4	0.37	19,0	0.75
0604S	9,7	0.38	11/16-16	7/16-20	34,0	1.34	10,9	0.43	19,0	0.75
0605S	9,7	0.38	11/16-16	1/2-20	31,0	1.22	10,9	0.43	19,0	0.75
0606S	9,7	0.38	11/16-16	9/16-18	32,0	1.26	11,9	0.47	19,0	0.75
0608S	9,7	0.38	11/16-16	3/4-16	35,1	1.38	14,0	0.55	22,3	0.88
0610S	9,7	0.38	11/16-16	7/8-14	38,9	1.53	16,0	0.63	25,4	1.00
0612S	9,7	0.38	11/16-16	1 1/16-12	42,9	1.69	18,5	0.73	31,8	1.25
0616S	9,7	0.38	11/16-16	1 5/16-12	43,9	1.73	18,5	0.73	38,1	1.50
0806S	12,7	0.50	11/16-16	9/16-18	37,6	1.48	11,9	0.47	22,3	0.88
0808S	12,7	0.50	13/16-16	3/4-16	36,6	1.44	14,0	0.55	22,3	0.88
0810S	12,7	0.50	13/16-16	7/8-14	40,4	1.59	16,0	0.63	25,4	1.00
0812S	12,7	0.50	13/16-16	1 1/16-12	44,4	1.75	18,5	0.73	31,8	1.25
0814S	12,7	0.50	13/16-16	1 3/16-12	44,4	1.75	18,5	0.73	35,1	1.38
0816S	12,7	0.50	13/16-16	1 5/16-12	45,5	1.79	18,5	0.73	38,1	1.50
1008S	16,0	0.63	1-14	3/4-16	45,2	1.78	14,0	0.55	26,9	1.06
1010S	16,0	0.63	1-14	7/8-14	43,2	1.70	16,0	0.63	26,9	1.06
1012S	16,0	0.63	1-14	1 1/16-12	47,2	1.86	18,5	0.73	31,8	1.25
1014S	16,0	0.63	1-14	1 3/16-12	47,2	1.86	18,5	0.73	35,1	1.38
1206S	19,0	0.75	1 3/16-12	9/16-18	44,9	1.77	11,9	0.47	31,8	1.25
1208S	19,0	0.75	1 3/16-12	3/4-16	48,5	1.91	14,0	0.55	31,8	1.25
1210S	19,0	0.75	1 3/16-12	7/8-14	50,5	1.99	16,0	0.63	31,8	1.25
1212S	19,0	0.75	1 3/16-12	1 1/16-12	48,8	1.92	18,5	0.73	31,8	1.25
1214S	19,0	0.75	1 3/16-12	1 3/16-12	48,8	1.92	18,5	0.73	35,1	1.38
1216S	19,0	0.75	1 3/16-12	1 5/16-12	49,8	1.96	18,5	0.73	38,1	1.50
1608S	25,4	1.00	1 7/16-12	3/4-16	49,8	1.96	14,0	0.55	38,1	1.50
1610S	25,4	1.00	1 7/16-12	7/8-14	51,8	2.04	16,0	0.63	38,1	1.50
1612S	25,4	1.00	1 7/16-12	1 1/16-12	41,1	1.62	18,5	0.73	38,1	1.50
1614S	25,4	1.00	1 7/16-12	1 3/16-12	50,3	1.98	18,5	0.73	38,1	1.50
1616S	25,4	1.00	1 7/16-12	1 5/16-12	50,3	1.98	18,5	0.73	38,1	1.50
1620S	25,4	1.00	1 7/16-12	1 5/8-12	52,3	2.06	18,5	0.73	47,7	1.88
2016S	31,8	1.25	1 11/16-12	1 5/16-12	57,9	2.28	18,5	0.73	44,4	1.75
2020S	31,8	1.25	1 11/16-12	1 5/8-12	52,3	2.06	18,5	0.73	47,7	1.88
2024S	31,8	1.25	1 11/16-12	1 7/8-12	54,1	2.13	18,5	0.73	53,9	2.12
2420S	38,1	1.50	2-12	1 5/8-12	59,7	2.35	18,5	0.73	53,9	2.12
2424S	38,1	1.50	2-12	1 7/8-12	54,1	2.13	18,5	0.73	53,9	2.12

SPECIALTY &  
TRUCK HOSE

LOW & MEDIUM  
PRESSURE HOSE

HIGH PRESSURE HOSE

HOSE FITTINGS

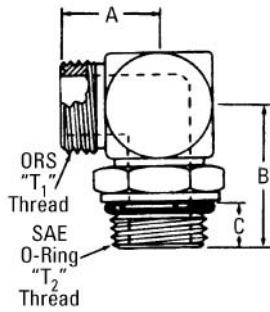
ADAPTERS &  
TUBE FITTINGS

ACCESSORIES &  
ASSEMBLY INSTRUCTIONS

HOSE ASSEMBLY  
EQUIPMENT

APPENDICIES

## 90° ORS/SAE O-Ring Boss (adj.) Adapter

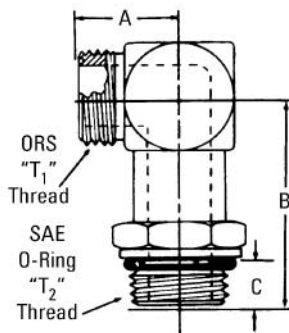


## Part No. FF1868T(Size)\* (Ref. SAE 520220)

Dash Size	Tube O.D.		Thread T1	Thread T2	A		B		C	
	mm	in			mm	in	mm	in	mm	in
0403S	6,4	0.25	9/16-18	3/8-24	21,6	0.85	30,3	1.19	9,4	0.37
0404S	6,4	0.25	9/16-18	7/16-20	21,6	0.85	32,8	1.29	10,9	0.43
0405S	6,4	0.25	9/16-18	1/2-20	23,4	0.92	34,8	1.37	10,9	0.43
0406S	6,4	0.25	9/16-18	9/16-18	23,4	0.92	36,8	1.45	11,9	0.47
0408S	6,4	0.25	9/16-18	3/4-16	24,6	0.97	40,6	1.60	14,0	0.55
0604S	9,7	0.38	11/16-16	7/16-20	24,9	0.98	34,8	1.37	10,9	0.43
0605S	9,7	0.38	11/16-16	1/2-20	24,9	0.98	34,8	1.37	10,9	0.43
0606S	9,7	0.38	11/16-16	9/16-18	24,9	0.98	36,8	1.45	11,9	0.47
0608S	9,7	0.38	11/16-16	3/4-16	26,4	1.04	40,6	1.60	14,0	0.55
0610S	9,7	0.38	11/16-16	7/8-14	29,2	1.15	50,0	1.97	16,0	0.63
0612S	9,7	0.38	11/16-16	1 1/16-12	31,8	1.25	55,2	2.17	18,5	0.73
0806S	12,7	0.50	13/16-16	9/16-18	27,9	1.10	36,6	1.44	11,9	0.47
0808S	12,7	0.50	13/16-16	3/4-16	27,9	1.10	40,6	1.60	14,0	0.55
0810S	12,7	0.50	13/16-16	7/8-14	30,7	1.21	50,0	1.97	16,0	0.63
0812S	12,7	0.50	13/16-16	1 1/16-12	33,6	1.32	55,2	2.17	18,5	0.73
1008S	16,0	0.63	1-14	3/4-16	33,3	1.31	45,7	1.80	14,0	0.55
1010S	16,0	0.63	1-14	7/8-14	33,3	1.31	50,0	1.97	16,0	0.63
1012S	16,0	0.63	1-14	1 1/16-12	35,8	1.41	55,2	2.17	18,5	0.73
1208S	19,0	0.75	1 3/16-12	3/4-16	37,3	1.47	46,7	1.84	14,0	0.55
1210S	19,0	0.75	1 3/16-12	7/8-14	37,3	1.47	51,1	2.01	16,0	0.63
1212S	19,0	0.75	1 3/16-12	1 1/16-12	37,3	1.47	55,2	2.17	18,5	0.73
1214S	19,0	0.75	1 3/16-12	1 3/16-12	37,3	1.47	55,2	2.17	18,0	0.71
1216S	19,0	0.75	1 3/16-12	1 5/16-12	41,1	1.62	59,7	2.35	18,5	0.73
1612S	25,4	1.00	1 7/16-12	1 1/16-12	41,6	1.64	58,9	2.32	18,5	0.73
1614S	25,4	1.00	1 7/16-12	1 3/16-12	41,6	1.64	58,9	2.32	18,0	0.71
1616S	25,4	1.00	1 7/16-12	1 5/16-12	41,6	1.64	59,7	2.35	18,5	0.73
1620S	25,4	1.00	1 7/16-12	1 5/8-12	44,7	1.76	62,2	2.45	18,5	0.73
2012S	31,8	1.25	1 11/16-12	1 1/16-12	44,7	1.76	61,5	2.42	18,5	0.73
2016S	31,8	1.25	1 11/16-12	1 5/16-12	44,7	1.76	61,5	2.42	18,5	0.73
2020S	31,8	1.25	1 11/16-12	1 5/8-12	44,7	1.76	62,2	2.45	18,5	0.73
2420S	38,1	1.50	2-12	1 5/8-12	48,8	1.92	65,0	2.56	18,5	0.73
2424S	38,1	1.50	2-12	1 7/8-12	48,8	1.92	65,8	2.59	18,5	0.73

\*Available without nut, order by Part No. FF2151T(Size).

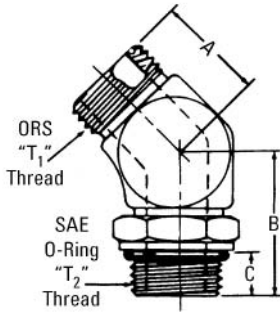
## 90° ORS/SAE O-Ring Boss (adj.) Long Adapter



## Part No. FF2227T(Size) (Ref. SAE 521520)

Dash Size	Tube O.D.		Thread T1	Thread T2	A		B		C	
	mm	in			mm	in	mm	in	mm	in
0404S	6,4	0.25	9/16-18	7/16-20	21,6	0.85	56,6	2.23	10,9	0.43
0606S	9,7	0.38	11/16-16	9/16-18	24,9	0.98	66,3	2.61	11,9	0.47
0808S	12,7	0.50	13/16-16	3/4-16	27,9	1.10	74,9	2.95	14,0	0.55
1010S	16,0	0.63	1-14	7/8-14	33,3	1.31	89,1	3.51	16,0	0.63
1212S	19,0	0.75	1 3/16-12	1 1/16-12	37,3	1.47	100,8	3.97	18,5	0.73
1616S	25,4	1.00	1 7/16-12	1 5/16-12	41,6	1.64	114,5	4.51	18,5	0.73
2020S	31,8	1.25	1 11/16-12	1 5/8-12	44,7	1.76	126,5	4.98	18,5	0.73

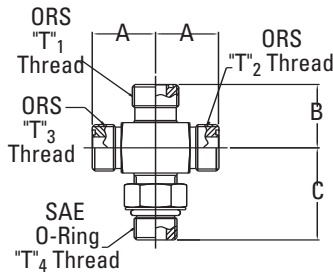
**45° ORS/SAE O-Ring Boss (adj.) Adapter**



**Part No. FF2068T(Size)** (Ref. SAE 520320)

Dash Size	Tube O.D.		Thread T1	Thread T2	A		B		C	
	mm	in			mm	in	mm	in	mm	in
0404S	6,4	0.25	9/16-18	7/16-20	16,0	0.63	30,0	1.18	9,4	0.37
0406S	6,4	0.25	9/16-18	9/16-18	17,3	0.68	33,0	1.30	11,9	0.47
0408S	6,4	0.25	9/16-18	3/4-16	17,0	0.67	36,3	1.43	14,0	0.55
0604S	9,7	0.38	11/16-16	7/16-20	18,8	0.74	31,0	1.22	10,9	0.43
0606S	9,7	0.38	11/16-16	9/16-18	18,8	0.74	33,0	1.30	11,9	0.47
0608S	9,7	0.38	11/16-16	3/4-16	18,8	0.74	36,3	1.43	14,0	0.55
0806S	12,7	0.50	13/16-16	9/16-18	20,3	0.80	32,8	1.29	11,9	0.47
0808S	12,7	0.50	13/16-16	3/4-16	20,3	0.80	36,3	1.43	14,0	0.55
0810S	12,7	0.50	13/16-16	7/8-14	20,8	0.82	44,7	1.76	16,0	0.63
0816S	12,7	0.50	13/16-16	15/16-12	25,7	1.01	52,3	2.06	18,5	0.73
1008S	16,0	0.63	1-14	3/4-16	23,4	0.92	40,4	1.59	12,7	0.50
1010S	16,0	0.63	1-14	7/8-14	23,4	0.92	44,7	1.76	16,0	0.63
1012S	16,0	0.63	1-14	11/16-12	24,4	0.96	50,0	1.97	18,5	0.73
1210S	19,0	0.75	13/16-12	7/8-14	25,9	1.02	46,0	1.81	16,0	0.63
1212S	19,0	0.75	13/16-12	11/16-12	25,9	1.02	50,0	1.97	18,5	0.73
1216S	19,0	0.75	13/16-12	15/16-12	29,5	1.16	52,3	2.06	18,5	0.73
1612S	25,4	1.00	17/16-12	11/16-12	30,0	1.18	51,6	2.03	18,5	0.73
1616S	25,4	1.00	17/16-12	15/16-12	30,0	1.18	52,3	2.06	18,5	0.73
1620S	25,4	1.00	17/16-12	15/8-12	32,0	1.26	53,6	2.11	18,5	0.73
2020S	31,8	1.25	111/16-12	15/8-12	32,0	1.26	53,6	2.11	18,5	0.73
2424S	38,1	1.50	2-12	17/8-12	36,8	1.45	53,6	2.11	18,5	0.73

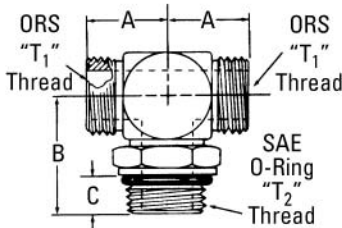
**ORS - SAE O-Ring Branch Cross (6000 psi)**



**Part No. FF2127T(Size)** (Ref. SAE 520520)

Dash Size	Tube O.D.		Thread T1	Thread T2	Thread T3	Thread T4	A		B		C	
	mm	in					mm	in	mm	in	mm	in
0606S	9,7	0.38	11/16-16	11/16-16	11/16-16	9/16-18	24,9	0.98	24,6	0.97	36,6	1.44
0808S	12,7	0.50	13/16-16	13/16-16	13/16-16	3/4-16	27,9	1.10	27,7	1.09	40,4	1.59

**ORS/ORS/SAE O-Ring Boss (Adj) Adapter**

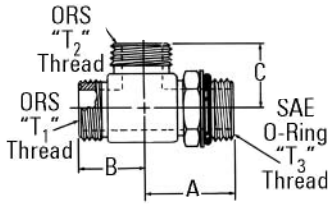


**Part No. FF1861T(Size)** (Ref. SAE 520429)

Dash Size	Tube O.D.		Thread T1	Thread T2	A		B		C	
	mm	in			mm	in	mm	in	mm	in
0403S	6,4	0.25	9/16-18	3/8-24	21,6	0.85	30,3	1.19	9,4	0.37
0404S	6,4	0.25	9/16-18	7/16-20	21,6	0.85	32,8	1.29	10,9	0.43
0606S	9,7	0.38	11/16-16	9/16-18	24,9	0.98	36,8	1.45	11,9	0.47
0608S	9,7	0.38	11/16-16	3/4-16	26,4	1.04	40,6	1.60	14,0	0.55
0808S	12,7	0.50	13/16-16	3/4-16	33,3	1.31	50,0	1.97	14,0	0.55
1010S	16,0	0.63	1-14	7/8-14	33,3	1.31	50,0	1.97	16,0	0.63
1210S	19,0	0.75	13/16-12	7/8-14	37,3	1.47	55,2	2.17	16,0	0.63
1212S	19,0	0.75	13/16-12	15/16-12	41,1	1.62	59,7	2.35	18,5	0.73
1216S	19,0	0.75	13/16-12	15/16-12	41,6	1.64	59,7	2.35	18,5	0.73
1616S	25,4	1.00	17/16-12	15/16-12	41,6	1.64	59,7	2.35	18,5	0.73
2020S	31,8	1.25	111/16-12	15/8-12	44,7	1.76	62,2	2.45	18,5	0.73
2424S	38,1	1.50	2-12	17/8-12	48,8	1.92	65,8	2.59	18,5	0.73

## ORS/ORS/SAE O-Ring Boss (Adj) Adapter

Part No. FF1865(Size) (Ref. SAE 520429)

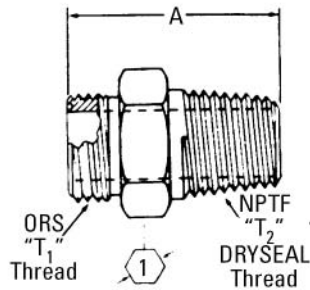


Dash Size	Tube O.D.		Thread T1	Thread T2	Thread T3	A		B		C	
	mm	in				mm	in	mm	in	mm	in
0404S	6,4	0.25	9/16-18	9/16-18	7/16-20	32,8	1.29	21,6	0.85	21,6	0.85
0406S	6,4	0.25	9/16-18	9/16-18	9/16-18	36,8	1.45	23,4	0.92	23,4	0.92
0604S	9,7	0.38	11/16-16	11/16-16	7/16-20	34,8	1.37	29,7	1.17	24,9	0.98
0606S	9,7	0.38	11/16-16	11/16-16	9/16-18	36,8	1.45	24,9	0.98	24,9	0.98
0806S	12,7	0.50	13/16-16	13/16-16	9/16-18	36,6	1.44	27,9	1.10	27,9	1.10
0808S	12,7	0.50	13/16-16	13/16-16	3/4-16	40,6	1.60	27,9	1.10	27,9	1.10
0812S	12,7	0.50	13/16-16	13/16-16	1 1/16-12	55,2	2.17	33,6	1.32	33,6	1.32
1010S	16,0	0.63	1-14	1-14	7/8-14	50,0	1.97	33,3	1.31	33,3	1.31
1012S	16,0	0.63	1-14	1-14	1 1/16-12	55,2	2.17	35,8	1.41	35,8	1.41
1212S	19,0	0.75	1 3/16-12	1 3/16-12	1 1/16-12	55,2	2.17	37,3	1.47	37,3	1.47
1220S	19,0	0.75	1 3/16-12	1 3/16-12	1 5/8-12	62,2	2.45	44,2	1.74	44,2	1.74
1616S	25,4	1.00	1 7/16-12	1 7/16-12	1 5/16-12	59,7	2.35	41,6	1.64	41,6	1.64
2020S	31,8	1.25	1 11/16-12	1 11/16-12	1 5/8-12	62,2	2.45	44,7	1.76	44,7	1.76
2424S	38,1	1.50	2-12	2-12	1 7/8-12	65,8	2.59	48,8	1.92	48,8	1.92
0005S	-	-	1 7/16-12	1 3/16-12	1 1/16-12	58,9	2.32	41,6	1.64	41,1	1.62
0001S	-	-	1 7/16-12	1 3/16-12	1 5/16-12	59,7	2.35	41,6	1.64	41,1	1.62
0012S	-	-	1 3/16-16	1 11/16-12	1 5/16-12	61,5	2.42	40,4	1.59	44,7	1.76
0003S	-	-	1-14	1 3/16-16	1 1/16-12	55,2	2.17	35,8	1.41	33,6	1.32

## ORS/NPTF

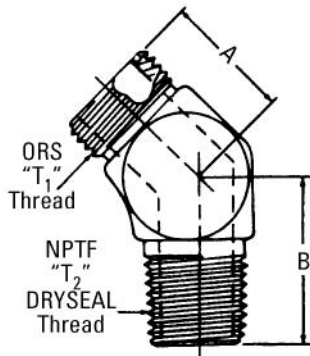
### ORS/Male NPTF Adapter

Part No. FF2031T(Size) (Ref. SAE 520102)



