

**OUR PARTS PUT YOU IN THE PASSING LANE**

# **FITTINGS & HARDWARE**

## **Precision engineered.**

Velvac offers one of the most comprehensive fittings lines in the industry. From push-lock fittings with an engineered tube retention system and seal design for superior holding and side-load retention capabilities, to more traditional brass male and female fittings, Velvac has you covered.

- **Corrosion resistant**
- **Heavy gauge to exceed SAE torque requirements**
- **Extended diameter range**



# FITTINGS & HARDWARE

## PUSH-LOCK AIR BRAKE FITTINGS

- Designed for use with SAE J844 nylon tubing
- DOT 49CFR 571.106 compliant high strength composite fittings offer weight savings over all brass style fittings currently being used by many OE vehicle manufacturers
- Fittings meet performance requirements as stated in SAE J1131\*
- Operating temperatures from -45°F to +140°F
- Maximum operating pressure 145 psi
- Elbows and male branch fittings with built-in swivel for positioning
- Engineered tube retention system and seal design for superior holding and side load retention
- Positive release bushing for easy insertion and removal of tubing
- Thread sealant applied to all male pipe threads to reduce installation time and expense

\* Indicates parts that DO NOT meet DOT or SAE specification for air brake applications

### WARNING!

Velvac's line of push-lock brake fittings and tubing are designed only for use in vehicles where air is utilized as the operating fluid. As such, Velvac's push-lock air brake fittings should only be used in a manner consistent with the manufacturer's specifications.

Using Velvac's push-lock fittings or tubing improperly or in a manner inconsistent with the manufacturer's specifications may result in serious injury or property damage. For example, Velvac's push-lock fittings and tubing are not intended for use in environments exceeding 145 psi and only for temperatures between -45°F and +140°F. Velvac push-lock fittings and tubing are intended for use only as defined in 49CFR571.106.

Further, the U.S. Department of Transportation prohibits the use of push-lock fittings and nylon tubing as a connection between (I) a semi-tractor & trailer, or (II) a drive shaft and chassis.

**NOTE: 1/8" push-lock fittings DO NOT meet DOT or SAE specifications for air brake applications.**

### 90° Male Swivel Elbows (Sealant applied)

- Composite body with brass pipe-fitting end



Part #	Tube Size	Pipe Size
016212*	1/8"	1/8"
016214*	1/8"	1/4"
016222	5/32"	1/8"
016270	5/32"	1/4"
016271	3/16"	1/8"
016242	1/4"	1/8"
016244	1/4"	1/4"
016246	1/4"	3/8"
016254	1/4"	1/2"
016262	3/8"	1/8"
016264	3/8"	1/4"
016266	3/8"	3/8"
016268	3/8"	1/2"
016284	1/2"	1/4"
016286	1/2"	3/8"
016288	1/2"	1/2"
016278	5/8"	3/4"
016279	5/8"	3/8"
016281	5/8"	1/2"
016276	3/4"	1/2"
016277	3/4"	3/4"

### Union 'Y'

- Composite body



Part #	Tube Size
016289	1/4 x 1/4 x 1/4"
016291	1/4 x 1/4 x 3/8"
016290	3/8 x 3/8 x 3/8"

### 45° Male Swivel Elbows (Sealant applied)

- Composite body with brass pipe-fitting end



Part #	Tube Size	Pipe Size
016412*	1/8"	1/8"
016451	5/32"	1/8"
016442	1/4"	1/8"
016444	1/4"	1/4"
016446	1/4"	3/8"
016452	3/8"	1/8"
016464	3/8"	1/4"
016466	3/8"	3/8"
016947	3/8"	1/2"
016453	1/2"	1/4"
016486	1/2"	3/8"
016950	1/2"	1/2"
016454	5/8"	3/8"
016450	5/8"	1/2"
016455	5/8"	3/4"
016456	3/4"	3/8"
016457	3/4"	1/2"

### Union Tees

- Composite body



Part #	Tube Size
016910*	1/8"
016920	5/32"
016930*	3/16"
016940	1/4"
016960	3/8"
016980	1/2"
016985	1/2 x 1/2 x 3/8"
016982	5/8"