Dash Size	Tube O.D.		Thread T1	Thread T2	A		D	
	mm	in			mm	in	mm	in
0402S	6,4	0.25	9/16-18	1/8-27	26,2	1.03	15,7	0.62
0404S	6,4	0.25	9/16-18	1/4-18	31,5	1.24	15,7	0.62
0406S	6,4	0.25	9/16-18	3/8-18	31,5	1.24	19,0	0.75
0408S	6,4	0.25	9/16-18	1/2-14	37,8	1.49	22,3	0.88
0602S	9,7	0.38	11/16-16	1/8-27	28,5	1.12	19,0	0.75
0604S	9,7	0.38	11/16-16	1/4-18	33,0	1.30	19,0	0.75
0606S	9,7	0.38	11/16-16	3/8-18	33,0	1.30	19,0	0.75
0608S	9,7	0.38	11/16-16	1/2-14	39,4	1.55	22,3	0.88
0804S	12,7	0.50	13/16-16	1/4-18	34,5	1.36	22,3	0.88
0806S	12,7	0.50	13/16-16	3/8-18	34,5	1.36	22,3	0.88
0808S	12,7	0.50	13/16-16	1/2-14	40,9	1.61	22,3	0.88
0812S	12,7	0.50	13/16-16	3/4-14	42,7	1.68	26,9	1.06
1008S	16,0	0.63	1-14	1/2-14	43,7	1.72	26,9	1.06
1012S	16,0	0.63	1-14	3/4-14	45,2	1.78	26,9	1.06
1016S	16,0	0.63	1-14	1-11 1/2	50,0	1.97	35,1	1.38
1208S	19,0	0.75	1 3/16-12	1/2-14	46,7	1.84	31,8	1.25
1212S	19,0	0.75	1 3/16-12	3/4-14	46,7	1.84	31,8	1.25
1216S	19,0	0.75	1 3/16-12	1-11 1/2	51,6	2.03	35,1	1.38
1612S	25,4	1.00	1 7/16-12	3/4-14	47,2	1.86	38,1	1.50
1616S	25,4	1.00	1 7/16-12	1-11 1/2	52,0	2.05	38,1	1.50
1620S	25,4	1.00	1 7/16-12	1 1/4-11 1/2	54,9	2.16	42,9	1.69
2016S	31,8	1.25	1 11/16-12	1-11 1/2	54,1	2.13	44,4	1.75
2020S	31,8	1.25	1 11/16-12	1 1/4-11 1/2	54,9	2.16	44,4	1.75
2424S	38,1	1.50	2-12	1 1/2-11 1/2	57,4	2.26	53,9	2.12

**45° ORS/Male  
NPTF Adapter**



**Part No. FF2093T(Size)** (Ref. SAE 520302)

Dash Size	Tube O.D.		Thread T1	Thread T2	A		B	
	mm	in			mm	in	mm	in
0402S	6,4	0.25	9/16-18	1/8-27	16,0	0.63	17,3	0.68
0404S	6,4	0.25	9/16-18	1/4-18	17,3	0.68	23,6	0.93
0406S	6,4	0.25	9/16-18	3/8-18	17,0	0.67	26,4	1.04
0604S	9,7	0.38	11/16-16	1/4-18	18,8	0.74	23,6	0.93
0606S	9,7	0.38	11/16-16	3/8-18	18,8	0.74	26,4	1.04
0608S	9,7	0.38	11/16-16	1/2-14	19,3	0.76	30,7	1.21
0804S	12,7	0.50	13/16-16	1/4-18	20,3	0.80	23,4	0.92
0806S	12,7	0.50	13/16-16	3/8-18	20,3	0.80	26,4	1.04
0808S	12,7	0.50	13/16-16	1/2-14	20,8	0.82	30,5	1.20
1008S	16,0	0.63	1-14	1/2-14	23,4	0.92	30,5	1.20
1212S	19,0	0.75	13/16-12	3/4-14	25,9	1.02	31,2	1.23
1616S	25,4	1.00	17/16-12	1-11 1/2	30,0	1.18	38,3	1.51
2020S	31,8	1.25	111/16-12	11/4-11 1/2	32,0	1.26	42,9	1.69
2424S	38,1	1.50	2-12	11/2-11 1/2	36,8	1.45	45,7	1.80

SPECIALTY &  
TRUCK HOSE

LOW & MEDIUM  
PRESSURE HOSE

HIGH PRESSURE HOSE

HOSE FITTINGS

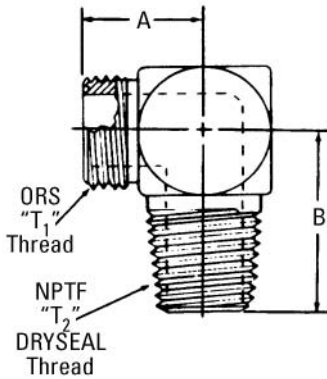
ADAPTERS &  
TUBE FITTINGS

ACCESSORIES &  
ASSEMBLY INSTRUCTIONS

HOSE ASSEMBLY  
EQUIPMENT

APPENDICES

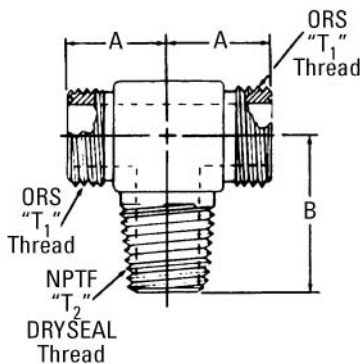
**90° ORS/Male  
NPTF Adapter**



**Part No. FF2032T(Size)** (Ref. SAE 520202)

Dash Size	Tube O.D.		Thread T1	Thread T2	A		B	
	mm	in			mm	in	mm	in
0402S	6,4	0.25	9/16-18	1/8-27	21,6	0.85	19,8	0.78
0404S	6,4	0.25	9/16-18	1/4-18	23,4	0.92	27,4	1.08
0602S	9,7	0.38	11/16-16	1/8-27	24,9	0.98	21,8	0.86
0604S	9,7	0.38	11/16-16	1/4-18	24,9	0.98	27,4	1.08
0606S	9,7	0.38	11/16-16	3/8-18	26,4	1.04	30,7	1.21
0608S	9,7	0.38	11/16-16	1/2-14	29,2	1.15	38,9	1.53
0802S	12,7	0.50	13/16-16	1/8-27	27,9	1.10	26,9	1.06
0806S	12,7	0.50	13/16-16	3/8-18	27,9	1.10	30,7	1.21
0808S	12,7	0.50	13/16-16	1/2-14	30,7	1.21	38,9	1.53
0812S	12,7	0.50	13/16-14	3/4-14	33,6	1.32	41,9	1.65
1008S	16,0	0.63	1-14	1/2-14	33,3	1.31	38,9	1.53
1012S	16,0	0.63	1-14	3/4-14	35,8	1.41	41,9	1.65
1208S	19,0	0.75	13/16-12	1/2-14	37,3	1.47	41,9	1.65
1212S	19,0	0.75	13/16-12	3/4-14	37,3	1.47	41,9	1.65
1216S	19,0	0.75	13/16-12	1-11 1/2	41,1	1.62	51,6	2.03
1612S	25,4	1.00	17/16-12	3/4-14	41,6	1.64	46,7	1.84
1616S	25,4	1.00	17/16-12	1-11 1/2	41,6	1.64	51,6	2.03
2016S	31,8	1.25	111/16-12	1-11 1/2	44,7	1.76	60,4	2.38
2020S	31,8	1.25	111/16-12	11/4-11 1/2	44,7	1.76	61,2	2.41
2424S	38,1	1.50	2-12	11/2-11 1/2	48,8	1.92	68,6	2.70

**ORS/ORS/  
Male NPTF Adapter**

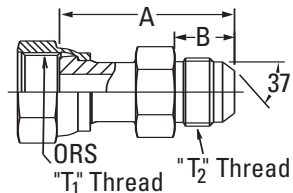


**Part No. FF2001T(Size)** (Ref. SAE 520425)

Dash Size	Tube O.D.		Thread T1	Thread T2	A		B	
	mm	in			mm	in	mm	in
0402S	6,4	0.25	9/16-18	1/8-27	21,6	0.85	19,8	0.78
0404S	6,4	0.25	9/16-18	1/4-18	23,4	0.92	27,4	1.08
0604S	9,7	0.38	11/16-16	1/4-18	24,9	0.98	27,4	1.08
0606S	9,7	0.38	11/16-16	3/8-18	26,4	1.04	30,7	1.21
0806S	12,7	0.50	13/16-16	3/8-18	27,9	1.10	30,7	1.21
0808S	12,7	0.50	13/16-16	1/2-14	30,7	1.21	38,9	1.53
1008S	16,0	0.63	1-14	1/2-14	33,3	1.31	38,9	1.53
1206S	19,0	0.75	13/16-12	1/2-18	37,3	1.47	37,1	1.46
1212S	19,0	0.75	13/16-12	3/4-14	37,3	1.47	41,9	1.65
1216S	19,0	0.75	13/16-12	1-11 1/2	41,4	1.63	51,6	2.03
1616S	25,4	1.00	17/16-12	1-11 1/2	41,6	1.64	51,6	2.03
2020S	31,8	1.25	111/16-12	11/4-11 1/2	44,7	1.76	61,2	2.41
2424S	38,1	1.50	2-12	11/2-11 1/2	48,8	1.92	68,6	2.70

# ORS to SAE 37° Flare

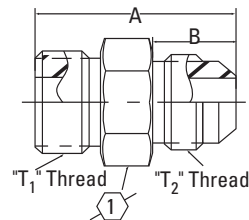
## ORS Female Swivel/SAE 37° Male Flare



### Part No. FF2209T(Size)

Dash Size	Tube O.D.		Thread T1	Thread T2	A		B	
	mm	in			mm	in	mm	in
0412S	6,4	0.25	9/16-18	1 1/16-12	50,5	1.99	21,8	0.86
0612S	9,7	0.38	1 1/16-16	1 1/16-12	52,6	2.07	21,8	0.86
0808S	12,7	0.50	1 3/16-16	3/4-16	51,6	2.03	16,8	0.66
0812S	12,7	0.50	1 3/16-16	1 1/16-12	57,2	2.25	21,8	0.86
1212S	19,0	0.75	1 3/16-12	1 1/16-12	62,0	2.44	21,8	0.86
1616S	25,4	1.00	1 7/16-12	1 5/16-12	71,6	2.82	23,1	0.91
2016S	31,8	1.25	1 11/16-12	1 5/16-12	73,1	2.88	23,1	0.91

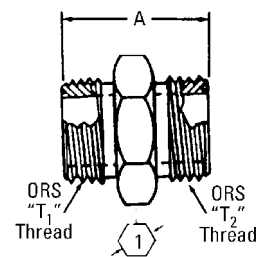
## Male ORS/SAE 37° Male Flare



### Part No. FF2313T(Dash Size)

Dash Size	Tube O.D.		Thread T1	Thread T2	A		B		①	
	mm	in			mm	in	mm	in	mm	in
0808S	12,7	0.50	3/16-16	3/4-16	39,1	1.54	16,8	0.66	22,3	0.88
1010S	16,0	0.63	1-14	7/8-14	46,5	1.83	19,3	0.76	26,9	1.06
1212S	19,0	0.75	1 3/16-12	1 1/10-16	52,1	2.05	21,8	0.86	31,8	1.25

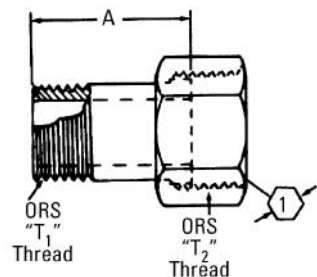
## ORS/ORS ORS/ORS Adapter



### Part No. FF2000T(Size) (Ref. SAE 520101)

Dash Size	Tube O.D.		Thread T1	Thread T2	A		①	
	mm	in			mm	in	mm	in
0404S	6,4	0.25	9/16-18	9/16-18	27,4	1.08	15,7	0.62
0604S	9,7	0.38	1 1/16-16	9/16-18	29,7	1.17	19,0	0.75
0606S	9,7	0.38	1 1/16-16	1 1/16-16	31,0	1.22	19,0	0.75
0806S	12,7	0.50	1 3/16-16	1 1/16-16	33,8	1.33	22,3	0.88
0808S	12,7	0.50	1 3/16-16	1 3/16-16	35,3	1.39	22,3	0.88
1008S	16,0	0.63	1-14	1 3/16-16	39,9	1.57	26,9	1.06
1010S	16,0	0.63	1-14	1-14	42,7	1.68	26,9	1.06
1208S	19,0	0.75	1 3/16-12	1 3/16-16	42,9	1.69	31,8	1.25
1210S	19,0	0.75	1 3/16-12	1-14	45,7	1.80	31,8	1.25
1212S	19,0	0.75	1 3/16-12	1 3/16-12	47,2	1.86	31,8	1.25
1612S	25,4	1.00	1 7/16-12	1 3/16-12	48,8	1.92	38,1	1.50
1616S	25,4	1.00	1 7/16-12	1 7/16-12	49,3	1.94	38,1	1.50
2020S	31,8	1.25	1 11/16-12	1 11/16-12	51,3	2.02	44,4	1.75
2424S	38,1	1.50	2-12	2-12	53,1	2.09	53,9	2.12

## ORS/ORS Reducer Adapter

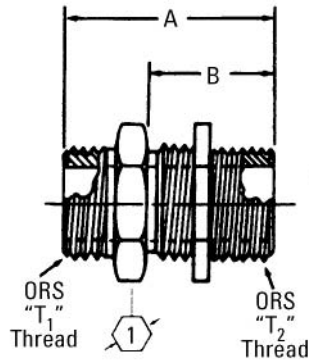


### Part No. FF2281T(Size) (Ref. SAE 520123)

Dash Size	Tube O.D.		Thread T1	Thread T2	A		①	
	mm	in			mm	in	mm	in
0406S	9,7	0.38	9/16-18	1 1/16-16	19,5	0.77	20,6	0.81
0408S†	12,7	0.50	9/16-18	1 3/16-16	21,8	0.86	23,9	0.94
0410S†	16,0	0.63	9/16-18	1-14	22,9	0.90	28,5	1.12
0412S†	19,0	0.75	9/16-18	1 3/16-12	24,9	0.98	35,1	1.38
0608S	12,7	0.50	1 1/16-16	1 3/16-16	22,3	0.88	23,9	0.94
0610S†	16,0	0.63	1 1/16-16	1-14	24,1	0.95	28,5	1.12
0612S†	19,0	0.75	1 1/16-16	1 3/16-12	26,2	1.03	35,1	1.38
0810S†	16,0	0.63	1 3/16-16	1-14	25,9	1.02	28,5	1.12
0812S†	19,0	0.75	1 3/16-16	1 3/16-12	27,9	1.10	35,1	1.38
0816S†	25,4	1.00	1 3/16-16	1 7/16-12	29,2	1.15	41,1	1.62
1012S	19,0	0.75	1-14	1 3/16-12	29,5	1.16	35,1	1.38
1216S	25,4	1.00	1 3/16-12	1 7/16-12	34,0	1.34	41,1	1.62
1220S†	31,8	1.25	1 3/16-12	1 11/16-12	33,5	1.32	47,7	1.88
1224S†	38,1	1.50	1 3/16-12	2-12	33,6	1.32	57,2	2.25
1620S	31,8	1.25	1 7/16-12	1 11/16-12	37,3	1.47	47,7	1.88
1624S†	38,1	1.50	1 7/16-12	2-12	34,0	1.34	57,2	2.25

† Available without nut. Order by part number FF2151T(Size).

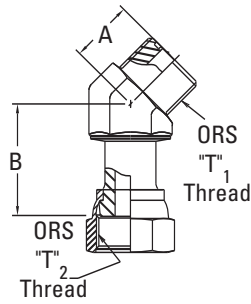
**ORS/ORS  
Bulkhead Adapter**



**Part No. FF194T(Size)** (Ref. SAE 520601)

Dash Size	Tube O.D.		Thread T1	Thread T2	A		B		Ø	
	mm	in			mm	in	mm	in	mm	in
0404S	6,4	0.25	9/16-18	9/16-18	48,3	1.90	31,5	1.24	20,6	0.81
0606S	9,7	0.38	11/16-16	11/16-16	53,1	2.09	34,0	1.34	25,4	1.00
0608S	9,7	0.38	11/16-16	13/16-16	56,9	2.24	36,6	1.44	28,5	1.12
0808S	12,7	0.50	13/16-16	13/16-16	58,4	2.30	36,6	1.44	28,5	1.12
1008S	16,0	0.63	1-14	13/16-16	62,5	2.46	36,6	1.44	28,5	1.12
1010S	16,0	0.63	1-14	1-14	66,5	2.62	40,6	1.60	33,3	1.31
1212S	19,0	0.75	13/16-12	13/16-12	69,1	2.72	41,6	1.64	38,1	1.50
1616S	25,4	1.00	17/16-12	17/16-12	70,1	2.76	42,2	1.66	44,4	1.75
2016S	31,8	1.25	111/16-12	17/16-12	70,1	2.76	42,2	1.66	44,4	1.75
2020S	31,8	1.25	111/16-12	111/16-12	70,1	2.76	42,2	1.66	50,8	2.00
2424S	38,1	1.50	2-12	2-12	70,1	2.76	42,2	1.66	60,4	2.38

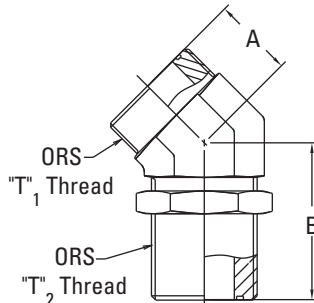
**45° ORS/ORS  
Female Adapter**



**Part No. FF2133T(Size)**

Dash Size	Tube O.D.		Thread T1	Thread T2	A		B	
	mm	in			mm	in	mm	in
0606S	9,7	0.38	11/16-16	11/16-16	18,8	0.74	26,9	1.06
0808S	12,7	0.50	13/16-16	13/16-16	20,3	0.80	35,6	1.40
1010S	16,0	0.63	1-14	1-14	23,4	0.92	38,6	1.52
1212S	19,0	0.75	13/16-12	13/16-12	25,9	1.02	42,4	1.67

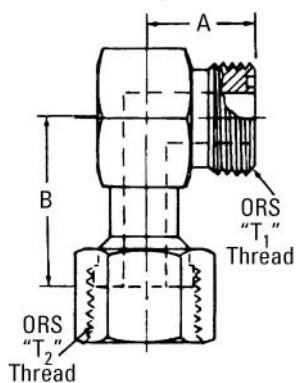
**45° ORS/ORS  
Bulkhead Adapter**



**Part No. FF2144T(Size)** (Ref. SAE 520801)

Dash Size	Tube O.D.		Thread T1	Thread T2	A		B	
	mm	in			mm	in	mm	in
0404S	6,4	0.25	9/16-18	9/16-18	16,0	0.63	43,9	1.73
0606S	9,7	0.38	11/16-16	11/16-16	18,8	0.74	48,5	1.91
0808S	12,7	0.50	13/16-16	13/16-16	20,3	0.80	51,1	2.01
1010S	16,0	0.63	1-14	1-14	23,4	0.92	56,6	2.23
1212S	19,0	0.75	13/16-12	13/16-12	25,9	1.02	60,7	2.39
1616S	25,4	1.00	17/16-12	17/16-12	30,0	1.18	65,3	2.57
2020S	31,8	1.25	111/16-12	111/16-12	32,0	1.26	67,0	2.64
2424S	38,1	1.50	2-12	2-12	36,8	1.45	67,0	2.64

**90° ORS/ORS  
Female Adapter**

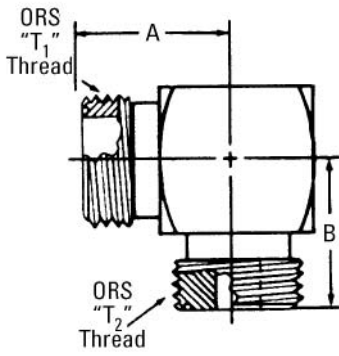


**Part No. FF2098T(Size)** (Ref. SAE 520221)

Dash Size	Tube O.D.		Thread T1	Thread T2	A		B	
	mm	in			mm	in	mm	in
0404S	6,4	0.25	9/16-18	9/16-18	21,6	0.85	26,4	1.04
0606S	9,7	0.38	11/16-16	11/16-16	24,9	0.98	29,2	1.15
0808S	12,7	0.50	13/16-16	13/16-16	27,9	1.10	37,8	1.49
1010S	16,0	0.63	1-14	1-14	33,3	1.31	41,1	1.62
1212S	19,0	0.75	13/16-12	13/16-12	37,3	1.47	46,2	1.82
1616S	25,4	1.00	17/16-12	17/16-12	41,6	1.64	53,3	2.10
2020S	31,8	1.25	111/16-12	111/16-12	44,7	1.76	58,2	2.29
2424S	38,1	1.50	2-12	2-12	48,8	1.92	61,2	2.41



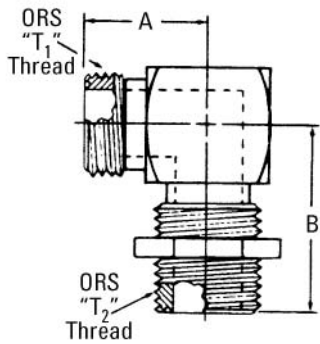
### 90° ORS/ORS Adapter



### Part No. FF2035T(Size) (Ref. SAE 520201)

Dash Size	Tube O.D.		Thread T1	Thread T2	A		B	
	mm	in			mm	in	mm	in
0404S	6,4	0.25	9/16-18	9/16-18	21,6	0.85	21,6	0.85
0604S	9,7	0.38	11/16-16	9/16-18	24,9	0.98	23,4	0.92
0606S	9,7	0.38	11/16-16	11/16-16	24,9	0.98	24,9	0.98
0804S	12,7	0.50	13/16-16	9/16-18	27,9	1.10	24,6	0.97
0806S	12,7	0.50	13/16-16	11/16-16	27,9	1.10	26,4	1.04
0808S	12,7	0.50	13/16-16	13/16-16	27,9	1.10	27,9	1.10
1010S	16,0	0.63	1-14	1-14	33,3	1.31	33,3	1.31
1208S	19,0	0.75	13/16-12	13/16-16	37,3	1.47	34,0	1.34
1212S	19,0	0.75	13/16-12	13/16-12	37,3	1.47	37,3	1.47
1616S	25,4	1.00	17/16-12	17/16-12	41,6	1.64	41,6	1.64
2020S	31,8	1.25	11/16-12	11/16-12	44,7	1.76	44,7	1.76
2424S	38,1	1.50	2-12	2-12	48,8	1.92	48,8	1.92

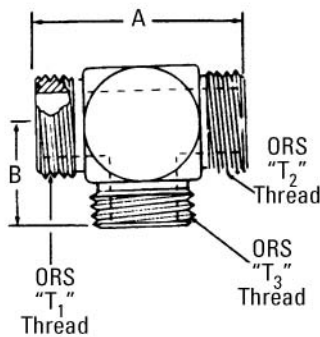
### 90° ORS/ORS Bulkhead Adapter



### Part No. FF2030T(Size) (Ref. SAE 520701)

Dash Size	Tube O.D.		Thread T1	Thread T2	A		B		E	
	mm	in			mm	in	mm	in	mm	in
0404S	6,4	0.25	9/16-18	9/16-18	22,6	0.89	47,0	1.85	4,3	0.17
0606S	9,7	0.38	11/16-16	11/16-16	25,9	1.02	52,0	2.05	6,6	0.26
0806S	12,7	0.50	13/16-16	11/16-16	29,0	1.14	53,9	2.12	6,6	0.26
0808S	12,7	0.50	13/16-16	13/16-16	29,0	1.14	55,4	2.18	9,7	0.38
1010S	16,0	0.63	1-14	1-14	34,5	1.36	63,0	2.48	12,2	0.48
1212S	19,0	0.75	13/16-12	13/16-12	38,6	1.52	67,3	2.65	15,5	0.61
1616S	25,4	1.00	17/16-12	17/16-12	42,4	1.67	71,1	2.80	20,6	0.81
2020S	31,8	1.25	11/16-12	11/16-12	45,5	1.79	75,4	2.97	26,2	1.03
2424S	38,1	1.50	2-12	2-12	49,5	1.95	79,5	3.13	32,0	1.26

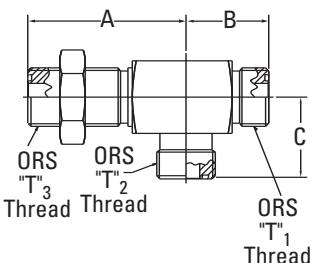
### ORS/ORS/ORS



### Part No. FF1898T(Size) (Ref. SAE 520401)

Dash Size	Tube O.D.		Thread T1	Thread T2	Thread T3	A		B	
	mm	in				mm	in	mm	in
0404S	6,4	0.25	9/16-18	9/16-18	9/16-18	43,2	1.70	21,6	0.85
0606S	9,7	0.38	11/16-16	11/16-16	11/16-16	49,8	1.96	24,9	0.98
0608S	9,7	0.38	11/16-16	11/16-16	13/16-16	52,8	2.08	27,9	1.10
0808S	12,7	0.50	13/16-16	13/16-16	13/16-16	55,9	2.20	27,9	1.10
1010S	16,0	0.63	1-14	1-14	1-14	66,5	2.62	33,3	1.31
0004S			13/16-12	13/16-16	13/16-16	70,9	2.79	33,6	1.32
1212S	19,0	0.75	13/16-12	13/16-12	13/16-12	74,7	2.94	37,3	1.47
1216S	19,0	0.75	13/16-12	13/16-12	17/16-12	82,3	3.24	44,7	1.76
1616S	25,4	1.00	17/16-12	17/16-12	17/16-12	83,3	3.28	41,6	1.64
0003S			11/16-12	17/16-12	13/16-12	89,4	3.52	44,2	1.74
2016S	31,8	1.25	11/16-12	11/16-12	17/16-12	89,4	3.52	44,7	1.76
2020S	31,8	1.25	11/16-12	11/16-12	11/16-12	89,4	3.52	44,7	1.76
2424S	38,1	1.50	2-12	2-12	2-12	97,5	3.84	48,8	1.92

### ORS - Bulkhead Run Tee

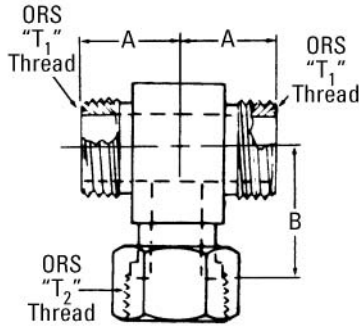


### Part No. FF2174T(Size) (Ref. SAE 520958)

Dash Size	Tube O.D.		Thread T1	Thread T2	Thread T3	A		B		C	
	mm	in				mm	in	mm	in	mm	in
0404S	6,4	0.25	9/16-18	9/16-18	9/16-18	47,0	1.85	22,6	0.89	22,6	0.89
0606S	9,7	0.38	11/16-16	11/16-16	11/16-16	52,0	2.05	25,9	1.02	25,7	1.01
0808S	12,7	0.50	13/16-16	13/16-16	13/16-16	55,4	2.18	29,0	1.14	28,7	1.13
1212S	19,0	0.75	13/16-12	13/16-12	13/16-12	54,9	2.16	40,6	1.60	40,6	1.60
1616S	25,4	1.00	17/16-12	17/16-12	17/16-12	71,1	2.80	42,4	1.67	42,4	1.67

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 HOSE FITTINGS  
 ADAPTERS & TUBE FITTINGS  
 ACCESSORIES & ASSEMBLY INSTRUCTIONS  
 HOSE ASSEMBLY EQUIPMENT  
 APPENDICES

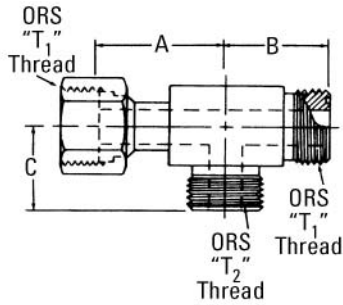
**ORS/ORS/ORS  
Female Adapter**



**Part No. FF1857T(Size)** (Ref. SAE 520433)

Dash Size	Tube O.D.		Thread T1	Thread T2	A		B	
	mm	in			mm	in	mm	in
0404S	6,4	0.25	9/16-18	9/16-18	21,6	0.85	26,4	1.04
0606S	9,7	0.38	11/16-16	11/16-16	24,9	0.98	29,2	1.15
0808S	12,7	0.50	13/16-16	13/16-16	27,9	1.10	37,8	1.49
1010S	16,0	0.63	1-14	1-14	33,3	1.31	41,1	1.62
1212S	19,0	0.75	1 3/16-12	1 3/16-12	37,3	1.47	46,2	1.82
1616S	25,4	1.00	1 7/16-12	1 7/16-12	41,6	1.64	53,3	2.10
2020S	31,8	1.25	1 11/16-12	1 11/16-12	44,7	1.76	58,2	2.29
2424S	38,1	1.50	2-12	2-12	48,8	1.92	61,2	2.41

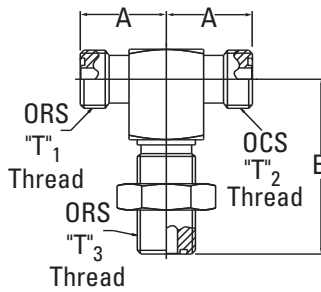
**ORS/ORS Female/  
ORS Adapter**



**Part No. FF2114T(Size)** (Ref. SAE 520432)

Dash Size	Tube O.D.		Thread T1	Thread T2	A		B		C	
	mm	in			mm	in	mm	in	mm	in
0404S	6,4	0.25	9/16-18	9/16-18	26,4	1.04	21,6	0.85	21,6	0.85
0606S	9,7	0.38	11/16-16	11/16-16	29,2	1.15	24,9	0.98	24,9	0.98
0808S	12,7	0.50	13/16-16	13/16-16	37,8	1.49	27,9	1.10	27,9	1.10
1010S	16,0	0.63	1-14	1-14	41,1	1.62	33,3	1.31	33,3	1.31
0001S	-	-	1 3/16-12	9/16-18	46,2	1.82	37,3	1.47	30,3	1.19
1212S	19,0	0.75	1 3/16-12	1 3/16-12	46,2	1.82	37,3	1.47	37,3	1.47
1616S	25,4	1.00	1 7/16-12	1 7/16-12	53,3	2.10	41,6	1.64	41,6	1.64
2020S	31,8	1.25	1 11/16-12	1 11/16-12	58,2	2.29	44,7	1.76	44,7	1.76
2424S	38,1	1.50	2-12	2-12	61,2	2.41	48,8	1.92	48,8	1.92

**ORS/ORS/ORS  
Bulkhead Adapter**

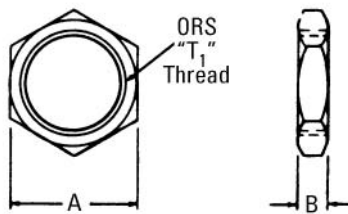


**Part No. FF2033T (Size)** (Ref. SAE 520959)

Dash Size	Tube O.D.		Thread T1	Thread T2	Thread T3	A		B	
	mm	in				mm	in	mm	in
0404S	6,4	0.25	9/16-18	9/16-18	9/16-18	22,3	0.88	47,0	1.85
0606S	9,7	0.38	11/16-16	11/16-16	11/16-16	25,7	1.01	52,0	2.05
0808S	12,7	0.50	13/16-16	13/16-16	13/16-16	28,7	1.13	55,4	2.18
1010S	16,0	0.63	1-14	1-14	1-14	34,5	1.36	63,0	2.48
1212S	19,0	0.75	1 3/16-12	1 3/16-12	1 3/16-12	40,6	1.60	67,3	2.65
1616S	25,4	1.00	1 7/16-12	1 7/16-12	1 7/16-12	42,4	1.67	71,1	2.80

**ORS Accessories**

**ORS Bulkhead Nut**



**Part No. FF9768-(Dash size)** (Ref. SAE 520118)

Dash Size	Tube O.D.		Thread T1	A		B	
	mm	in		mm	in	mm	in
04S	6,4	0.25	9/16-18	20,6	0.81	6,8	0.27
06S	9,7	0.38	11/16-16	25,4	1.00	7,9	0.31
08S	12,7	0.50	13/16-16	28,5	1.12	8,9	0.35
10S	16,0	0.63	1-14	33,3	1.31	10,4	0.41
12S	19,0	0.75	1 3/16-12	38,1	1.50	10,4	0.41
16S	25,4	1.00	1 7/16-12	44,4	1.75	10,4	0.41
20S	31,8	1.25	1 11/16-12	50,8	2.00	10,4	0.41
24S	38,1	1.50	2-12	60,4	2.38	10,4	0.41

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HOSE FITTINGS

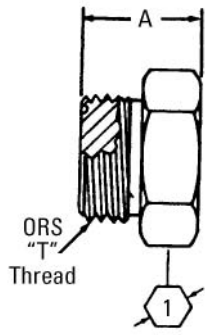
ADAPTERS &  
TUBE FITTINGS

ACCESSORIES &  
ASSEMBLY INSTRUCTIONS

HOSE ASSEMBLY  
EQUIPMENT

APPENDICES

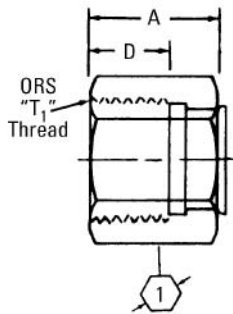
## ORS Plug



### Part No. FF9767-(Dash size) (Ref. SAE 520109)

Dash Size	Tube O.D.		Thread T1	A		①	
	mm	in		mm	in	mm	in
04S	6,4	0.25	9/16-18	16,8	0.66	15,7	0.62
06S	9,7	0.38	11/16-16	19,0	0.75	19,0	0.75
08S	12,7	0.50	13/16-16	22,1	0.87	22,3	0.88
10S	16,0	0.63	1-14	25,9	1.02	26,9	1.06
12S	19,0	0.75	13/16-12	27,4	1.08	31,8	1.25
16S	25,4	1.00	17/16-12	27,9	1.10	38,1	1.50
20S	31,8	1.25	111/16-12	27,9	1.10	44,4	1.75
24S	38,1	1.50	2-12	27,9	1.10	53,9	2.12

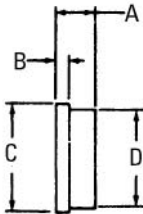
## ORS Cap Assembly



### Part No. FF9863-(Dash size) (Ref. SAE 520112)

Dash Size	Tube O.D.		Thread T1	A		D		①	
	mm	in		mm	in	mm	in	mm	in
04S	6,4	0.25	9/16-18	16,8	0.66	8,1	0.32	17,5	0.69
06S	9,7	0.38	11/16-16	19,0	0.75	9,7	0.38	20,6	0.81
08S	12,7	0.50	13/16-16	22,9	0.90	10,9	0.43	23,9	0.94
10S	16,0	0.63	1-14	25,4	1.00	13,5	0.53	28,5	1.12
12S	19,0	0.75	13/16-12	27,9	1.10	14,5	0.57	35,1	1.38
16S	25,4	1.00	17/16-12	29,7	1.17	14,7	0.58	41,1	1.62
20S	31,8	1.25	111/16-12	29,7	1.17	14,7	0.58	47,7	1.88
24S	38,1	1.50	2-12	29,7	1.17	14,7	0.58	57,2	2.25

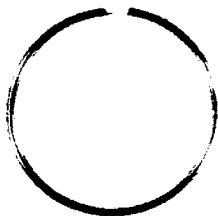
## ORS Cap (use with FC2326 Nut)



### Part No. FF9766-(Dash size)

Dash Size	Tube O.D.		A		B		C		D	
	mm	in	mm	in	mm	in	mm	in	mm	in
04S	6,4	0.25	8,6	0.34	4,1	0.16	12,7	0.50	10,2	0.40
06S	9,7	0.38	9,4	0.37	4,6	0.18	15,7	0.62	13,2	0.52
08S	12,7	0.50	11,9	0.47	5,1	0.20	18,8	0.74	16,2	0.64
10S	16,0	0.63	11,9	0.47	6,1	0.24	23,4	0.92	20,8	0.82
12S	19,0	0.75	13,5	0.53	6,6	0.26	27,7	1.09	23,9	0.94
14S	22,3	0.88	18,0	0.71	11,4	0.45	27,7	1.09	24,6	0.97
16S	25,4	1.00	15,0	0.59	7,1	0.28	34,0	1.34	28,7	1.13
20S	31,8	1.25	15,0	0.59	7,1	0.28	40,4	1.59	35,6	1.40
24S	38,1	1.50	15,0	0.59	7,1	0.28	48,5	1.91	43,4	1.71

## ORS Silver Braze Ring

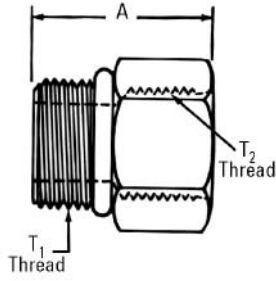


### Part No. FF9075-(Size)

Part Number	Tube O.D.	
	mm	in
FF9075-19	6,4	0.25
FF9075-06	9,7	0.38
FF9075-74	12,7	0.50
FF9075-08	16,0	0.63
FF9075-09	19,0	0.75
FF9075-86	25,4	1.00
FF9075-87	31,8	1.25
FF9075-88	38,1	1.50

# ORB/ORB

## SAE O-Ring Boss Reducer

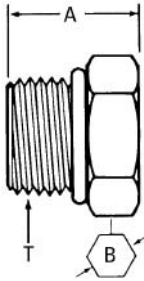


### Part No. FF1010-(Dash size)

Dash Size	Thread T1	Thread T2	A	
			mm	in
0408S	7/16-20	3/4-16	32,0	1.26
0806S	3/4-16	9/16-18	26,9	1.06
1006S	7/8-14	9/16-18	20,6	0.81
1008S	7/8-14	3/4-16	31,8	1.25
1206S	1 1/16-12	9/16-18	25,4	1.00
1208S	1 1/16-12	3/4-16	25,4	1.00
1210S	1 1/16-12	7/8-14	36,6	1.44
1216S	1 1/16-12	1 5/16-12	45,5	1.79
1608S	1 5/16-12	3/4-16	25,4	1.00
1610S	1 5/16-12	7/8-14	36,6	1.44
1612S	1 5/16-12	1 1/16-12	40,4	1.59
2012S	1 5/8-12	1 1/16-12	25,4	1.00
2016S	1 5/8-12	1 5/16-12	25,4	1.00

NOTE: Available without O-ring. Order Part No. FF1009-(Dash size).

## O-Ring Boss Plug

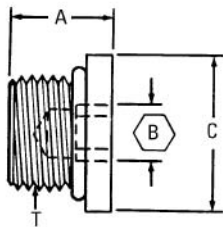


### Part No. 900598-(Dash size) (Ref. SAE 090109A)

Dash Size	Thread T	A		B	
		mm	in	mm	in
4S	7/16-20	17,0	0.67	14,2	0.56
5S	1/2-20	17,0	0.67	15,7	0.62
6S	9/16-18	18,5	0.73	17,6	0.69
8S	3/4-16	20,3	0.80	22,4	0.88
10S	7/8-14	23,6	0.93	25,4	1.00
12S	1 1/16-12	27,7	1.09	31,8	1.25
14S	1 3/16-12	27,7	1.09	35,1	1.38
16S	1 5/16-12	28,5	1.12	38,1	1.50
20S	1 5/8-12	30,5	1.20	47,7	1.88
24S	1 7/8-12	32,3	1.27	53,9	2.12
32S	2 1/2-12	36,3	1.43	69,8	2.75

NOTE: Available without O-ring. Order Part No. 900598-1-(Dash size).

## SAE Male O-Ring Boss (Hex Socket)

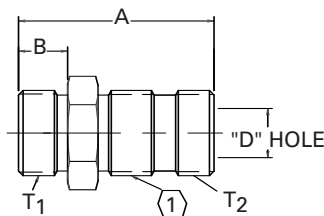


### Part No. FF2138-(Dash size) (Ref. SAE 090191B)

Dash Size	Tube O.D.		Thread T	A		C (Round)		B (Hex)	
	mm	in		mm	in	mm	in	mm	in
-02S	3,3	0.13	5/16-24	9,7	0.38	11,2	0.44	3,3	0.13
-03S	4,8	0.19	3/8-24	9,7	0.38	12,7	0.50	3,3	0.13
-04S	6,3	0.25	7/16-20	11,4	0.45	14,2	0.56	4,8	0.19
-05S	7,9	0.31	1/2-20	11,4	0.45	15,7	0.62	4,8	0.19
-06S	9,6	0.38	9/16-18	12,2	0.48	17,6	0.69	6,4	0.25
-08S	12,7	0.50	3/4-16	14,2	0.56	22,4	0.88	7,9	0.31
-10S	16,0	0.63	7/8-14	16,0	0.63	25,4	1.00	9,7	0.38
-12S	19,0	0.75	1 1/16-12	19,0	0.75	31,8	1.25	14,2	0.56
-16S	25,4	1.00	1 5/16-12	19,5	0.77	38,1	1.50	16,0	0.63

NOTE: Available without O-ring. Order Part No. FF2137-(Dash size).