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# FITTINGS & HARDWARE

## PUSH-LOCK AIR BRAKE FITTINGS

### Bulkhead Unions

- Brass construction



Part #	Tube Size
016810*	1/8"
016840	1/4"
016860	3/8"
016880	1/2"

### Female Bulkhead Connectors



Part #	Tube Size	Thread Size
016814	1/4"	1/8"
016812	1/4"	1/4"
016813	3/8"	1/4"
016815	3/8"	3/8"
016816	1/2"	3/8"

### Full Unions

- Composite body



Part #	Tube Size A	Tube Size B
016610*	1/8"	1/8"
016620	5/32"	5/32"
016630*	3/16"	3/16"
016640	1/4"	1/4"
016660	3/8"	3/8"
016680	1/2"	1/2"
016670	5/8"	5/8"
016621	3/4"	3/4"
016623*	5/32"	1/4"
016622	1/4"	3/8"
016624	3/8"	1/2"

### 'Y' Male Branches

- Composite body



Part #	Tube Size	Thread Size
016294	1/4"	1/4"
016295	3/8"	1/4"

### Male Run Tees

- Brass/composite



Part #	Tube Size	Pipe Size
016400	1/4"	1/8"
016401	1/4"	1/4"
016402	3/8"	1/4"
016403	3/8"	3/8"
016404	3/8"	1/2"
016405	1/2"	3/8"
016406	1/2"	1/2"
016407	5/8"	1/2"
016409	1/4"	3/8"

### Female Elbows



Part #	Tube Size	Thread Size
016247	1/4"	1/8"
016248	1/4"	1/4"
016249	3/8"	1/4"
016250	3/8"	3/8"

### Plug In 90° Elbows



Part #	Tube Size
016348	1/4"

### Male Connectors

(Sealant supplied)



Part #	Tube Size	Pipe Size
016110*	1/8"	1/16"
016112*	1/8"	1/8"
016114*	1/8"	1/4"
016120	5/32"	1/16"
016122	5/32"	1/8"
016124	5/32"	1/4"
016121*	3/16"	1/8"
016142	1/4"	1/8"
016144	1/4"	1/4"
016146	1/4"	3/8"
016162	3/8"	1/8"
016164	3/8"	1/4"
016166	3/8"	3/8"
016168	3/8"	1/2"
016184	1/2"	1/4"
016186	1/2"	3/8"
016188	1/2"	1/2"
016951	3/4"	1/2"
016161	3/4"	3/4"
016163	5/8"	3/8"
016189	5/8"	1/2"
016187	3/4"	3/8"

### Female Connectors

(Sealant applied)



Part #	Tube Size	Pipe Size
016102	1/4"	1/8"
016103	1/4"	1/4"
016104	3/8"	1/4"
016105	3/8"	3/8"

\* Indicates parts that DO NOT meet DOT or SAE specification for air brake applications

# FITTINGS & HARDWARE

## PUSH-LOCK AIR BRAKE FITTINGS

### Union 90° Elbows

- Composite body



Part #	Tube Size
016282	5/32"
016305*	3/16"
016283	1/4"

\* Indicates parts that DO NOT meet DOT or SAE specification for air brake applications

### Male Branch Swivel Tees

(Sealant applied)

- Composite body



Part #	Tube Size	Pipe Size
016312*	1/8"	1/8"
016314*	1/8"	1/4"
016342	1/4"	1/8"
016344	1/4"	1/4"
016343	1/4 x 1/4"	3/8"
016364	3/8"	1/4"
016366	3/8"	3/8"
016368	3/8"	1/2"
016386	1/2"	3/8"
016388	1/2"	1/2"
016408	5/8"	1/2"

### Female Branch Tees



Part #	Tube Size	Pipe Size
016415	1/4"	1/4"
016416	3/8"	1/8"
016417	3/8"	1/4"

### Composite Plugs



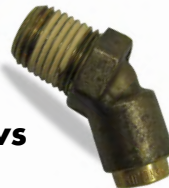
Part #	Tube Size
016115	1/4" (Pkg. of 5)
016116	3/8" (Pkg. of 5)
016117	1/2"