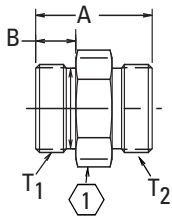
## ORB/Adjustable ORB



### Part No. 2220-(Dash Size)

Dash Size	Tube O.D.		Thread T1	Thread T2	A		B		D	
	mm	in			mm	in	mm	in		
6-6S	9,7	0.38	9/16-18	9/16-18	37,8	1.49	21,6	0.85	17,5	0.69
10-10S	16,0	0.63	7/8-14	7/8-14	50,5	1.99	30,0	1.18	25,4	1.00
12-12S	19,0	0.75	1 1/16-12	1 1/16-12	58,4	2.30	33,6	1.32	31,8	1.25
16-16S	25,4	1.00	1 5/16-12	1 5/16-12	54,1	2.13	29,5	1.16	38,1	1.50

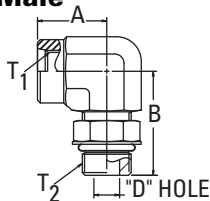
## Male ORB/Male ORB



## Part No. 2229-(Dash Size)

Dash Size	Tube O.D.		Thread T1	Thread T2	A		B		①	
	mm	in			mm	in	mm	in	mm	in
8-8S	12,7	0.50	3/4-16	3/4-16	30,3	1.19	11,2	0.44	22,3	0.88
8-10S	16,0	0.63	7/8-14	3/4-16	35,3	1.39	11,2	0.44	25,4	1.00
16-16S	25,4	1.00	1 5/16-12	1 5/16-12	43,9	1.73	15,0	0.59	38,1	1.50

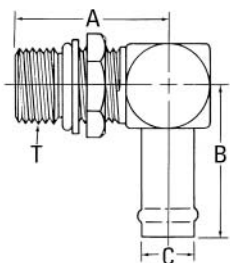
## 90° Female ORB/Adjustable ORB Male



## Part No. FF2591- (Dash Size)

Dash Size	Tube O.D.		Thread T1	Thread T2	A		B	
	mm	in			mm	in	mm	in
0404S	6,4	0.25	7/16-20	7/16-20	21,6	0.85	32,0	1.26

## SAE O-Ring Boss (adj.)/ Hose Connector



## Part No. FF1167-(Dash size)

Dash Size	Tube O.D.		Thread T1	A		B		C	
	mm	in		mm	in	mm	in	mm	in
1010S	16,0	0.63	7/8-14	43,4	1.71	52,3	2.06	15,7	0.62
1212S	19,0	0.75	1 1/16-12	49,3	1.94	53,1	2.09	19,0	0.75
1220S	31,7	1.25	1 1/16-12	51,3	2.02	55,6	2.19	31,8	1.25
2020S	31,7	1.25	1 5/8-12	55,9	2.20	60,4	2.38	31,8	1.25

NOTE: Available without O-ring. Order by Part No. FF1161-(Dash size). Clamp required.

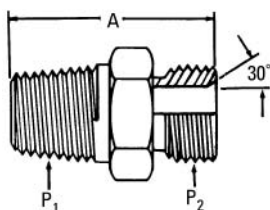
## Pipe to Pipe

## Part No. 2083-(Dash size) (Ref. SAE 140137)

Dash Size	Thread P1	Thread P2	A	
			mm	in
2-2S	1/8-27	1/8-27	26,9	1.06
4-2S	1/4-18	1/8-27	32,0	1.26
4-4S	1/4-18	1/4-18	36,8	1.45
6-4S	3/8-18	1/4-18	36,8	1.45
6-6S	3/8-18	3/8-18	36,8	1.45
8-4S	1/2-14	1/4-18	43,2	1.70
8-6S	1/2-14	3/8-18	43,2	1.70
8-8S	1/2-14	1/2-14	48,0	1.89
12-6S	3/4-14	3/8-18	44,9	1.77
12-8S	3/4-14	1/2-14	49,8	1.96
12-12S	3/4-14	3/4-14	49,8	1.96
16-12S	1-11 1/2	3/4-14	54,6	2.15
16-16S	1-11 1/2	1-11 1/2	59,4	2.34
20-16S	1 1/4-11 1/2	1-11 1/2	62,2	2.45
20-20S	1 1/4-11 1/2	1 1/4-11 1/2	63,0	2.48
24-24S	1 1/2-11 1/2	1 1/2-11 1/2	66,3	2.61
32-32S	2-11 1/2	2-11 1/2	71,6	2.82

Also available in stainless steel as part no. 259-2083. See pg. 277 for more information.

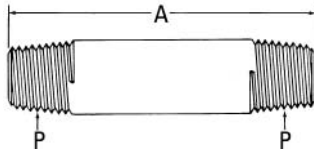
## External Pipe/ External Pipe (NPSM)



## Part No. 2015-(Dash size)

Dash Size	Thread P1	Thread P2	A	
			mm	in
8-8S	1/2-14	1/2-14	38,1	1.50
12-12S	3/4-14	3/4-14	41,1	1.62
16-16S	1-11 1/2	1-11 1/2	48,5	1.91
24-24S	1 1/2-11 1/2	1 1/2-11 1/2	41,1	1.62

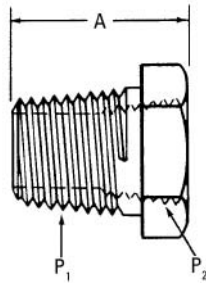
### Nipple-External Pipe/External Pipe



### Part No. 2084-(Dash size)

Dash Size	Thread P	A	
		mm	in
2S-3/4	1/8-27	19,0	0.75
2S-2	1/8-27	50,8	2.00
4S-7/8	1/4-18	22,3	0.88
6S-1	3/8-18	25,4	1.00
6S-2	3/8-18	50,8	2.00
6S-3	3/8-18	76,2	3.00
6S-4	3/8-18	101,6	4.00
6S-6	3/8-18	152,4	6.00
8S-11/8	1/2-14	28,5	1.12
8S-21/2	1/2-14	63,5	2.50
12S-13/8	3/4-14	35,1	1.38
16S-11/2	1-11 1/2	38,1	1.50
20S-15/8	1 1/4-11 1/2	41,1	1.62
24S-13/4	1 1/2-11 1/2	44,4	1.75

### Reducer-External Pipe/Internal Pipe

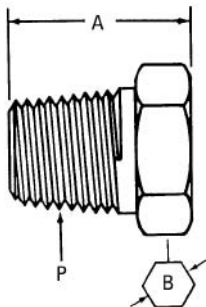


### Part No. 2081-(Dash size) (Ref. SAE 140140)

Dash Size	Thread P1	Thread P2	A	
			mm	in
4-2S	1/4-18	1/8-27	21,6	0.85
6-2S	3/8-18	1/8-27	25,4	1.00
6-4S	3/8-18	1/4-18	21,6	0.85
8-2S	1/2-14	1/8-27	27,9	1.10
8-4S	1/2-14	1/4-18	27,9	1.10
8-6S	1/2-14	3/8-18	28,5	1.12
12-4S	3/4-14	1/4-14	29,7	1.17
12-6S	3/4-14	3/8-18	29,7	1.17
12-8S	3/4-14	1/2-14	34,5	1.36
16-6S	1-11 1/2	3/8-14	34,5	1.36
16-8S	1-11 1/2	1/2-14	34,5	1.36
16-12S	1-11 1/2	3/4-14	37,8	1.49
20-12S	1 1/4-11 1/2	3/4-14	37,3	1.47
20-16S	1 1/4-11 1/2	1-11 1/2	40,9	1.61
24-12S	1 1/2-11 1/2	3/4-14	39,9	1.57
24-16S	1 1/2-11 1/2	1-11 1/2	39,9	1.57
24-20S	1 1/2-11 1/2	1 1/4-11 1/2	43,4	1.71
32-16S	2-11 1/2	1-11 1/2	44,4	1.75
32-20S	2-11 1/2	1 1/4-11 1/2	44,4	1.75
32-24S	2-11 1/2	1 1/2-11 1/2	44,4	1.75

Also available in stainless steel as part no. 259-2081.  
See pg. 277 for more information.

### External Pipe/Plug



### Part No. 2082-(Dash size) (Ref. SAE 140109E)

Dash Size	Thread P1	A		B	
		mm	in	mm	in
2S	1/8-27	14,7	0.58	11,2	0.44
4S	1/4-18	19,3	0.76	14,2	0.56
6S	3/8-18	20,1	0.79	17,5	0.69
8S	1/2-14	24,9	0.98	22,3	0.88
12S	3/4-14	27,4	1.08	26,9	1.06
16S	1-11 1/2	32,3	1.27	33,3	1.31
20S	1 1/4-11 1/2	33,0	1.30	44,4	1.75
24S	1 1/2-11 1/2	33,8	1.33	50,8	2.00

Also available in stainless steel as part no. 259-2082.  
See pg. 277 for more information.

SPECIALTY & TRUCK HOSE

LOW & MEDIUM PRESSURE HOSE

HIGH PRESSURE HOSE

HOSE FITTINGS

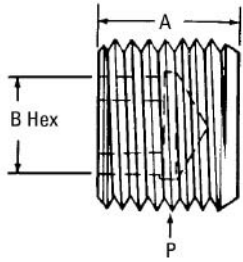
ADAPTERS & TUBE FITTINGS

ACCESSORIES & ASSEMBLY INSTRUCTIONS

HOSE ASSEMBLY EQUIPMENT

APPENDICES

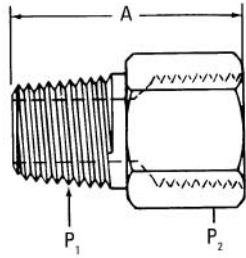
### External Pipe/Plug Countersunk Hex



### Part No. 2222-(Dash size) (Ref. SAE 140109N)

Dash Size	Thread P1	A		B	
		mm	in	mm	in
2S	1/8-27	7,6	0.30	4,8	0.19
4S	1/4-18	11,7	0.46	6,4	0.25
6S	3/8-18	11,7	0.46	7,9	0.31
8S	1/2-14	15,5	0.61	9,7	0.38

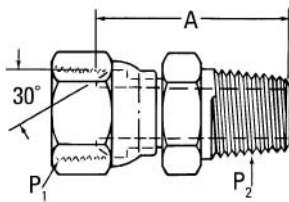
### External Pipe/ Internal Pipe



### Part No. 2040-(Dash size) (Ref. SAE 140139)

Dash Size	Thread P1	Thread P2	A	
			mm	in
2-2S	1/8-27	1/8-27	26,4	1.04
2-4S	1/8-27	1/4-18	30,7	1.21
4-4S	1/4-18	1/4-18	35,3	1.39
4-6S	1/4-18	3/8-18	36,6	1.44
4-8S	1/4-18	1/2-14	42,7	1.68
6-6S	3/8-18	3/8-18	36,6	1.44
6-8S	3/8-18	1/2-14	42,7	1.68
8-8S	1/2-14	1/2-14	47,5	1.87
8-12S	1/2-14	3/4-14	49,0	1.93
12-12S	3/4-14	3/4-14	49,0	1.93
12-16S	3/4-14	1-11 1/2	55,4	2.18
16-16S	1-11 1/2	1-11 1/2	60,2	2.37
16-20S	1-11 1/2	1 1/4-11 1/2	62,5	2.46
20-20S	1 1/4-11 1/2	1 1/4-11 1/2	63,2	2.49
20-24S	1 1/4-11 1/2	1 1/2-11 1/2	63,5	2.50
24-24S	1 1/2-11 1/2	1 1/2-11 1/2	64,3	2.53
32-32S	2-11 1/2	2-11 1/2	67,6	2.66

### Internal Pipe Swivel (NPSM)/External Pipe



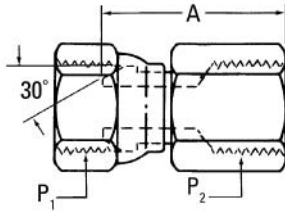
### Part No. 2045-(Dash size) (Ref. SAE 140130)

Dash Size	Thread P1	Thread P2	A	
			mm	in
2-2S	1/8-27	1/8-27	24,4	0.96
2-4S	1/8-27	1/4-18	29,0	1.14
4-4S	1/4-18	1/4-18	32,0	1.26
4-6S	1/4-18	3/8-18	32,0	1.26
6-4S	3/8-18	1/4-18	32,0	1.26
6-6S	3/8-18	3/8-18	33,6	1.32
6-8S	3/8-18	1/2-14	40,1	1.58
8-6S	1/2-14	3/8-18	34,8	1.37
8-8S	1/2-14	1/2-14	41,1	1.62
8-12S	1/2-14	3/4-14	41,1	1.62
12-12S	3/4-14	3/4-14	44,4	1.75
12-16S	3/4-14	1-11 1/2	50,8	2.00
16-12S	1-11 1/2	3/4-14	44,7	1.76
16-16S	1-11 1/2	1-11 1/2	51,3	2.02
20-20S	1 1/4-11 1/2	1 1/4-11 1/2	52,8	2.08
24-24S	1 1/2-11 1/2	1 1/2-11 1/2	55,9	2.20
32-32S	2-11 1/2	2-11 1/2	60,7	2.39

SPECIALTY & TRUCK HOSE  
 LOW & MEDIUM PRESSURE HOSE  
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 HOSE FITTINGS  
 ADAPTERS & TUBE FITTINGS  
 ACCESSORIES & ASSEMBLY INSTRUCTIONS  
 HOSE ASSEMBLY EQUIPMENT  
 APPENDICES

# Pipe to Pipe

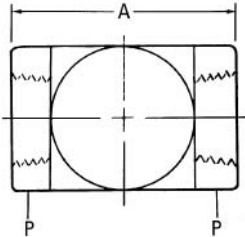
## Internal Pipe Swivel (NPSM)/Internal Pipe



### Part No. 2046-(Dash size) (Ref. SAE 140131)

Dash Size	Thread P1	Thread P2	A	
			mm	in
2-2S	1/8-27	1/8-27	21,3	0.84
2-4S	1/8-27	1/4-18	26,9	1.06
4-4S	1/4-18	1/4-18	33,0	1.30
4-6S	1/4-18	3/8-18	33,3	1.31
6-6S	3/8-18	3/8-18	33,8	1.33
6-8S	3/8-18	1/2-14	36,8	1.45
8-8S	1/2-14	1/2-14	39,6	1.56
12-12S	3/4-14	3/4-14	44,9	1.77
16-16S	1-11 1/2	1-11 1/2	52,3	2.06
20-20S	1 1/4-11 1/2	1 1/2-11 1/2	52,3	2.06
24-24S	1 1/2-11 1/2	1 1/2-11 1/2	55,4	2.18
32-32S	2-11 1/2	2-11 1/2	58,4	2.30

## Coupling - Internal Pipe/Internal Pipe

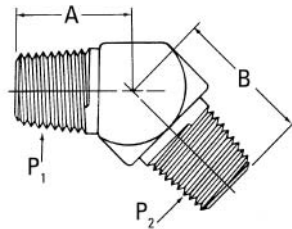


### Part No. 2096-(Dash size) (Ref. SAE 140138)

Dash Size	Thread P	A	
		mm	in
2S	1/8-27	19,0	0.75
4S	1/4-18	28,7	1.13
6S	3/8-18	28,7	1.13
8S	1/2-14	38,1	1.50
12S	3/4-14	38,9	1.53
16S	1-11 1/2	48,0	1.89
20S	1 1/4-11 1/2	49,0	1.93
24S	1 1/2-11 1/2	49,0	1.93

Also available in stainless steel as part no. 259-2096. See pg. 279 for more information.

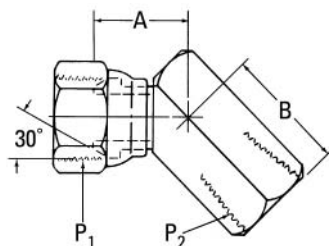
## External Pipe/External Pipe



### Part No. 2247-(Dash size) (Ref. SAE 140337)

Dash Size	Thread P1	Thread P2	A		B	
			mm	in	mm	in
2-2S	1/8-27	1/8-27	13,2	0.52	13,2	0.52
4-4S	1/4-18	1/4-18	21,8	0.86	21,8	0.86
6-4S	3/8-18	1/4-18	24,1	0.95	24,1	0.95
6-6S	3/8-18	3/8-18	24,1	0.95	24,1	0.95
8-8S	1/2-14	1/2-14	28,7	1.13	29,7	1.17
12-12S	3/4-14	3/4-14	29,7	1.17	30,5	1.20
16-16S	1-11 1/2	1-11 1/2	30,5	1.20	37,6	1.48
20-20S	1 1/4-11 1/2	1 1/4-11 1/2	47,7	1.88	39,1	1.54

## Internal Pipe Swivel (NPSM)/Internal Pipe



### Part No. 2050-(Dash size) (Ref. SAE 140331)

Dash Size	Thread P1	Thread P2	A		B	
			mm	in	mm	in
4-4S	1/4-18	1/4-18	20,1	0.79	24,6	0.97
6-6S	3/8-18	3/8-18	23,4	0.92	30,0	1.18
8-8S	1/2-14	1/2-14	23,1	0.91	35,8	1.41
12-12S	3/4-14	3/4-14	27,9	1.10	38,9	1.53
16-16S	1-11 1/2	1-11 1/2	32,0	1.26	38,9	1.53
20-20S	1 1/4-11 1/2	1 1/4-11 1/2	36,8	1.45	46,0	1.81

SPECIALTY & TRUCK HOSE

LOW & MEDIUM PRESSURE HOSE

HIGH PRESSURE HOSE

HOSE FITTINGS

ADAPTERS & TUBE FITTINGS

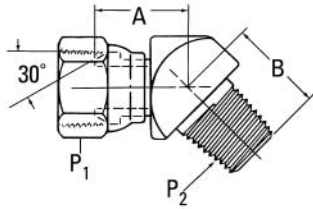
ACCESSORIES & ASSEMBLY INSTRUCTIONS

HOSE ASSEMBLY EQUIPMENT

APPENDICES



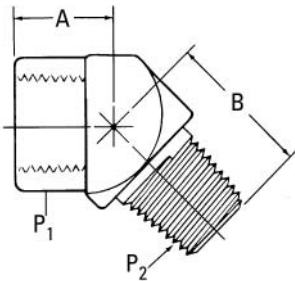
## Internal Pipe Swivel (NPSM)/External Pipe



### Part No. 2049-(Dash size) (Ref. SAE 140330)

Dash Size	Thread P1		Thread P2		A		B	
	mm	in	mm	in	mm	in	mm	in
2-2S	1/8-27	1/8-27	17,0	0.67	17,8	0.70		
4-4S	1/4-18	1/4-18	20,1	0.79	20,1	0.79		
6-6S	3/8-18	3/8-18	23,4	0.92	27,7	1.09		
6-8S	3/8-18	1/2-14	23,4	0.92	35,8	1.41		
8-6S	1/2-14	3/8-18	23,1	0.91	27,7	1.09		
8-8S	1/2-14	1/2-14	23,1	0.91	33,8	1.33		
12-12S	3/4-14	3/4-14	27,9	1.10	38,9	1.53		
16-16S	1-11 1/2	1-11 1/2	32,0	1.26	38,9	1.53		
20-20S	1 1/4-11 1/2	1 1/4-11 1/2	31,8	1.25	44,4	1.75		
24-24S	1 1/2-11 1/2	1 1/2-11 1/2	35,8	1.41	50,8	2.00		
32-32S	2-11 1/2	2-11 1/2	38,1	1.50	50,8	2.00		

## External Pipe/ Internal Pipe

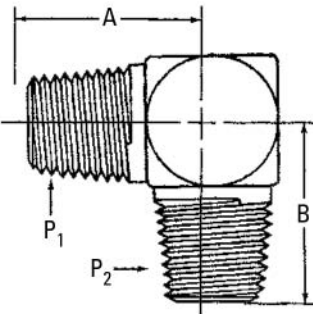


### Part No. 2088-(Dash size) (Ref. SAE 140339)

Dash Size	Thread P1		Thread P2		A		B	
	mm	in	mm	in	mm	in	mm	in
2-2S	1/8-27	1/8-27	11,9	0.47	18,3	0.72		
4-4S	1/4-18	1/4-18	15,7	0.62	26,7	1.05		
6-6S	3/8-18	3/8-18	18,3	0.72	26,9	1.06		
8-8S	1/2-14	1/2-14	23,1	0.91	34,0	1.34		
12-12S	3/4-14	3/4-14	24,6	0.97	35,1	1.38		
16-16S	1-11 1/2	1-11 1/2	28,5	1.12	43,7	1.72		

Also available in stainless steel as part no. 259-2088.  
See pg. 278 for more information.

## External Pipe/ External Pipe

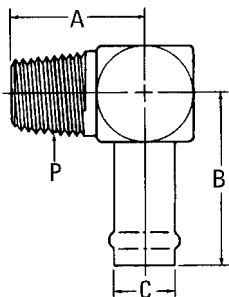


### Part No. 2085-(Dash size) (Ref. SAE 140237)

Dash Size	Thread P1		Thread P2		A		B	
	mm	in	mm	in	mm	in	mm	in
2-2S	1/8-27	1/8-27	19,8	0.78	19,8	0.78		
4-4S	1/4-18	1/4-18	27,7	1.09	27,7	1.09		
6-4S	3/8-18	1/4-18	31,0	1.22	31,0	1.22		
6-6S	3/8-18	3/8-18	31,0	1.22	31,0	1.22		
8-6S	1/2-14	3/8-18	37,3	1.47	32,5	1.28		
8-8S	1/2-14	1/2-14	37,3	1.47	37,3	1.47		
12-8S	3/4-14	1/2-14	40,4	1.59	40,4	1.59		
12-12S	3/4-14	3/4-14	40,4	1.59	40,4	1.59		
16-12S	1-11 1/2	3/4-14	50,0	1.97	45,2	1.78		
16-16S	1-11 1/2	1-11 1/2	50,0	1.97	50,0	1.97		

Also available in stainless steel as part no. 259-2085.  
See pg. 277 for more information.