## BRASS PUSH-LOCK AIR BRAKE FITTINGS

- Designed for use with SAE J844 nylon tubing
- DOT 49CFR 571.106 compliant
- Fittings complies with worldwide Standard and Legislation including SAE J1131 "Hot Pull" requirements
- Operating temperatures from -40°F to +212°F
- Maximum operating pressure 0 to 150 psi
- Elbows and male branch fittings with built-in swivel for positioning
- Collet with multiple teeth for high grip on the tube
- Side load retention capabilities
- Positive release bushing for easy insertion and removal of tubing
- Thread sealant applied to all male pipe threads to reduce installation time and expense

### 45° Male Fixed Elbows

(Sealant applied)



Part #	Tube Size	Pipe Size
017980	1/4"	1/8"
017981	1/4"	1/4"
017982	3/8"	1/4"
017983	3/8"	3/8"
017984	1/2"	3/8"
017985	1/2"	1/2"

### 45° Male Swivel Elbows

(Sealant applied)



Part #	Tube Size	Pipe Size
017991	1/4"	1/8"
017992	1/4"	1/4"
017993	3/8"	1/4"
017994	3/8"	3/8"
017995	1/2"	3/8"
017996	1/2"	1/2"

### Male Run Tees

(Sealant applied)



Part #	Tube Size	Pipe Size
017900	1/4"	1/4"
017901	3/8"	1/4"
017902	3/8"	3/8"

### Male Branch Swivel Tees



Part #	Tube Size	Pipe Size
017970	1/4"	1/8"
017972	3/8"	1/4"
017973	3/8"	3/8"
017974	1/2"	3/8"



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# FITTINGS & HARDWARE

## BRASS PUSH-LOCK AIR BRAKE FITTINGS

### Union Connectors



Part #	Tube A	Tube B
017910	1/4"	1/4"
017911	3/8"	3/8"
017912	1/2"	1/2"
017913	5/8"	5/8"
017914	3/4"	3/4"

### 90° Male Swivel Elbows (Sealant applied)



Part #	Tube Size	Pipe Size
017950	1/4"	1/8"
017951	1/4"	1/4"
017952	1/4"	3/8"
017953	3/8"	1/8"
017954	3/8"	1/4"
017955	3/8"	3/8"
017956	3/8"	1/2"
017957	1/2"	1/4"
017958	1/2"	3/8"
017959	1/2"	1/2"

### Male Connectors (Sealant applied)



Part #	Tube Size	Pipe Size
017940	1/4"	1/8"
017941	1/4"	1/4"
017942	1/4"	3/8"
017943	3/8"	1/8"
017944	3/8"	1/4"
017945	3/8"	3/8"
017946	1/2"	3/8"
017947	1/2"	1/2"

### Union Tees



Part #	Tube Size
017920	1/4"
017921	3/8"
017922	1/2"

### Union Elbows



Part #	Tube Size
017931	3/8"
017932	1/2"

### WARNING!

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Using Velvac's push-lock fittings or tubing improperly or in a manner inconsistent with the manufacturer's specifications may result in serious injury or property damage. For example, Velvac's push-lock fittings and tubing are not intended for use in environments exceeding 145 psi and only for temperatures between -45°F and +140°F. Velvac push-lock fittings and tubing are intended for use only as defined in 49CFR571.106.

Further, the U.S. Department of Transportation prohibits the use of push-lock fittings and nylon tubing as a connection between (I) a semi-tractor & trailer, or (II) a drive shaft and chassis.