## External Pipe/ Hose Connector\*

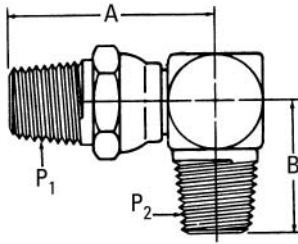


### Part No. FF1162-(Dash size) (Ref. SAE 430260)

Dash Size	Tube O.D.		Thread T1	A		B		C	
	mm	in		mm	in	mm	in	mm	in
0406S	9,7	0.38	1/4-18	24,4	0.96	39,1	1.54	9,7	0.38
1212S	19,0	0.75	3/4-14	35,8	1.41	46,5	1.83	19,0	0.75
1616S	25,4	1.00	1-11 1/2	43,4	1.71	49,3	1.94	25,4	1.00
2020S	31,8	1.25	1 1/4-11 1/2	49,8	1.96	54,6	2.15	31,8	1.25

\*Clamp required.

**External Pipe Swivel/External Pipe**

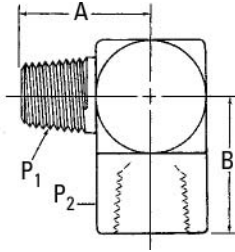


**Part No. 2251-(Dash size)**

Dash Size	Thread P1	Thread P2	A		B	
			mm	in	mm	in
4-4S	1/4-18	1/4-18	43,7	1.72	27,7	1.09
6-6S	3/8-18	3/8-18	45,2	1.78	31,0	1.22
8-8S	1/2-14	1/2-14	41,1	1.62	37,3	1.47
12-12S	3/4-14	3/4-14	59,2	2.33	37,3	1.47

**NOTE:** The above adapter is not a rotating union or swivel joint. Care must be exercised to avoid misuse. To be used with petroleum or water glycol fluids.

**External Pipe/Internal Pipe**

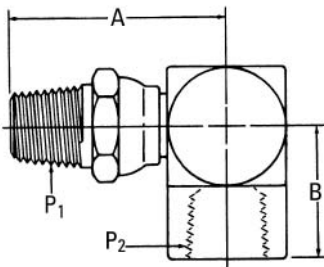


**Part No. 2089-(Dash size) (Ref. SAE 140239)**

Dash Size	Thread P1	Thread P2	A		B	
			mm	in	mm	in
2-2S	1/8-27	1/8-27	19,8	0.78	16,8	0.66
2-4S	1/8-27	1/4-18	22,9	0.90	22,3	0.88
4-2S	1/4-18	1/8-27	27,7	1.09	17,0	0.67
4-4S	1/4-18	1/4-18	27,7	1.09	22,3	0.88
4-6S	1/4-18	3/8-18	31,0	1.22	25,9	1.02
6-4S	3/8-18	1/4-18	31,0	1.22	25,7	1.01
6-6S	3/8-18	3/8-18	31,0	1.22	25,9	1.02
6-8S	3/8-18	1/2-14	32,5	1.28	31,2	1.23
8-6S	1/2-14	3/8-18	37,3	1.47	25,7	1.01
8-8S	1/2-14	1/2-14	37,3	1.47	31,2	1.23
8-12S	1/2-14	3/4-14	40,4	1.59	34,5	1.36
12-8S	3/4-14	1/2-14	40,4	1.59	34,3	1.35
12-12S	3/4-14	3/4-14	40,4	1.59	34,5	1.36
16-16S	1-11 1/2	1-11 1/2	50,0	1.97	41,1	1.62
20-20S	1 1/4-11 1/2	1 1/4-11 1/2	60,4	2.38	43,2	1.70
24-24S	1 1/2-11 1/2	1 1/2-11 1/2	67,0	2.64	52,8	2.08

Also available in stainless steel as part no. 259-2089. See pg. 278 for more information.

**External Pipe Swivel/Internal Pipe**

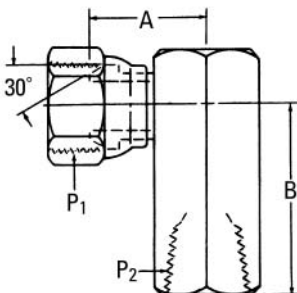


**Part No. 2252-(Dash size)**

Dash Size	Thread P1	Thread P2	A		B	
			mm	in	mm	in
4-4S	1/4-18	1/4-18	43,7	1.72	22,3	0.88
6-6S	3/8-18	3/8-18	42,9	1.69	25,9	1.02
8-8S	1/2-14	1/2-14	41,1	1.62	31,2	1.23
12-12S	3/4-14	3/4-14	57,2	2.25	34,5	1.36

**NOTE:** The above adapter is not a rotating swivel joint. Care must be exercised to avoid misuse. This adapter is to be used with petroleum or water glycol fluids.

**Internal Pipe Swivel (NPSM)/Internal Pipe**

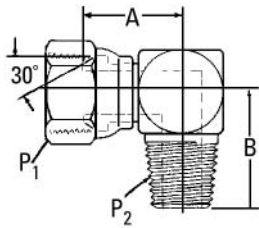


**Part No. 2048-(Dash size) (Ref. SAE 140231)**

Dash Size	Thread P1	Thread P2	A		B	
			mm	in	mm	in
4-4S	1/4-18	1/4-18	23,1	0.91	24,6	0.97
6-6S	3/8-18	3/8-18	27,7	1.09	27,7	1.09
8-8S	1/2-14	1/2-14	27,4	1.08	34,0	1.34
12-12S	3/4-14	3/4-14	34,5	1.36	38,9	1.53
16-16S	1-11 1/2	1-11 1/2	38,9	1.53	45,2	1.78
20-20S	1 1/4-11 1/2	1 1/4-11 1/2	46,2	1.82	51,6	2.03
24-24S	1 1/2-11 1/2	1 1/2-11 1/2	51,3	2.02	57,9	2.28

SPECIALTY & TRUCK HOSE  
LOW & MEDIUM PRESSURE HOSE  
HIGH PRESSURE HOSE  
HOSE FITTINGS  
ADAPTERS & TUBE FITTINGS  
ACCESSORIES & ASSEMBLY INSTRUCTIONS  
HOSE ASSEMBLY EQUIPMENT  
APPENDICES

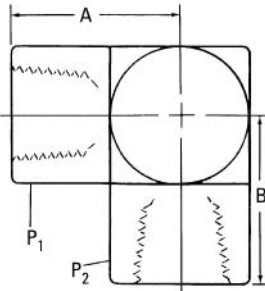
## Internal Pipe Swivel (NPSM)/External Pipe



### Part No. 2047-(Dash size) (Ref. SAE 140230)

Dash Size	Thread P1	Thread P2	A		B	
			mm	in	mm	in
2-2S	1/8-27	1/8-27	18,0	0.71	26,2	1.03
4-4S	1/4-18	1/4-18	23,1	0.91	32,5	1.28
4-6S	1/4-18	3/8-18	27,7	1.09	38,9	1.53
6-6S	3/8-18	3/8-18	27,7	1.09	38,9	1.53
6-8S	3/8-18	1/2-14	26,2	1.03	46,7	1.84
8-6S	1/2-14	3/8-18	27,4	1.08	41,9	1.65
8-8S	1/2-14	1/2-14	27,4	1.08	46,7	1.84
8-12S	1/2-14	3/4-14	31,5	1.24	51,6	2.03
12-8S	3/4-14	1/2-14	34,5	1.36	51,6	2.03
12-12S	3/4-14	3/4-14	34,5	1.36	51,6	2.03
12-16S	3/4-14	1-11 1/2	38,3	1.51	61,2	2.41
16-12S	1-11 1/2	3/4-14	38,9	1.53	56,4	2.22
16-16S	1-11 1/2	1-11 1/2	38,9	1.53	61,2	2.41
20-20S	1 1/4-11 1/2	1 1/4-11 1/2	46,2	1.82	67,3	2.65
24-24S	1 1/2-11 1/2	1 1/2-11 1/2	51,3	2.02	72,1	2.84
32-32S	2-11 1/2	2-11 1/2	60,2	2.37	84,8	3.34

## Internal Pipe/Internal Pipe

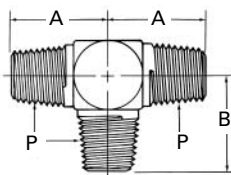


### Part No. 2087-(Dash size) (Ref. SAE 140238)

Dash Size	Thread P1	Thread P2	A		B	
			mm	in	mm	in
2-2S	1/8-27	1/8-27	16,8	0.66	16,8	0.66
4-2S	1/4-18	1/8-27	22,3	0.88	17,0	0.67
4-4S	1/4-18	1/4-18	22,3	0.88	22,3	0.88
6-4S	3/8-18	1/4-18	25,9	1.02	25,7	1.01
6-6S	3/8-18	3/8-18	25,9	1.02	25,9	1.02
8-6S	1/2-14	3/8-18	31,2	1.23	25,7	1.01
8-8S	1/2-14	1/2-14	31,2	1.23	31,2	1.23
12-8S	3/4-14	1/2-14	34,5	1.36	34,3	1.35
12-12S	3/4-14	3/4-14	34,5	1.36	34,5	1.36
16-12S	1-11 1/2	3/4-14	41,1	1.62	35,3	1.39
16-16S	1-11 1/2	1-11 1/2	41,1	1.62	41,1	1.62
20-20S	1 1/4-11 1/2	1 1/4-11 1/2	43,2	1.70	43,2	1.70
24-24S	1 1/2-11 1/2	1 1/2-11 1/2	52,8	2.08	52,8	2.08

Also available in stainless steel as part no. 259-2087.  
See pg. 278 for more information.

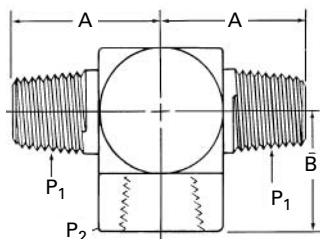
## External Pipe/External Pipe



### Part No. 2257-(Dash size)

Dash Size	Thread P1	A		B	
		mm	in	mm	in
2-2S	1/8-27	19,8	0.78	19,8	0.78
4-4S	1/4-18	27,7	1.09	27,7	1.09
6-6S	3/8-18	31,0	1.22	31,0	1.22
8-8S	1/2-14	37,3	1.47	37,3	1.47
12-12S	3/4-14	40,4	1.59	40,4	1.59
16-16S	1-11 1/2	50,0	1.97	50,0	1.97

## External Pipe/Internal Pipe

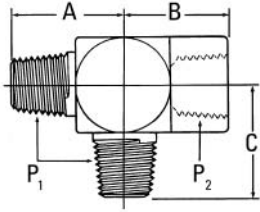


### Part No. 2256-(Dash size)

Dash Size	Thread P1	Thread P2	A		B	
			mm	in	mm	in
2-2S	1/8-27	1/8-27	19,8	0.78	16,8	0.66
4-4S	1/4-18	1/4-18	27,7	1.09	22,3	0.88
6-6S	3/8-18	3/8-18	31,0	1.22	25,9	1.02
8-8S	1/2-14	1/2-14	37,3	1.47	31,2	1.23
12-12S	3/4-14	3/4-14	40,4	1.59	34,5	1.36
16-16S	1-11 1/2	1-11 1/2	53,6	2.11	41,1	1.62

# Pipe to Pipe

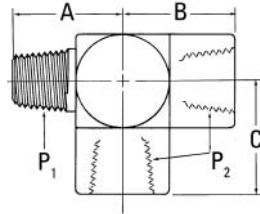
## External Pipe/ Internal Pipe



### Part No. 2093-(Dash size)

Dash Size	Thread P1	Thread P2	A		B		C	
			mm	in	mm	in	mm	in
2-2S	1/8-27	1/8-27	19,8	0.78	16,8	0.66	19,8	0.78
4-4S	1/4-18	1/4-18	27,7	1.09	22,3	0.88	27,7	1.09
6-6S	3/8-18	3/8-18	31,0	1.22	25,9	1.02	31,0	1.22
8-8S	1/2-14	1/2-14	37,3	1.47	31,2	1.23	37,3	1.47
12-12S	3/4-14	3/4-14	40,4	1.59	34,5	1.36	40,4	1.59
16-16S	1-11 1/2	1-11 1/2	50,0	1.97	41,1	1.62	50,0	1.97

## External Pipe/ Internal Pipe

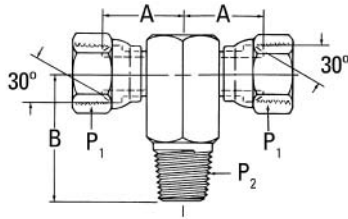


### Part No. 2092-(Dash size) (Ref. SAE 140424)

Dash Size	Thread P1	Thread P2	A		B		C	
			mm	in	mm	in	mm	in
2-2S	1/8-27	1/8-27	19,8	0.78	16,8	0.66	16,8	0.66
4-4S	1/4-18	1/4-18	27,7	1.09	22,3	0.88	22,3	0.88
6-6S	3/8-18	3/8-18	31,0	1.22	25,9	1.02	25,9	1.02
8-8S	1/2-14	1/2-14	37,3	1.47	31,2	1.23	31,2	1.23
12-12S	3/4-14	3/4-14	40,4	1.59	34,5	1.36	34,5	1.36
16-16S	1-11 1/2	1-11 1/2	50,0	1.97	41,1	1.62	41,1	1.62
20-20S	1 1/4-11 1/2	1 1/4-11 1/2	71,9	2.83	49,5	1.95	44,7	1.76

Also available in stainless steel as part no. 259-2092. See pg. 279 for more information.

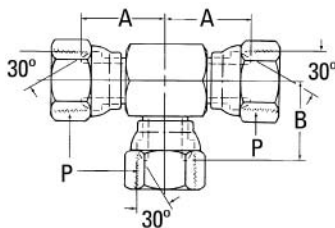
## Internal Pipe Swivel (NPSM)/External Pipe



### Part No. 2254-(Dash size)

Dash Size	Thread P1	Thread P2	A		B	
			mm	in	mm	in
2-2S	1/8-27	1/8-27	18,0	0.71	23,4	0.92
4-4S	1/4-18	1/4-18	23,1	0.91	31,2	1.23
6-6S	3/8-18	3/8-18	27,7	1.09	38,9	1.53
8-8S	1/2-14	1/2-14	25,4	1.00	46,0	1.81
12-12S	3/4-14	3/4-14	34,5	1.36	51,6	2.03
16-16S	1-11 1/2	1-11 1/2	34,0	1.34	60,4	2.38
20-20S	1 1/4-11 1/2	1 1/4-11 1/2	38,1	1.50	65,0	2.56

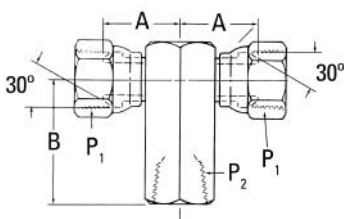
## Internal Pipe Swivel (NPSM)



### Part No. 2255-(Dash size)

Dash Size	Thread P1	A		B	
		mm	in	mm	in
2-2S	1/8-27	18,0	0.71	18,0	0.71
4-4S	1/4-18	23,1	0.91	23,1	0.91
6-6S	3/8-18	2,3	0.09	27,7	1.09
8-8S	1/2-14	27,4	1.08	27,4	1.08
12-12S	3/4-14	34,5	1.36	34,5	1.36
16-16S	1-11 1/2	38,9	1.53	38,9	1.53

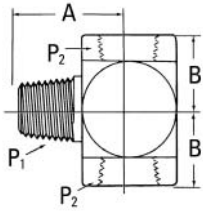
## Internal Pipe Swivel (NPSM)/Internal Pipe



### Part No. 2253-(Dash size)

Dash Size	Thread P1	Thread P2	A		B	
			mm	in	mm	in
4-4S	1/4-18	1/4-18	27,4	1.08	24,6	0.97
6-6S	3/8-18	3/8-18	32,0	1.26	27,7	1.09
8-8S	1/2-14	1/2-14	32,3	1.27	34,0	1.34
12-12S	3/4-14	3/4-14	40,4	1.59	38,9	1.53
16-16S	1-11 1/2	1-11 1/2	46,2	1.82	45,2	1.78

### External Pipe/ Internal Pipe

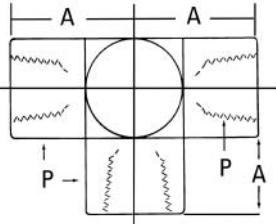


### Part No. 2091-(Dash size) (Ref. SAE 140425)

Dash Size	Thread P1	Thread P2	A		B	
			mm	in	mm	in
2-2S	1/8-27	1/8-27	19,8	0.78	16,8	0.66
4-4S	1/4-18	1/4-18	27,7	1.09	22,3	0.88
6-6S	3/8-18	3/8-18	31,0	1.22	25,9	1.02
8-8S	1/2-14	1/2-14	37,3	1.47	31,2	1.23
12-12S	3/4-14	3/4-14	40,4	1.59	34,5	1.36
16-16S	1-11 1/2	1-11 1/2	50,0	1.97	41,1	1.62

Also available in stainless steel as part no. 259-2091.  
See pg. 278 for more information.

### Internal Pipe/ Internal Pipe

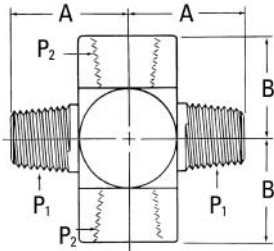


### Part No. 2090-(Dash size) (Ref. SAE 140438)

Dash Size	Thread P	A	
		mm	in
2-2S	1/8-27	16,8	0.66
4-4S	1/4-18	22,3	0.88
6-6S	3/8-18	25,9	1.02
8-8S	1/2-14	31,2	1.23
12-12S	3/4-14	34,5	1.36
16-16S	1-11 1/2	41,1	1.62
20-20S	1 1/4-11 1/2	43,2	1.70
24-24S	1 1/2-11 1/2	52,8	2.08

Also available in stainless steel as part no. 259-2090.  
See pg. 278 for more information.

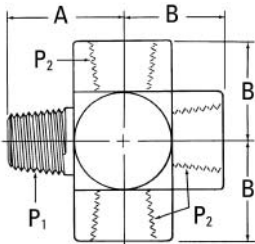
### External Pipe/ Internal Pipe



### Part No. 208006-(Dash size)

Dash Size	Thread P1	Thread P2	A		B	
			mm	in	mm	in
4-4S	1/4-18	1/4-18	29,5	1.16	22,3	0.88
6-6S	3/8-18	3/8-18	33,0	1.30	25,9	1.02
20-20S	1 1/4-11 1/2	1 1/4-11 1/2	67,3	2.65	3,2	1.70

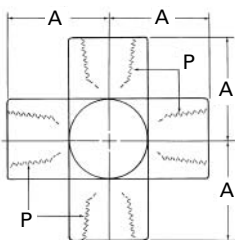
### External Pipe/ Internal Pipe



### Part No. 208007-(Dash size)

Dash Size	Thread P1	Thread P2	A		B	
			mm	in	mm	in
4-4S	1/4-18	1/4-18	29,5	1.16	22,3	0.88
6-6S	3/8-18	3/8-18	33,0	1.30	25,9	1.02
8-8S	1/2-14	1/2-14	41,4	1.63	31,2	1.23
12-12S	3/4-14	3/4-14	43,9	1.73	34,5	1.36

### Internal Pipe/ Internal Pipe

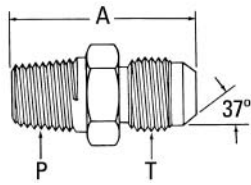


### Part No. 2080-(Dash size)

Dash Size	Thread P	A	
		mm	in
2-2S	1/8-27	16,8	0.66
4-4S	1/4-18	22,3	0.88
6-6S	3/8-18	25,9	1.02
8-8S	1/2-14	31,2	1.23
12-12S	3/4-14	34,5	1.36
16-16S	1-11 1/2	41,1	1.62

# Pipe to 37° Flare

## External Pipe/ 37° Flare

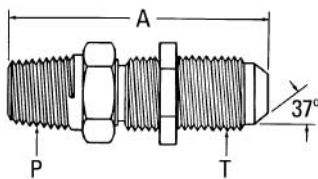


### Part No. 2021-(Dash size) (Ref. SAE 070102)

Dash Size	Tube O.D.		Thread P	Thread T	A	
	mm	in			mm	in
2-3S	4,8	0.19	1/8-27	3/8-24	29,0	1.14
2-4S	6,3	0.25	1/8-27	7/16-20	31,0	1.22
2-5S	7,9	0.31	1/8-27	1/2-20	31,0	1.22
2-6S	9,6	0.38	1/8-27	9/16-18	31,5	1.24
2-8S	12,7	0.50	1/8-27	3/4-16	34,0	1.34
4-4S	6,3	0.25	1/4-18	7/16-20	36,1	1.42
4-5S	7,9	0.31	1/4-18	1/2-20	36,1	1.42
4-6S	9,6	0.38	1/4-18	9/16-18	36,3	1.43
4-8S	12,7	0.50	1/4-18	3/4-16	38,9	1.53
6-4S	6,3	0.25	3/8-18	7/16-20	36,1	1.42
6-5S	7,9	0.31	3/8-18	1/2-20	36,1	1.42
6-6S	9,6	0.38	3/8-18	9/16-18	36,3	1.43
6-8S	12,7	0.50	3/8-18	3/4-16	38,9	1.53
6-10S	16,0	0.63	3/8-18	7/8-14	43,2	1.70
8-4S	6,3	0.25	1/2-14	7/16-20	42,7	1.68
8-6S	9,6	0.38	1/2-14	9/16-18	42,9	1.69
8-8S	12,7	0.50	1/2-14	3/4-16	45,5	1.79
8-10S	16,0	0.63	1/2-14	7/8-14	48,0	1.89
8-12S	19,0	0.75	1/2-14	11/16-12	52,3	2.06
12-6S	9,6	0.38	3/4-14	9/16-18	44,4	1.75
12-8S	12,7	0.50	3/4-14	3/4-16	47,0	1.85
12-10S	16,0	0.63	3/4-14	7/8-14	49,5	1.95
12-12S	19,0	0.75	3/4-14	11/16-12	52,3	2.06
12-16S	25,4	1.00	3/4-14	5/16-12	53,6	2.11
16-12S	19,0	0.75	1-11 1/2	1 1/16-12	57,2	2.25
16-16S	25,4	1.00	1-11 1/2	1 5/16-12	58,4	2.30
16-20S	31,7	1.25	1-11 1/2	1 5/8-12	61,5	2.42
16-24S	38,1	1.50	1-11 1/2	1 7/8-12	66,5	2.62
16-32S	50,8	2.00	1-11 1/2	2 1/2-12	76,7	3.02
20-12S	19,0	0.75	1 1/4-11 1/2	1 1/16-12	59,9	2.36
20-16S	25,4	1.00	1 1/4-11 1/2	1 5/16-12	61,0	2.40
20-20S	31,7	1.25	1 1/4-11 1/2	1 5/8-12	62,2	2.45
20-24S	38,1	1.50	1 1/4-11 1/2	1 7/8-12	67,3	2.65
20-32S	50,8	2.00	1 1/4-11 1/2	2 1/2-12	77,5	3.05
24-12S	19,0	0.75	1 1/2-11 1/2	1 1/16-12	62,5	2.46
24-16S	25,4	1.00	1 1/2-11 1/2	1 5/16-12	63,7	2.51
24-20S	31,7	1.25	1 1/2-11 1/2	1 5/8-12	64,8	2.55
24-24S	38,1	1.50	1 1/2-11 1/2	1 7/8-12	68,1	2.68
24-32S	50,8	2.00	1 1/2-11 1/2	2 1/2-12	78,2	3.08
32-32S	50,8	2.00	2-11 1/2	2 1/2-12	79,0	3.11

Also available in stainless steel as part no. 259-2021.  
See pg. 279 for more information.

## External Pipe/ 37° Flare Bulkhead



### Part No. 2240-(Dash size)

Dash Size	Tube O.D.		Thread P	Thread T	A	
	mm	in			mm	in
2-4S	6,3	0.25	1/8-27	7/16-20	46,7	1.84
4-4S	6,3	0.25	1/4-18	7/16-20	51,6	2.03
4-6S	9,6	0.38	1/4-18	9/16-18	53,9	2.12
6-8S	12,7	0.50	3/8-18	3/4-16	59,9	2.36
8-10S	16,0	0.63	1/2-14	7/8-14	68,8	2.71
12-12S	19,0	0.75	3/4-14	1 1/16-12	74,2	2.92
16-16S	25,4	1.00	1-11 1/2	1 5/16-12	79,0	3.11

Also available in stainless steel as part no. 259-2240.  
See pg. 279 for more information.

SPECIALTY &  
TRUCK HOSE

LOW & MEDIUM  
PRESSURE HOSE

HIGH PRESSURE HOSE

HOSE FITTINGS

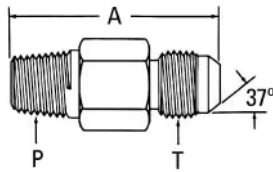
ADAPTERS &  
TUBE FITTINGS

ACCESSORIES &  
ASSEMBLY INSTRUCTIONS

HOSE ASSEMBLY  
EQUIPMENT

APPENDICES

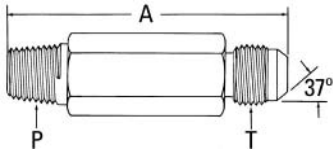
### External Pipe/ 37° Flare



### Part No. 202113-(Dash size)

Dash Size	Tube O.D.		Thread P	Thread T	A	
	mm	in			mm	in
2-4S	6,3	0.25	1/8-27	7/16-20	46,0	1.81
2-5S	7,9	0.31	1/8-27	1/2-20	49,3	1.94
4-4S	6,3	0.25	1/4-18	7/16-20	57,2	2.25
4-5S	7,9	0.31	1/4-18	1/2-20	57,2	2.25
4-6S	9,6	0.38	1/4-18	9/16-18	57,2	2.25
6-6S	9,6	0.38	3/8-18	9/16-18	63,5	2.50
6-8S	12,7	0.50	3/8-18	3/4-16	69,8	2.75
8-10S	16,0	0.63	1/2-14	7/8-14	79,2	3.12
8-12S	19,0	0.75	1/2-14	11/16-12	83,3	3.28
12-12S	19,0	0.75	3/4-14	11/16-12	88,9	3.50
16-16S	25,4	1.00	1-11 1/2	15/16-12	101,6	4.00
20-20S	38,1	1.50	1 1/4-11 1/2	1 5/8-12	114,3	4.50
24-24S	38,1	1.50	1 1/2-11 1/2	1 7/8-12	123,9	4.88
32-32S	50,8	2.00	2-11 1/2	2 1/2-12	142,7	5.62

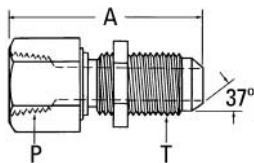
### External Pipe/ 37° Flare



### Part No. 202114-(Dash size)

Dash Size	Tube O.D.		Thread P	Thread T	A	
	mm	in			mm	in
2-4S	6,3	0.25	1/8-27	7/16-20	65,0	2.56
2-5S	7,9	0.31	1/8-27	1/2-20	71,4	2.81
4-4S	6,3	0.25	1/4-18	7/16-20	82,5	3.25
4-5S	7,9	0.31	1/4-18	1/2-20	82,5	3.25
4-6S	9,6	0.38	1/4-18	9/16-18	82,5	3.25
6-8S	12,7	0.50	3/8-18	3/4-16	101,6	4.00
8-6S	9,6	0.38	1/2-14	9/16-18	105,9	4.17
8-10S	16,0	0.63	1/2-14	7/8-14	111,2	4.38
12-12S	19,0	0.75	3/4-14	1 1/16-12	127,0	5.00
12-16S	25,4	1.00	3/4-14	1 5/16-12	141,2	5.56
16-16S	25,4	1.00	1-11 1/2	1 5/16-12	146,0	5.75

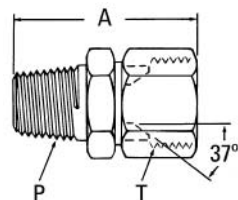
### Internal Pipe/ 37° Flare Bulkhead



### Part No. 2239-(Dash size) (Ref. SAE 070603)

Dash Size	Tube O.D.		Thread P	Thread T	A	
	mm	in			mm	in
2-4S	6,3	0.25	1/8-27	7/16-20	52,8	2.08
6-8S	12,7	0.50	3/8-18	3/4-16	63,0	2.48
8-10S	16,0	0.63	1/2-14	7/8-14	72,1	2.84
12-12S	19,0	0.75	3/4-14	1 1/16-12	77,5	3.05
16-16S	25,4	1.00	1-11 1/2	1 5/16-12	82,5	3.25

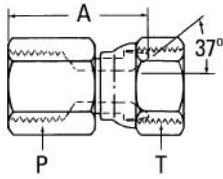
### External Pipe/ 37° Flare Swivel



### Part No. 2018-(Dash size)

Dash Size	Tube O.D.		Thread P	Thread T	A	
	mm	in			mm	in
2-4S	6,3	0.25	1/8-27	7/16-20	33,6	1.32
4-6S	9,6	0.38	1/4-18	9/16-18	40,4	1.59
6-8S	12,7	0.50	3/8-18	3/4-16	44,2	1.74
12-12S	19,0	0.75	3/4-14	1 1/16-12	54,6	2.15
16-16S	25,4	1.00	1-11 1/2	1 5/16-12	64,5	2.54
20-20S	31,7	1.25	1 1/4-11 1/2	1 5/8-12	70,6	2.78

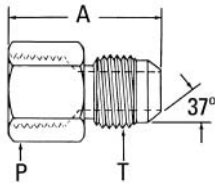
## Internal Pipe/ 37° Flare Swivel



## Part No. 2242-(Dash size) (Ref. SAE 070603)

Dash Size	Tube O.D.		Thread P	Thread T	A	
	mm	in			mm	in
2-4S	6,3	0.25	1/8-27	7/16-20	21,6	0.85
2-5S	7,9	0.31	1/8-27	1/2-20	22,1	0.87
4-4S	6,3	0.25	1/4-18	7/16-20	28,2	1.11
4-5S	7,9	0.31	1/4-18	1/2-20	27,9	1.10
6-6S	9,6	0.38	3/8-18	9/16-18	29,5	1.16
6-8S	12,7	0.50	3/8-18	3/4-16	30,5	1.20
8-6S	9,6	0.38	1/2-14	9/16-18	36,1	1.42
8-8S	12,7	0.50	1/2-14	3/4-16	37,6	1.48
8-10S	16,0	0.63	1/2-14	7/8-14	37,3	1.47
12-12S	19,0	0.75	3/4-14	1 1/16-12	37,8	1.49
12-14S	22,3	0.88	3/4-14	1 3/16-12	39,4	1.55
16-16S	25,4	1.00	1-11 1/2	1 5/16-12	47,0	1.85
20-20S	31,7	1.25	1 1/4-11 1/2	1 5/8-12	51,3	2.02

## Internal Pipe/37° Flare



## Part No. 2022-(Dash size) (Ref. SAE 070103)

Dash Size	Tube O.D.		Thread P	Thread T	A	
	mm	in			mm	in
2-3S	4,8	0.19	1/8-27	3/8-24	28,7	1.13
2-4S	6,3	0.25	1/8-27	7/16-20	30,3	1.19
2-5S	7,9	0.31	1/8-27	1/2-20	29,7	1.17
4-3S	4,8	0.19	1/4-18	3/8-24	33,6	1.32
4-4S	6,3	0.25	1/4-18	7/16-20	35,3	1.39
4-5S	7,9	0.31	1/4-18	1/2-20	35,3	1.39
4-6S	9,6	0.38	1/4-18	9/16-18	35,6	1.40
4-8S	12,7	0.50	1/4-18	3/4-16	39,4	1.55
6-6S	9,6	0.38	3/8-18	9/16-18	37,1	1.46
6-8S	12,7	0.50	3/8-18	3/4-16	39,6	1.56
8-6S	9,6	0.38	1/2-14	9/16-18	42,9	1.69
8-8S	12,7	0.50	1/2-14	3/4-16	45,5	1.79
8-10S	16,0	0.63	1/2-14	7/8-14	48,0	1.89
8-12S	19,0	0.75	1/2-14	1 1/16-12	52,0	2.05
12-8S	12,7	0.50	3/4-14	3/4-16	47,0	1.85
12-10S	16,0	0.63	3/4-14	7/8-14	49,5	1.95
12-12S	19,0	0.75	3/4-14	1 1/16-12	52,3	2.06
16-16S	25,4	1.00	1-11 1/2	1 5/16-12	59,7	2.35
20-16S	25,4	1.00	1 1/4-11 1/2	1 5/16-12	62,0	2.44
20-20S	31,7	1.25	1 1/4-11 1/2	1 5/8-12	63,2	2.49
24-24S	38,1	1.50	1 1/2-11 1/2	1 7/8-12	66,5	2.62
32-32S	50,8	2.00	2-11 1/2	2 1/2-12	75,4	2.97
40-40B	63,5	2.50	2 1/2-8	3-12	82,5	3.25

Also available in stainless steel as part no. 259-2022.  
See pg. 280 for more information.

SPECIALTY &  
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LOW & MEDIUM  
PRESSURE HOSE

HIGH PRESSURE HOSE

HOSE FITTINGS

ADAPTERS &  
TUBE FITTINGS

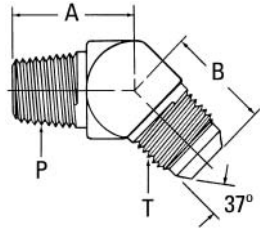
ACCESSORIES &  
ASSEMBLY INSTRUCTIONS

HOSE ASSEMBLY  
EQUIPMENT

APPENDICES



## External Pipe/ 37° Flare

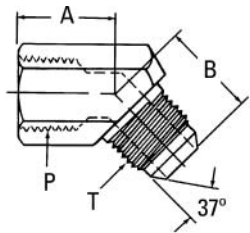


## Part No. 2023-(Dash size) (Ref. SAE 070302)

Dash Size	Tube O.D.		Thread P	Thread T	A		B	
	mm	in			mm	in	mm	in
2-3S	4,8	0.19	1/8-27	3/8-24	14,7	0.58	19,3	0.76
2-4S	6,3	0.25	1/8-27	7/16-20	14,7	0.58	19,8	0.78
2-5S	7,9	0.31	1/8-27	1/2-20	16,2	0.64	20,3	0.80
2-6S	9,6	0.38	1/8-27	9/16-18	18,3	0.72	21,0	0.83
4-4S	6,3	0.25	1/4-18	7/16-20	21,8	0.86	20,8	0.82
4-5S	7,9	0.31	1/4-18	1/2-20	21,8	0.86	20,3	0.80
4-6S	9,6	0.38	1/4-18	9/16-18	21,8	0.86	21,0	0.83
4-8S	12,7	0.50	1/4-18	3/4-16	24,1	0.95	26,4	1.04
6-4S	6,3	0.25	3/8-18	7/16-20	24,1	0.95	20,1	0.79
6-6S	9,6	0.38	3/8-18	9/16-18	24,1	0.95	22,3	0.88
6-8S	12,7	0.50	3/8-18	3/4-16	24,1	0.95	24,9	0.98
6-10S	16,0	0.63	3/8-18	7/8-14	24,4	0.96	29,0	1.14
8-6S	9,6	0.38	1/2-14	9/16-18	29,7	1.17	23,1	0.91
8-8S	12,7	0.50	1/2-14	3/4-16	29,7	1.17	25,4	1.00
8-10S	16,0	0.63	1/2-14	7/8-14	29,7	1.17	28,2	1.11
8-12S	19,0	0.75	1/2-14	1 1/16-12	30,5	1.20	35,3	1.39
12-8S	12,7	0.50	3/4-14	3/4-16	30,5	1.20	27,9	1.10
12-10S	16,0	0.63	3/4-14	7/8-14	30,5	1.20	31,0	1.22
12-12S	19,0	0.75	3/4-14	1 1/16-12	30,5	1.20	32,5	1.28
12-16S	25,4	1.00	3/4-14	1 5/16-12	32,8	1.29	37,3	1.47
16-12S	19,0	0.75	1-11 1/2	1 1/16-12	37,6	1.48	38,6	1.52
16-16S	25,4	1.00	1-11 1/2	1 5/16-12	37,6	1.48	37,3	1.47
16-20S	31,7	1.25	1-11 1/2	1 5/8-12	39,1	1.54	41,1	1.62
20-20S	31,7	1.25	1 1/4-11 1/2	1 5/8-12	39,1	1.54	42,9	1.69
24-24S	38,1	1.50	1 1/2-11 1/2	1 7/8-12	44,9	1.77	45,2	1.78
32-32S	50,8	2.00	2-11 1/2	2 1/2-12	53,6	2.11	56,4	2.22
40-40	63,5	2.50	2 1/2-8	3-12	70,6	2.78	48,0	1.89

Also available in stainless steel as part no. 259-2023. See pg. 279 for more information.

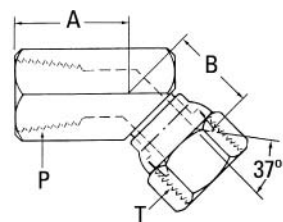
## Internal Pipe/ 37° Flare



## Part No. 2044-(Dash size)

Dash Size	Tube O.D.		Thread P	Thread T	A		B	
	mm	in			mm	in	mm	in
4-6S	9,6	0.38	1/4-18	9/16-18	15,7	0.62	21,0	0.83
6-8S	12,7	0.50	3/8-18	3/4-16	18,3	0.72	24,9	0.98
8-10S	16,0	0.63	1/2-14	7/8-14	23,1	0.91	28,2	1.11
12-12S	19,0	0.75	3/4-14	1 1/16-12	24,6	0.97	32,5	1.28

## Internal Pipe/ 37° Flare Swivel

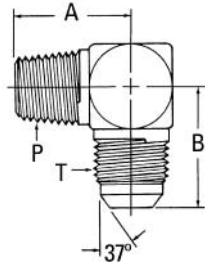


## Part No. 2243-(Dash size)

Dash Size	Tube O.D.		Thread P	Thread T	A		B	
	mm	in			mm	in	mm	in
8-6S	9,6	0.38	1/2-14	9/16-18	23,1	0.91	21,3	0.84
8-10S	16,0	0.63	1/2-14	7/8-14	23,1	0.91	23,9	0.94

SPECIALTY & TRUCK HOSE  
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 HIGH PRESSURE HOSE  
 HOSE FITTINGS  
 ADAPTERS & TUBE FITTINGS  
 ACCESSORIES & ASSEMBLY INSTRUCTIONS  
 HOSE ASSEMBLY EQUIPMENT  
 APPENDICES

**External Pipe/  
37° Flare**

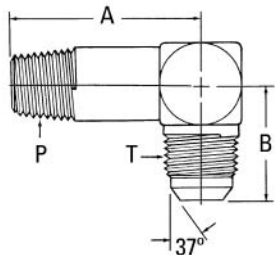


**Part No. 2024-(Dash size) (Ref. SAE 070202)**

Dash Size	Tube O.D.		Thread P	Thread T	A		B	
	mm	in			mm	in	mm	in
2-3S	4,8	0.19	1/8-27	3/8-24	18,3	0.72	21,0	0.83
2-4S	6,3	0.25	1/8-27	7/16-20	19,8	0.78	22,6	0.89
2-5S	7,9	0.31	1/8-27	1/2-20	19,8	0.78	24,1	0.95
2-6S	9,6	0.38	1/8-27	9/16-18	22,9	0.90	26,9	1.06
4-4S	6,3	0.25	1/4-18	7/16-20	27,7	1.09	26,7	1.05
4-5S	7,9	0.31	1/4-18	1/2-20	27,7	1.09	26,7	1.05
4-6S	9,6	0.38	1/4-18	9/16-18	27,7	1.09	26,9	1.06
4-8S	12,7	0.50	1/4-18	3/4-16	31,0	1.22	31,8	1.25
6-4S	6,3	0.25	3/8-18	7/16-20	31,0	1.22	28,5	1.12
6-5S	7,9	0.31	3/8-18	1/2-20	31,0	1.22	28,5	1.12
6-6S	9,6	0.38	3/8-18	9/16-18	31,0	1.22	29,0	1.14
6-8S	12,7	0.50	3/8-18	3/4-16	31,0	1.22	31,8	1.25
6-10S	16,0	0.63	3/8-18	7/8-14	32,5	1.28	36,8	1.45
6-12S	19,0	0.75	3/8-18	1 1/16-12	35,6	1.40	42,2	1.66
8-4S	6,3	0.25	1/2-14	7/16-20	37,3	1.47	30,7	1.21
8-6S	9,6	0.38	1/2-14	9/16-18	37,3	1.47	31,0	1.22
8-8S	12,7	0.50	1/2-14	3/8-16	37,3	1.47	33,8	1.33
8-10S	16,0	0.63	1/2-14	7/8-14	37,3	1.47	36,8	1.45
8-12S	19,0	0.75	1/2-14	1 1/16-12	40,4	1.59	42,2	1.66
8-16S	25,4	1.00	1/2-14	1 5/16-12	45,2	1.78	46,0	1.81
12-6S	9,6	0.38	3/4-14	9/16-18	40,4	1.59	33,3	1.31
12-8S	12,7	0.50	3/4-14	3/4-16	40,4	1.59	36,1	1.42
12-10S	16,0	0.63	3/4-14	7/8-14	40,4	1.59	39,1	1.54
12-12S	19,0	0.75	3/4-14	1 1/16-12	40,4	1.59	42,2	1.66
12-16S	25,4	1.00	3/4-14	1 5/16-12	45,2	1.78	46,0	1.81
16-8S	12,7	0.50	1-11 1/2	3/4-16	50,0	1.97	38,6	1.52
16-12S	19,0	0.75	1-11 1/2	1 1/16-12	50,0	1.97	44,7	1.76
16-16S	25,4	1.00	1-11 1/2	1 5/16-12	50,0	1.97	46,0	1.81
16-20S	31,7	1.25	1-11 1/2	1 5/8-12	59,7	2.35	52,3	2.06
20-16S	25,4	1.00	1 1/4-11 1/2	1 5/16-12	60,4	2.38	51,1	2.01
20-20S	31,7	1.25	1 1/4-11 1/2	1 5/8-12	60,4	2.38	52,3	2.06
20-24S	38,1	1.50	1 1/4-11 1/2	1 7/8-12	66,3	2.61	59,2	2.33
24-20S	31,7	1.25	1 1/2-11 1/2	1 5/8-12	67,0	2.64	55,9	2.20
24-24S	38,1	1.50	1 1/2-11 1/2	1 7/8-12	67,0	2.64	59,2	2.33
24-32S	50,8	2.00	1 1/2-11 1/2	1 1/2-12	75,4	2.97	77,7	3.06
32-32S	50,8	2.00	2-11 1/2	2 1/2-12	76,2	3.00	77,7	3.06
40-40S	63,5	2.50	2 1/2-8	3-12	86,1	3.39	75,7	2.98

Also available in stainless steel as part no. 259-2024. See pg. 280 for more information.