### 90° Male Non-Swivel Elbows (Sealant applied)



Part #	Tube Size	Pipe Size
017960	1/4"	1/8"
017961	1/4"	1/4"
017966	3/8"	1/8"
017962	3/8"	1/4"
017963	3/8"	3/8"
017967	1/2"	1/4"
017964	1/2"	3/8"
017965	1/2"	1/2"

## NYLON AIR BRAKE TUBE FITTINGS

- Designed for use with nylon air brake tubing
- DOT compliant. Fittings meet SAE J246 requirements
- Brass construction with internal stainless steel tube supports
- Pipe thread sealant featured on several fitting styles

- This pre-applied sealant offers many benefits:
  - » Provides no-leak assembly instantly. Saves application time and expense
  - » Will not contaminate systems such as tape shredding or liquid sealant washout
  - » Can be reused up to five times
  - » Provides excellent thread

### Bulkhead Unions



Part #	Tube Size
016204	1/4"
016206	3/8"
016208	1/2"

**NOTE: Part numbers listed in RED are NEW!**

# FITTINGS & HARDWARE

## NYLON AIR BRAKE TUBE FITTINGS

### 45° Elbows (Sealant applied)



Part #	Tube Size	Pipe Size
017842	1/4"	1/8"
017844	1/4"	1/4"
017862	3/8"	1/8"
017864	3/8"	1/4"
017866	3/8"	3/8"
017868	3/8"	1/2"
017886	1/2"	3/8"
017888	1/2"	1/2"
017884	1/2"	3/4"
017816	5/8"	3/8"
017808	5/8"	1/2"

### Female Connectors



Part #	Tube Size	Pipe Size
016642	1/4"	1/8"
016644	1/4"	1/4"
016662	3/8"	1/8"
016664	3/8"	1/4"
016666	3/8"	3/8"
016686	1/2"	3/8"
016688	1/2"	1/2"
016618	5/8"	1/2"
017816	5/8"	3/8"
017808	5/8"	1/2"

### Tee Thread Branches (Sealant applied)



Part #	Tube Size	Pipe Size
017242	1/4"	1/8"
017244	1/4"	1/4"
017262	3/8"	1/8"
017264	3/8"	1/4"
017266	3/8"	3/8"
017286	1/2"	3/8"
017288	1/2"	1/2"
017218	5/8"	1/2"

### Male Elbows



Part #	Tube Size	Pipe Size
016942	1/4"	1/8"
016944	1/4"	1/4"
016946	1/4"	3/8"
016962	3/8"	1/8"
016964	3/8"	1/4"
016966	3/8"	3/8"
016968	3/8"	1/2"
016984	1/2"	1/4"
016986	1/2"	3/8"
016988	1/2"	1/2"
016916	5/8"	3/8"
016908	5/8"	1/2"
016912	5/8"	3/4"
016918	3/4"	1/2"
016922	3/4"	3/4"

### Elbow End Tubes



Part #	Tube Size
016540	1/4"
016560	3/8"
016580	1/2"
016510	5/8"

### Male Connectors (Sealant applied)



Part #	Tube Size	Pipe Size
016842	1/4"	1/8"
016844	1/4"	1/4"
016846	1/4"	3/8"
016862	3/8"	1/8"
016864	3/8"	1/4"
016866	3/8"	3/8"
016868	3/8"	1/2"
016884	1/2"	1/4"
016886	1/2"	3/8"
016888	1/2"	1/2"
016890	1/2"	3/4"
016806	5/8"	3/8"
016808	5/8"	1/2"
016809	5/8"	3/4"
016818	3/4"	1/2"
016811	3/4"	3/4"

#### Helpful hint

Air brake hose repair fitting kits are part numbers 500007 and 500008



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# FITTINGS & HARDWARE

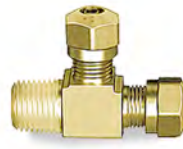
## NYLON AIR BRAKE TUBE FITTINGS

### Female Elbows



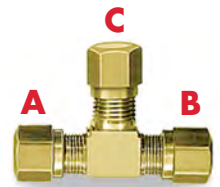
Part #	Tube Size	Pipe Size
017043	1/4"	1/8"
017046	1/4"	1/4"
017064	3/8"	1/4"
017066	3/8"	3/8"
017086	1/2"	3/8"

### Tee Thread Runs



Part #	Tube Size	Pipe Size
017142	1/4"	1/8"
017144	1/4"	1/4"
017164	3/8"	1/4"
017166	3/8"	3/8"
017186	1/2"	3/8"
017188	1/2"	1/2"