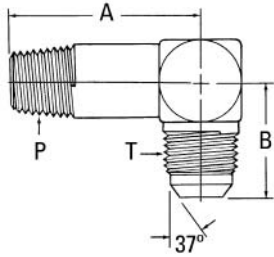
**Extra Pipe/37° Flare**



**Part No. 202411-(Dash size) (Ref. SAE 071502)**

Dash Size	Tube O.D.		Thread P	Thread T	A		B	
	mm	in			mm	in	mm	in
2-4S	6,3	0.25	1/8-27	7/16-20	29,7	1.17	22,6	0.89
2-5S	7,9	0.31	1/8-27	1/2-20	29,7	1.17	24,1	0.95
4-4S	6,3	0.25	1/4-18	7/16-20	40,1	1.58	26,7	1.05
4-6S	9,6	0.38	1/4-18	9/16-18	40,1	1.58	26,9	1.06
6-8S	12,7	0.50	3/8-18	3/4-16	46,2	1.82	31,8	1.25
8-8S	12,7	0.50	1/2-14	3/4-16	55,2	2.17	33,8	1.33
8-10S	16,0	0.63	1/2-14	7/8-14	55,2	2.17	36,8	1.45
12-10S	16,0	0.63	3/4-14	7/8-14	62,0	2.44	39,1	1.54
12-12S	19,0	0.75	3/4-14	1 1/16-12	62,0	2.44	42,2	1.66
12-16S	25,4	1.00	3/4-14	1 5/16-12	71,6	2.82	46,0	1.81
16-16S	25,4	1.00	1-11 1/2	1 5/16-12	76,4	3.01	46,0	1.81
20-20S	31,7	1.25	1 1/4-11 1/2	1 5/8-12	91,2	3.59	52,3	2.06

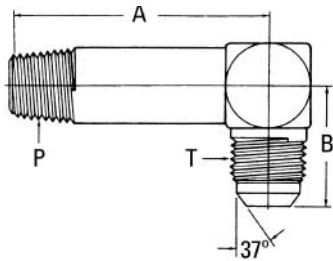
## Long External Pipe/37° Flare



### Part No. 202413-(Dash size) (Ref. SAE 071602)

Dash Size	Tube O.D.		Thread P	Thread T	A		B	
	mm	in			mm	in	mm	in
2-4S	6,3	0.25	1/8-27	7/16-20	39,6	1.56	22,6	0.89
2-5S	7,9	0.31	1/8-27	1/2-20	41,4	1.63	24,1	0.95
4-4S	6,3	0.25	1/4-18	7/16-20	52,6	2.07	26,7	1.05
4-5S	7,9	0.31	1/4-18	1/2-20	52,6	2.07	26,7	1.05
4-6S	9,6	0.38	1/4-18	9/16-18	52,6	2.07	26,9	1.06
6-6S	9,6	0.38	3/8-18	9/16-18	62,5	2.46	26,9	1.06
6-8S	12,7	0.50	3/8-18	3/4-16	61,5	2.42	31,8	1.25
8-8S	12,7	0.50	1/2-14	3/4-16	72,9	2.87	33,8	1.33
8-10S	16,0	0.63	1/2-14	7/8-14	72,9	2.87	36,8	1.45
8-12S	19,0	0.75	1/2-14	1 1/16-12	83,3	3.28	42,2	1.66
12-12S	19,0	0.75	3/4-14	1 1/16-12	83,3	3.28	42,2	1.66
12-16S	25,4	1.00	3/4-14	1 5/16-12	98,0	3.86	46,0	1.81
12-20S	31,7	1.25	3/4-14	1 5/8-12	91,7	3.61	52,3	2.06
16-16S	25,4	1.00	1-11 1/2	1 5/16-12	102,9	4.05	46,0	1.81
20-20S	31,7	1.25	1 1/4-11 1/2	1 5/8-12	122,9	4.84	52,3	2.06

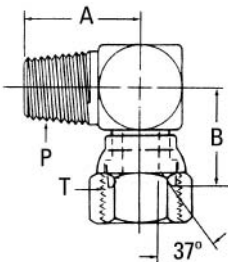
## Extra Long External Pipe/37° Flare



### Part No. 202414-(Dash size)

Dash Size	Tube O.D.		Thread P	Thread T	A		B	
	mm	in			mm	in	mm	in
2-4S	6,3	0.25	1/8-27	7/16-20	58,7	2.31	22,6	0.89
2-5S	7,9	0.31	1/8-27	1/2-20	59,2	2.33	24,1	0.95
4-4S	6,3	0.25	1/4-18	7/16-20	75,9	2.99	24,6	0.97
4-6S	9,6	0.38	1/4-18	9/16-18	77,7	3.06	26,9	1.06
6-8S	12,7	0.50	3/8-18	3/4-16	95,2	3.75	31,8	1.25
8-8S	12,7	0.50	1/2-14	3/4-16	114,5	4.51	31,8	1.25
8-10S	16,0	0.63	1/2-14	7/8-14	114,5	4.51	36,8	1.45
12-12S	19,0	0.75	3/4-14	1 1/16-12	127,8	5.03	42,2	1.66
16-16S	25,4	1.00	1-11 1/2	1 5/16-12	161,8	6.37	46,0	1.81
20-20S	31,7	1.25	1 1/4-11 1/2	1 5/8-12	188,4	7.34	52,3	2.06

## External Pipe/37° Flare Swivel

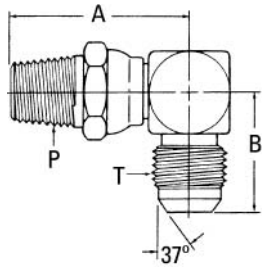


### Part No. 2250-(Dash size)

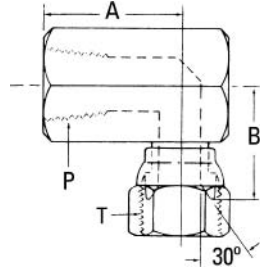
Dash Size	Tube O.D.		Thread P	Thread T	A		B	
	mm	in			mm	in	mm	in
2-4S	6,3	0.25	1/8-27	7/16-20	19,8	0.78	16,8	0.66
2-5S	7,9	0.31	1/8-27	1/2-20	19,8	0.78	17,3	0.68
4-6S	9,6	0.38	1/4-18	9/16-18	27,7	1.09	22,3	0.88
6-6S	9,6	0.38	3/8-18	9/16-18	31,0	1.22	21,6	0.85
6-8S	12,7	0.50	3/8-18	3/4-16	31,0	1.22	24,4	0.96
8-8S	12,7	0.50	1/2-14	3/4-16	37,3	1.47	25,4	1.00
8-10S	16,0	0.63	1/2-14	7/8-14	37,3	1.47	28,5	1.12
12-8S	12,7	0.50	3/4-14	3/4-16	40,4	1.59	29,7	1.17
12-12S	19,0	0.75	3/4-14	1 1/16-12	40,4	1.59	30,3	1.19
12-14S	22,3	0.88	3/4-14	1 3/16-12	42,9	1.69	30,5	1.20
16-16S	25,4	1.00	1-11 1/2	1 5/16-12	50,0	1.97	35,8	1.41
20-20S	31,7	1.25	1 1/4-11 1/2	1 5/8-12	60,4	2.38	42,7	1.68
24-24S	38,1	1.50	1 1/2-11 1/2	1 7/8-12	67,0	2.64	47,2	1.86

SPECIALTY & TRUCK HOSE  
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 ADAPTERS & TUBE FITTINGS  
 ACCESSORIES & ASSEMBLY INSTRUCTIONS  
 HOSE ASSEMBLY EQUIPMENT  
 APPENDICES

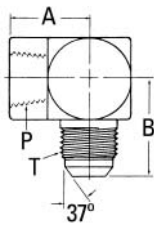
### External Pipe Swivel/37° Flare



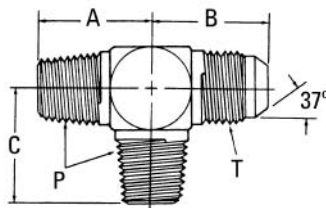
### Internal Pipe/ 37° Flare Swivel



### External Pipe/ 37° Flare



### External Pipe/37° Flare



### Part No. 2249-(Dash size)

Dash Size	Tube O.D.		Thread P	Thread T	A		B	
	mm	in			mm	in	mm	in
4-6S	9,6	0.38	1/4-18	9/16-18	40,6	1.60	26,9	1.06
6-8S	12,7	0.50	3/8-18	3/4-16	43,4	1.71	31,0	1.22
8-10S	16,0	0.63	1/2-14	7/8-14	50,8	2.00	36,8	1.45
12-12S	19,0	0.75	3/4-14	1 1/16-12	41,1	1.62	42,2	1.66

**NOTE:** The above adapter is not a rotating union or swivel joint. Care must be exercised to avoid misuse. To be used with petroleum or water glycol fluids.

### Part No. 2244-(Dash size)

Dash Size	Tube O.D.		Thread P	Thread T	A		B	
	mm	in			mm	in	mm	in
6-6S	9,6	0.38	3/8-18	9/16-18	25,9	1.02	23,4	0.92
8-6S	9,6	0.38	1/2-14	9/16-18	31,2	1.23	26,2	1.03
8-8S	12,7	0.50	1/2-14	3/4-16	31,2	1.23	27,4	1.08
8-10S	16,0	0.63	1/2-14	7/8-14	31,2	1.23	28,5	1.12

### Part No. 2025-(Dash size) (Ref. SAE 070203)

Dash Size	Tube O.D.		Thread P	Thread T	A		B	
	mm	in			mm	in	mm	in
2-4S	6,3	0.25	1/8-27	7/16-20	16,8	0.66	27,4	1.08
2-5S	7,9	0.31	1/8-27	1/2-20	16,8	0.66	27,4	1.08
2-6S	9,6	0.38	1/8-27	9/16-18	17,0	0.67	31,2	1.23
4-4S	6,3	0.25	1/4-18	7/16-20	22,3	0.88	31,0	1.22
4-5S	7,9	0.31	1/4-18	1/2-20	22,3	0.88	31,0	1.22
4-6S	9,6	0.38	1/4-18	9/16-18	22,3	0.88	31,2	1.23
4-8S	12,7	0.50	1/4-18	3/4-16	25,7	1.01	36,1	1.42
6-4S	6,3	0.25	3/8-18	7/16-20	25,9	1.02	32,8	1.29
6-5S	7,9	0.31	3/8-18	1/2-20	25,9	1.02	32,8	1.29
6-6S	9,6	0.38	3/8-18	9/16-18	25,9	1.02	33,3	1.31
6-8S	12,7	0.50	3/8-18	3/4-16	25,9	1.02	36,1	1.42
8-4S	6,3	0.25	1/2-14	7/16-20	31,2	1.23	35,6	1.40
8-5S	7,9	0.31	1/2-14	1/2-20	31,2	1.23	35,6	1.40
8-8S	12,7	0.50	1/2-14	3/4-16	31,2	1.23	38,6	1.52
8-10S	16,0	0.63	1/2-14	7/8-14	31,2	1.23	41,6	1.64
8-12S	19,0	0.75	1/2-14	1 1/16-12	34,3	1.35	48,0	1.89
12-12S	19,0	0.75	3/4-14	1 1/16-12	34,5	1.36	48,0	1.89
16-16S	25,4	1.00	1-11 1/2	1 5/16-12	41,1	1.62	55,2	2.17
20-20S	31,7	1.25	1 1/4-11 1/2	1 5/8-12	43,2	1.70	59,2	2.33
24-24S	38,1	1.50	1 1/2-11 1/2	1 7/8-12	52,8	2.08	73,4	2.89
32-32S	50,8	2.00	2-11 1/2	2 1/2-12	60,7	2.39	83,8	3.30

### Part No. 203007-(Dash size)

Dash Size	Tube O.D.		Thread P	Thread T	A		B		C	
	mm	in			mm	in	mm	in	mm	in
2-4S	6,3	0.25	1/8-27	7/16-20	19,8	0.78	22,6	0.89	19,8	0.78
4-6S	9,6	0.38	1/4-18	9/16-18	27,7	1.09	26,9	1.06	27,7	1.09
6-8S	12,7	0.50	3/8-18	3/4-16	31,0	1.22	31,8	1.25	31,0	1.22
8-10S	16,0	0.63	1/2-14	7/8-14	37,3	1.47	36,8	1.45	37,3	1.47
12-12S	19,0	0.75	3/4-14	1 1/16-12	40,4	1.59	42,2	1.66	40,4	1.59
16-16S	25,4	1.00	1-11 1/2	1 5/16-12	50,0	1.97	46,0	1.81	50,0	1.97
20-20S	31,7	1.25	1 1/4-11 1/2	1 5/8-12	61,0	2.40	55,9	2.20	60,4	2.38
24-24S	38,1	1.50	1 1/2-11 1/2	1 7/8-12	67,6	2.66	61,5	2.42	67,0	2.64

SPECIALTY & TRUCK HOSE

LOW & MEDIUM PRESSURE HOSE

HIGH PRESSURE HOSE

HOSE FITTINGS

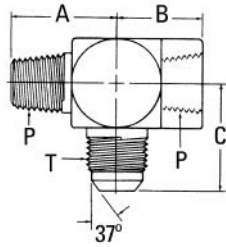
ADAPTERS & TUBE FITTINGS

ACCESSORIES & ASSEMBLY INSTRUCTIONS

HOSE ASSEMBLY EQUIPMENT

APPENDICES

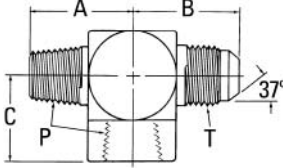
**External Pipe/  
Internal Pipe/37° Flare**



**Part No. 203301-(Dash size)**

Dash Size	Tube O.D.		Thread P	Thread T	A		B		C	
	mm	in			mm	in	mm	in	mm	in
2-4S	6,3	0.25	1/8-27	7/16-20	19,8	0.78	16,8	0.66	27,4	1.08
4-6S	9,6	0.38	1/4-18	9/16-18	27,7	1.09	22,3	0.88	31,2	1.23
6-8S	12,7	0.50	3/8-18	3/4-16	31,0	1.22	25,9	1.02	36,1	1.42
8-10S	16,0	0.63	1/2-14	7/8-14	37,3	1.47	31,2	1.23	41,6	1.64
12-12S	19,0	0.75	3/4-14	1 1/16-12	40,4	1.59	34,5	1.36	48,0	1.89
16-16S	25,4	1.00	1-11 1/2	1 5/16-12	50,0	1.97	41,1	1.62	55,2	2.17

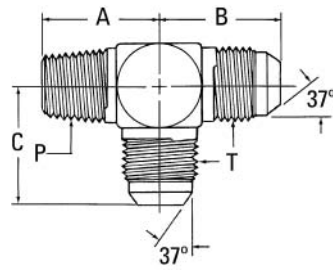
**External Pipe/  
37° Flare/Internal Pipe**



**Part No. 203103-(Dash size)**

Dash Size	Tube O.D.		Thread P	Thread T	A		B		C	
	mm	in			mm	in	mm	in	mm	in
2-4S	6,3	0.25	1/8-27	7/16-20	19,8	0.78	27,4	1.08	16,8	0.66
4-6S	9,6	0.38	1/4-18	9/16-18	27,7	1.09	31,2	1.23	22,3	0.88
6-6S	9,6	0.38	3/8-18	9/16-18	31,0	1.22	33,3	1.31	25,9	1.02
6-8S	12,7	0.50	3/8-18	3/4-16	31,0	1.22	36,1	1.42	25,9	1.02
8-10S	16,0	0.63	1/2-14	7/8-14	37,3	1.47	41,6	1.64	31,2	1.23
12-12S	19,0	0.75	3/4-14	1 1/16-12	40,4	1.59	48,0	1.89	34,5	1.36
16-16S	25,4	1.00	1-11 1/2	1 5/16-12	53,1	2.09	53,1	2.09	42,1	1.62
20-20S	31,7	1.25	1 1/4-11 1/2	1 5/8-12	65,3	2.57	60,4	2.38	43,2	1.70
32-32S	50,8	2.00	2-11 1/2	2 1/2-12	79,7	3.14	83,8	3.30	60,7	2.39

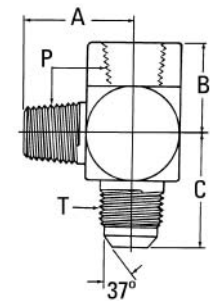
**External Pipe/  
37° Flare**



**Part No. 2028-(Dash size) (Ref. SAE 070424)**

Dash Size	Tube O.D.		Thread P	Thread T	A		B		C	
	mm	in			mm	in	mm	in	mm	in
2-3S	4,8	0.19	1/8-27	3/8-24	18,3	0.72	21,1	0.83	21,1	0.83
2-4S	6,3	0.25	1/8-27	7/16-20	19,8	0.78	22,6	0.89	22,6	0.89
2-5S	7,9	0.31	1/8-27	1/2-20	20,8	0.82	23,4	0.96	24,1	0.95
4-4S	6,3	0.25	1/4-18	7/16-20	27,7	1.09	26,7	1.05	26,7	1.05
4-5S	7,9	0.31	1/4-18	1/2-20	27,7	1.09	26,7	1.05	26,7	1.05
4-6S	9,6	0.38	1/4-18	9/16-18	27,7	1.09	26,9	1.06	26,9	1.06
6-6S	9,6	0.38	3/8-18	9/16-18	31,0	1.22	28,9	1.14	28,9	1.14
6-8S	12,7	0.50	3/8-18	3/4-16	31,0	1.22	31,7	1.25	31,7	1.25
8-8S	12,7	0.50	1/2-14	3/4-16	37,3	1.47	28,9	1.33	28,9	1.33
8-10S	16,0	0.63	1/2-14	7/8-14	37,3	1.47	36,8	1.45	36,8	1.45
8-12S	19,0	0.75	1/2-14	1 1/16-12	40,4	1.59	42,2	1.66	42,2	1.66
12-10S	16,0	0.63	3/4-14	7/8-14	40,4	1.59	39,1	1.54	39,1	1.54
12-12S	19,0	0.75	3/4-14	1 1/16-12	40,4	1.59	42,2	1.66	42,2	1.66
16-16S	25,4	1.00	1-11 1/2	1 5/16-12	50,0	1.97	46,0	1.81	46,0	1.81
20-20S	31,7	1.25	1 1/4-11 1/2	1 5/8-12	60,4	2.38	55,6	2.19	52,3	2.06
24-24S	38,1	1.50	1 1/2-11 1/2	1 7/8-12	67,0	2.64	61,0	2.40	59,2	2.33
32-32S	50,8	2.00	2-11 1/2	2 1/2-12	76,2	3.00	80,0	3.15	77,7	3.06

**External Pipe/  
Internal Pipe/37° Flare**

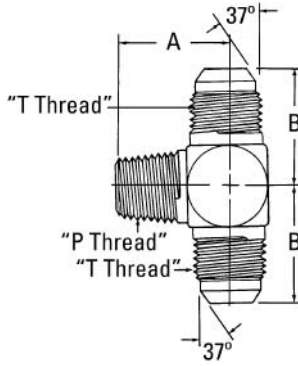


**Part No. 203006-(Dash size)**

Dash Size	Tube O.D.		Thread P	Thread T	A		B		C	
	mm	in			mm	in	mm	in	mm	in
2-4S	6,3	.25	1/8-27	7/16-20	19,8	0.78	16,8	0.66	27,4	1.08
4-6S	9,6	.38	1/4-18	9/16-18	27,7	1.09	22,3	0.88	31,2	1.23
6-8S	12,7	.50	3/8-18	3/4-16	31,0	1.22	25,9	1.02	36,1	1.42
8-10S	16,0	.63	1/2-14	7/8-14	37,3	1.47	31,2	1.23	41,6	1.64
12-12S	19,0	0.75	3/4-14	1 1/16-12	40,4	1.59	34,5	1.36	48,0	1.89
16-16S	25,4	1.00	1-11 1/2	1 5/16-12	50,0	1.97	42,1	1.62	55,1	2.17
20-20S	31,7	1.25	1 1/4-11 1/2	1 5/8-12	60,4	2.38	43,2	1.70	59,2	2.33

SPECIALTY & TRUCK HOSE  
LOW & MEDIUM PRESSURE HOSE  
HIGH PRESSURE HOSE  
HOSE FITTINGS  
ADAPTERS & TUBE FITTINGS  
ACCESSORIES & ASSEMBLY INSTRUCTIONS  
HOSE ASSEMBLY EQUIPMENT  
APPENDICES

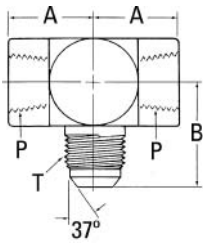
**External Pipe/  
37° Flare**



**Part No. 2030-(Dash size)** (Ref. SAE 070425)

Dash Size	Tube O.D.		Thread P	Thread T	A		B	
	mm	in			mm	in	mm	in
2-3S	4,8	0.19	1/8-27	3/8-24	18,3	0.72	21,1	0.83
2-4S	6,3	0.25	1/8-27	7/16-20	19,8	0.78	22,6	0.89
2-5S	7,9	0.31	1/8-27	1/2-20	20,3	0.80	24,1	0.95
4-4S	6,3	0.25	1/4-18	7/16-20	27,7	1.09	26,7	1.05
4-5S	7,9	0.31	1/4-18	1/2-20	27,7	1.09	26,7	1.05
4-6S	9,6	0.38	1/4-18	9/16-18	27,7	1.09	26,9	1.06
6-6S	9,6	0.38	3/8-18	9/16-18	31,0	1.22	26,9	1.06
6-8S	12,7	0.50	3/8-18	3/4-16	31,0	1.22	31,7	1.25
6-10S	16,0	0.63	3/8-18	7/8-14	31,7	1.25	36,8	1.45
8-6S	9,6	0.38	1/2-14	9/16-18	37,3	1.47	28,7	1.13
8-8S	12,7	0.50	1/2-14	3/4-16	37,3	1.47	28,9	1.33
8-10S	16,0	0.63	1/2-14	7/8-14	37,3	1.47	36,8	1.45
12-12S	19,0	0.75	3/4-14	1 1/16-12	40,4	1.59	42,2	1.66
12-16S	25,4	1.00	3/4-14	1 5/16-12	45,2	1.78	46,0	1.81
16-16S	25,4	1.00	1-11 1/2	1 5/16-12	50,0	1.97	46,0	1.81
20-20S	31,7	1.25	1 1/4-11 1/2	1 5/8-12	60,4	2.38	55,9	2.20

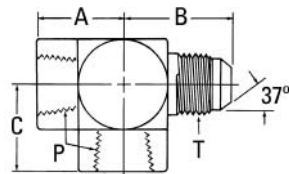
**Internal Pipe/37° Flare**



**Part No. 202901-(Dash size)**

Dash Size	Tube O.D.		Thread P	Thread T	A		B	
	mm	in			mm	in	mm	in
2-4S	6,3	0.25	1/8-27	7/16-20	16,8	0.66	27,4	1.08
4-6S	9,6	0.38	1/4-18	9/16-18	22,3	0.88	31,2	1.23
12-12S	19,0	0.75	3/4-14	1 1/16-12	34,5	1.36	48,0	1.89
16-16S	25,4	1.00	1-11 1/2	1 5/16-12	42,1	1.62	55,1	2.17

**Internal Pipe/  
Internal Pipe/37° Flare**



**Part No. 203104-(Dash size)** (Ref. SAE 070427)

Dash Size	Tube O.D.		Thread P	Thread T	A		B		C	
	mm	in			mm	in	mm	in	mm	in
2-2S	3,3	0.13	1/8-27	5/16-24	16,8	0.66	25,4	1.00	16,5	0.65
2-4S	6,3	0.25	1/8-27	7/16-20	16,8	0.66	27,4	1.08	16,8	0.66
4-6S	9,6	0.38	1/4-18	9/16-18	22,3	0.88	31,2	1.23	22,3	0.88
8-10S	16,0	0.63	1/2-14	7/8-14	31,2	1.23	41,6	1.64	31,2	1.23
16-16S	25,4	1.00	1-11 1/2	1 5/16-12	42,1	1.62	55,1	2.17	42,1	1.62
20-20S	31,7	1.25	1 1/4-11 1/2	1 5/8-12	43,2	1.70	59,2	2.33	43,2	1.70
24-24S	38,1	1.50	1 1/2-11 1/2	1 7/8-12	52,8	2.08	73,4	2.89	52,8	2.08

SPECIALTY & TRUCK HOSE

LOW & MEDIUM PRESSURE HOSE

HIGH PRESSURE HOSE

HOSE FITTINGS

ADAPTERS & TUBE FITTINGS

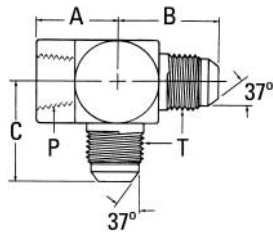
ACCESSORIES & ASSEMBLY INSTRUCTIONS

HOSE ASSEMBLY EQUIPMENT

APPENDICIES

## Internal Pipe/37° Flare

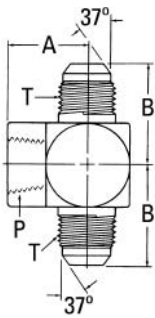
Part No. 2029-(Dash size) (Ref. SAE 070426)



Dash Size	Tube O.D.		Thread P	Thread T	A		B		C	
	mm	in			mm	in	mm	in	mm	in
2-4S	6,3	0.25	1/8-27	7/16-20	16,8	0.66	27,4	1.08	24,1	0.95
2-5S	7,9	0.31	1/8-27	1/2-20	16,8	0.66	27,4	1.08	24,9	0.98
4-4S	6,3	0.25	1/4-18	7/16-20	22,4	0.88	25,4	1.00	25,4	1.00
4-6S	9,6	0.38	1/4-18	9/16-18	22,6	0.89	31,2	1.23	28,2	1.11
6-8S	12,7	0.50	3/8-18	3/4-16	25,9	1.02	36,1	1.42	33,6	1.32
8-8S	12,7	0.50	1/2-14	3/4-16	31,2	1.23	36,1	1.42	35,6	1.40
8-10S	16,0	0.63	1/2-14	7/8-14	31,2	1.23	41,6	1.64	41,6	1.64
12-12S	19,0	0.75	3/4-14	1 1/16-12	34,5	1.36	48,0	1.89	48,0	1.89
16-16S	25,4	1.00	1-11 1/2	1 5/16-12	41,1	1.62	55,2	2.17	53,1	2.09
20-20S	31,7	1.25	1 1/4-11 1/2	1 5/8-12	43,2	1.70	59,2	2.33	60,7	2.39
24-24S	38,1	1.50	1 1/2-11 1/2	1 7/8-12	52,8	2.08	73,4	2.89	66,3	2.61

## Internal Pipe/37° Flare Swivel

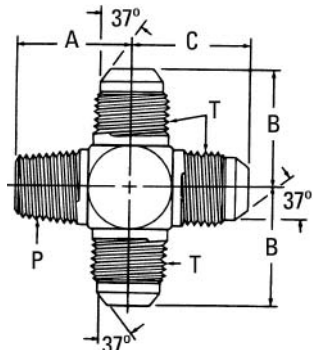
Part No. 2031-(Dash size) (Ref. SAE 070427)



Dash Size	Tube O.D.		Thread P	Thread T	A		B	
	mm	in			mm	in	mm	in
2-3S	4,8	0.19	1/8-27	3/8-24	16,8	0.66	26,2	1.03
2-4S	6,3	0.25	1/8-27	7/16-20	16,8	0.66	27,4	1.08
2-5S	7,9	0.31	1/8-27	1/2-20	16,8	0.66	27,4	1.08
4-4S	6,3	0.25	1/4-18	7/16-20	22,4	0.88	31,0	1.22
4-6S	9,6	0.38	1/4-18	9/16-18	22,4	0.88	31,2	1.23
6-8S	12,7	0.50	3/8-18	3/4-16	25,9	1.02	36,1	1.42
8-10S	16,0	0.63	1/2-14	7/8-14	31,2	1.23	41,6	1.64
12-12S	19,0	0.75	3/4-14	1 1/16-12	34,5	1.36	48,0	1.89
16-16S	25,4	1.00	1-11 1/2	1 5/16-12	41,1	1.62	53,1	2.09
20-20S	31,7	1.25	1 1/4-11 1/2	1 5/8-12	43,2	1.70	60,4	2.38
24-24S	38,1	1.50	1 1/2-11 1/2	1 7/8-12	52,8	2.08	65,5	2.58
32-32S	50,8	2.00	2-11 1/2	2 1/2-12	60,7	2.39	83,8	3.30

## External Pipe/37° Flare

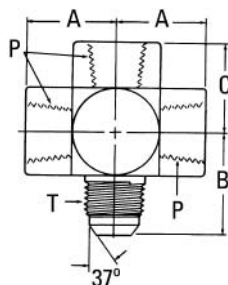
Part No. 202003-(Dash size)



Dash Size	Tube O.D.		Thread P	Thread T	A		B		C	
	mm	in			mm	in	mm	in	mm	in
6-6S	9,6	0.38	3/8-18	9/16-18	26,9	1.06	26,9	1.06	26,9	1.06
12-12S	19,0	0.75	3/4-14	1 1/16-12	40,4	1.59	42,2	1.66	44,2	1.74

## Internal Pipe/37° Flare

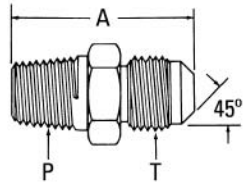
Part No. 202006-(Dash size)



Dash Size	Tube O.D.		Thread P	Thread T	A		B		C	
	mm	in			mm	in	mm	in	mm	in
8-10S	16,0	0.63	1/2-14	7/8-14	29,7	1.17	41,6	1.64	31,2	1.23
12-12S	19,0	0.75	3/4-14	1 1/16-12	34,5	1.36	48,0	1.89	34,5	1.36
20-20S	31,7	1.25	1 1/4-11 1/2	1 5/8-12	43,2	1.70	59,2	2.33	43,2	1.70
24-24S	38,1	1.50	1 1/2-11 1/2	1 7/8-12	52,8	2.08	73,4	2.89	52,8	2.08

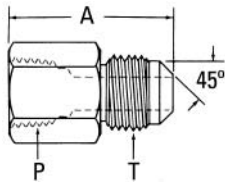
# Pipe to 45° Flare

## External Pipe/45° Flare Part No. 2000-(Dash size) (Ref. SAE 010102)



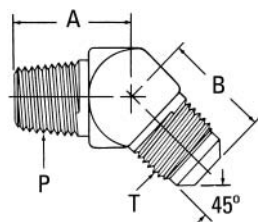
Dash Size	Tube O.D.		Thread P	Thread T	A	
	mm	in			mm	in
2-4B	6,3	0.25	1/8-27	7/16-20	26,9	1.06
2-5B	7,9	0.31	1/8-27	1/2-20	29,5	1.16
2-6B	9,6	0.38	1/8-27	5/8-18	31,8	1.25
4-4B	6,3	0.25	1/4-18	7/16-20	31,8	1.25
4-5B	7,9	0.31	1/4-18	1/2-20	34,0	1.34
4-6B	9,6	0.38	1/4-18	5/8-18	36,6	1.44
4-8B	12,7	0.50	1/4-18	3/4-16	41,1	1.62
4-10B	16,0	0.63	1/4-18	7/8-14	46,0	1.81
6-4B	6,3	0.25	3/8-18	7/16-20	33,3	1.31
6-5B	7,9	0.31	3/8-18	1/2-20	35,1	1.38
6-6B	9,6	0.38	3/8-18	5/8-18	36,6	1.44
6-8B	12,7	0.50	3/8-18	3/4-16	41,1	1.62
6-10B	16,0	0.63	3/8-18	7/8-14	46,0	1.81
8-4B	6,3	0.25	1/2-14	7/16-20	39,6	1.56
8-6B	9,6	0.38	1/2-14	5/8-18	42,9	1.69
8-8B	12,7	0.50	1/2-14	3/4-16	46,0	1.81
8-10B	16,0	0.63	1/2-14	7/8-14	50,8	2.00
8-12B	19,0	0.75	1/2-14	1 1/16-14	55,6	2.19
12-8B	12,7	0.50	3/4-14	3/4-16	49,3	1.94
12-10B	16,0	0.63	3/4-14	7/8-14	52,3	2.06
12-12B	19,0	0.75	3/4-14	1 1/16-14	55,6	2.19

## Internal Pipe/45° Flare Part No. 2001-(Dash size) (Ref. SAE 010103)



Dash Size	Tube O.D.		Thread P	Thread T	A	
	mm	in			mm	in
2-4B	6,3	0.25	1/8-27	7/16-20	26,9	1.06
2-5B	7,9	0.31	1/8-27	1/2-20	29,5	1.16
4-4B	6,3	0.25	1/4-18	7/16-20	30,3	1.19
4-5B	7,9	0.31	1/4-18	1/2-20	31,8	1.25
4-6B	9,6	0.38	1/4-18	5/8-18	33,3	1.31
4-8B	12,7	0.50	1/4-18	3/4-16	36,6	1.44
6-4B	6,3	0.25	3/8-18	7/16-20	30,3	1.19
6-6B	9,6	0.38	3/8-18	5/8-18	33,3	1.31
6-8B	12,7	0.50	3/8-18	3/4-16	39,6	1.56
6-10B	16,0	0.63	3/8-18	7/8-14	39,6	1.56
8-6B	9,6	0.38	1/2-14	5/8-18	38,1	1.50
8-8B	12,7	0.50	1/2-14	3/4-16	41,1	1.62
8-10B	16,0	0.63	1/2-14	7/8-14	46,0	1.81
8-12B	19,0	0.75	1/2-14	1 1/16-12	50,8	2.00
12-10B	16,0	0.63	3/4-14	7/8-14	46,0	1.81
12-12B	19,0	0.75	3/4-14	1 1/16-14	49,3	1.94

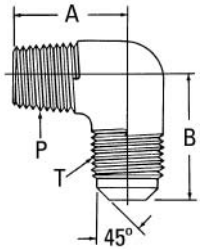
## External Pipe/45° Flare Part No. 2007-(Dash size) (Ref. SAE 010302)



Dash Size	Tube O.D.		Thread P	Thread T	A		B	
	mm	in			mm	in	mm	in
2-4B	6,3	0.25	1/8-27	7/16-20	16,2	0.64	17,3	0.68
4-4B	6,3	0.25	1/4-18	7/16-20	21,8	0.86	19,0	0.75
4-6B	9,6	0.38	1/4-18	5/8-18	21,8	0.86	23,1	0.91
6-6B	9,6	0.38	3/8-18	5/8-18	23,9	0.94	23,6	0.93
6-8B	12,7	0.50	3/8-18	3/4-16	22,4	0.88	27,2	1.07
8-6B	9,6	0.38	1/2-14	5/8-18	29,7	1.17	25,1	0.99
8-8B	12,7	0.50	1/2-14	3/4-16	30,0	1.18	28,5	1.12
8-10B	16,0	0.63	1/2-14	7/8-14	29,7	1.17	28,5	1.12

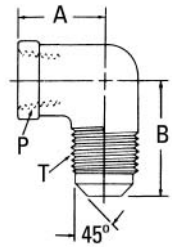


## External Pipe/45° Flare Part No. 2003-(Dash size) (Ref. SAE 010202)



Dash Size	Tube O.D.		Thread P	Thread T	A		B	
	mm	in			mm	in	mm	in
2-4B	6,3	0.25	1/8-27	7/16-20	20,1	0.79	21,3	0.84
2-5B	7,9	0.31	1/8-27	1/2-20	19,8	0.78	23,1	0.91
2-6B	9,6	0.38	1/8-27	5/8-18	22,4	0.88	25,4	1.00
4-4B	6,3	0.25	1/4-18	7/16-20	22,4	0.88	20,6	0.81
4-5B	7,9	0.31	1/4-18	1/2-20	24,4	0.96	24,9	0.98
4-6B	9,6	0.38	1/4-18	5/8-18	22,4	0.88	25,4	1.00
4-8B	12,7	0.50	1/4-18	3/4-16	25,4	1.00	30,3	1.19
6-4B	6,3	0.25	3/8-18	7/16-20	23,1	0.91	23,1	0.91
6-5B	7,9	0.31	3/8-18	1/2-20	23,1	0.91	25,4	1.00
6-6B	9,6	0.38	3/8-18	5/8-18	23,1	0.91	25,9	1.02
6-8B	12,7	0.50	3/8-18	3/4-16	25,4	1.00	30,3	1.19
6-10B	16,0	0.63	3/8-18	7/8-14	31,0	1.22	34,5	1.36
8-6B	9,6	0.38	1/2-14	5/8-18	27,7	1.09	27,9	1.10
8-8B	12,7	0.50	1/2-14	3/4-16	29,0	1.14	29,5	1.16
8-10B	16,0	0.63	1/2-14	7/8-14	31,0	1.22	34,3	1.35
8-12B	19,0	0.75	1/2-14	1 1/16-14	38,1	1.50	42,9	1.69
12-6B	9,6	0.38	3/4-14	5/8-18	30,3	1.19	33,3	1.31
12-8B	12,7	0.50	3/4-14	3/4-16	31,8	1.25	36,1	1.42
12-10B	16,0	0.63	3/4-14	7/8-14	33,3	1.31	36,3	1.43
12-12B	19,0	0.75	3/4-14	1 1/16-14	41,4	1.63	42,4	1.67

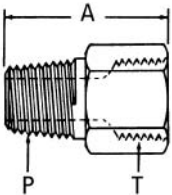
## Internal Pipe/45° Flare Part No. 2002-(Dash size) (Ref. SAE 010203)



Dash Size	Tube O.D.		Thread P	Thread T	A		B	
	mm	in			mm	in	mm	in
2-4B	6,3	0.25	1/8-27	7/16-20	11,7	0.46	22,9	0.90
2-5B	7,9	0.31	1/8-27	1/2-20	15,0	0.59	25,4	1.00
4-4B	6,3	0.25	1/4-18	7/16-20	16,8	0.66	24,6	0.97
4-5B	7,9	0.31	1/4-18	1/2-20	26,9	1.06	26,9	1.06
4-6B	9,6	0.38	1/4-18	5/8-18	15,0	0.59	26,9	1.06
6-4B	6,3	0.25	3/8-18	7/16-20	14,5	0.57	26,2	1.03
6-6B	9,6	0.38	3/8-18	5/8-18	27,7	1.09	26,9	1.06
6-8B	12,7	0.50	3/8-18	3/4-16	29,0	1.14	29,5	1.16
6-10B	16,0	0.63	3/8-18	7/8-14	31,0	1.22	34,3	1.35
8-8B	12,7	0.50	1/2-14	3/4-16	23,9	0.94	35,1	1.38
8-10B	16,0	0.63	1/2-14	7/8-14	25,4	1.00	41,1	1.62
8-12B	19,0	0.75	1/2-14	1 1/16-14	26,9	1.06	41,4	1.63
12-12B	19,0	0.75	3/4-14	1 1/16-14	26,9	1.06	45,2	1.78

## Pipe to SAE O-Ring

### External Pipe/SAE O-Ring Boss (Internal)



Dash Size	Thread P	Thread T	A	
			mm	in
2-4S	1/8-27	7/16-20	27,7	1.09
2-5S	1/8-27	1/2-20	27,7	1.09
4-6S	1/4-18	9/16-18	34,5	1.36
6-8S	3/8-18	3/4-16	36,8	1.45
8-10S	1/2-14	7/8-14	45,2	1.78
12-12S	3/4-14	1 1/16-12	48,8	1.92
12-14S	3/4-14	1 3/16-12	48,8	1.92
16-16S	1-11 1/2	1 5/16-12	54,1	2.13

SPECIALTY & TRUCK HOSE  
LOW & MEDIUM PRESSURE HOSE  
HIGH PRESSURE HOSE  
HOSE FITTINGS  
ADAPTERS & TUBE FITTINGS  
ACCESSORIES & ASSEMBLY INSTRUCTIONS  
HOSE ASSEMBLY EQUIPMENT  
APPENDICES