### Tee End Tubes



Part #	Tube Size
016440	1/4"
016460	3/8"
016482	A, B: 3/8" C: 1/4"
016480	1/2"
016481	5/8"

### Full Unions



Part #	Tube Size
016240	1/4"
016260	3/8"
016280	1/2"
016200	5/8"
016201	3/4"

### Sleeves



Part #	Tube Size
016340	1/4"
016360	3/8"
016380	1/2"
016300	5/8"
016301	3/4"

### Nuts



Part #	Tube Size
016140	1/4"
016160	3/8"
016180	1/2"
016100	5/8"
016101	3/4"

## AIR BRAKE COMPRESSION FITTINGS

- Designed for use with nylon or copper air brake tubing
- DOT compliant. Fittings meet SAE J246 requirements
- All brass construction
- Pipe thread sealant featured on several fitting styles. This pre-applied sealant offers many benefits:
  - » Provides no-leak assembly instantly. Saves application time and expense
  - » Will not contaminate systems such as tape shredding or liquid sealant
  - » Can be reused up to five times
  - » Provides excellent thread lubrication to prevent galling

### 45° Male Elbows (Sealant applied)



Part #	Tube Size	Pipe Size
013075	3/8"	1/4"
013076	3/8"	3/8"
013077	1/2"	3/8"

### Compression Nuts



Part #	Tube Size
011013	1/4"
011023	3/8"
011025	1/2"
011027	5/8"

### Male Elbows (Sealant applied)



Part #	Tube Size	Pipe Size
012067	1/4"	1/8"
012071	1/4"	1/4"
012073	1/4"	3/8"
012087	3/8"	1/8"
012091	3/8"	1/4"
012093	3/8"	3/8"
012095	3/8"	1/2"
012097	1/2"	1/4"
013001	1/2"	3/8"
013003	1/2"	1/2"
013011	5/8"	1/2"

# FITTINGS & HARDWARE

## AIR BRAKE COMPRESSION FITTINGS

### Full Unions



Part #	Tube Size
011033	1/4"
011041	3/8"
011043	1/2"
011045	5/8"
011047	3/4"

### Nylon Tubing Inserts



Part #	Tube Size
010087	1/4"
010089	3/8"
010094	1/2"
010096	5/8"
010098	3/4"

### Female Connectors



Part #	Tube Size	Pipe Size
011093	3/8"	1/4"

### Tee Thread Branches



Part #	Tube Size
011051	1/4"
011057	3/8"
011059	1/2"

### Tee Thread Runs



Part #	Tube Size	Pipe Size
013041	3/8"	1/4"

### Spherical Sleeves



Part #	Tube Size
011001	1/4"
011003	3/8"
011005	1/2"
011007	5/8"
011009	3/4"

Fitting sleeves should NEVER be reused

### Male Connectors (Sealant applied)



Part #	Tube Size	Pipe Size
012017	1/4"	1/8"
012021	1/4"	1/4"
012023	1/4"	3/8"
012035	3/8"	1/8"
012037	3/8"	1/4"
012041	3/8"	3/8"
012043	3/8"	1/2"
012045	1/2"	1/4"
012047	1/2"	3/8"
012049	1/2"	1/2"
012053	5/8"	3/8"
012055	5/8"	1/2"
012061	3/4"	1/2"

### Tee Thread Branches (Sealant applied)



Part #	Tube Size	Pipe Size
013049	1/4"	1/8"
013057	3/8"	1/4"
013060	3/8"	3/8"

## RE-USABLE AIR HOSE FITTINGS

- Designed for use with rubber air brake hose
- Bodies, sleeves and nuts are all brass construction for durability and corrosion resistance
- Zinc-plated steel springs have rounded ends to protect air hose

### Fitting Assemblies



Part #	Hose I.D.	Pipe Size
500001	3/8"	1/2"
500009	3/8"	3/8"
500015	3/8"	1/4"
500050	1/2"	1/2"
500051	1/2"	3/8"

### Swivel Fitting Assemblies



Part #	Hose I.D.	Pipe Size
500039	3/8"	1/4"
500046	3/8"	3/8"
500044	3/8"	1/2"
500094	1/2"	3/8"



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# FITTINGS & HARDWARE

## RE-USABLE AIR HOSE FITTINGS

### Nuts

(w/ or w/o spring)



Part #	Type	Hose I.D.
500021	Spring & Nut	3/8"
500071	Spring & Nut	1/2"
500037	Nut Only	1/2"
500022	Nut Only	3/8"
500030	Spring Only	1/2"
500024	Spring Only	3/8"

### Nuts



Part #	Hose I.D.
500004	3/8"
500054	1/2"

### Union Assemblies



Part #	Hose I.D.
500031	3/8"
500088	1/2"

### Fitting Sleeves



Part #	Hose I.D.
500005	3/8"
500055	1/2"

Fitting sleeves should NEVER be reused

### Union Bodies



Part #	Tube Size
500033	3/8"
500041	1/2"

### Fitting Assemblies

(w/ spring)



Part #	Hose I.D.	Pipe Size
500019	3/8"	1/2"
500025	3/8"	3/8"
500027	3/8"	1/4"
500070	1/2"	1/2"
500078	1/2"	3/8"

### Swivel Body Adaptors



Part #	Hose I.D.	Pipe Size	Straight Thread
140000	3/8"	1/4"	3/4" - 20
142001	3/8"	3/8"	3/4" - 20
500059	3/8"	1/2"	3/4" - 20
500052	1/2"	3/8"	7/8" - 20
500060	1/2"	1/2"	7/8" - 20

### Dual Barb Male Fitting (Sealant applied)



Part #	Hose Size	Tube Size
500079	1/4"	1/8"
500080	1/4"	1/4"
500081	5/16"	1/4"
500082	3/8"	1/4"
500083	3/8"	3/8"
500084	5/8"	1/2"
500085	3/4"	3/4"

### Firewall Couplings

- Zinc-plated steel construction
- 1/4" FPT both ends
- 3/16" diameter mounting holes on 1-3/8" centers



Part #	Description
501071	Firewall coupling

### Swivel Fitting Assemblies

(w/ spring)



Part #	Hose I.D.	Pipe Size
500035	3/8"	1/4"
500042	3/8"	3/8"

### Hose Splicers



Part #	Hose Size
500063	3/8"
500064	1/2"
500065	5/8"
500066	3/4"

### Fitting Bodies



Part #	Hose I.D.	Pipe Size
500003	3/8"	1/2"
500011	3/8"	3/8"
500017	3/8"	1/4"
500053	1/2"	1/2"
500061	1/2"	3/8"

### Frame Couplings

- Zinc-plated steel construction
- FPT both ends

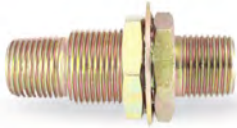


Part #	Frame	Overall Length	Thread
035081	1/4"	1-1/2"	3/4" - 16
035087	3/8"	1-3/8"	1" - 14

# FITTINGS & HARDWARE

## CLAMPING STUDS

### Male Clamping Studs



- Zinc-plated steel construction
- 1/2" MPT each end, 1/4" FPT one end
- 1" - 14 mounting thread
- 2-3/8" overall length

Part #	Description
035021	Male clamping stud

### Female Clamping Studs



- Zinc-plated steel construction
- 1/2" MPT, 1/4" FPT one end and 1/2" FPT other end
- 1-1/4" mounting thread
- 2-1/4" overall length

Part #	Description
035029	Female clamping stud

### Frame Clamping Studs



- Zinc-plated steel construction
- 1/2" MPT one end, 3/8" FPT one end
- 1-1/4" mounting thread
- 1-7/8" overall length

Part #	Description
035079	Male clamping stud

### Bulkhead Fittings: Female to Nylon Tubing

- 3/8" NPTF thread



Part #	Tube Size
017098	1/2"
017099	3/8"

### Bulkhead Fittings with Spring



Part #	Tube Size
500096	3/8"

## VACUUM HOSE FITTINGS

### Nipples



Part #	Hose Size	Tube Size
149005	1/2"	1/2"
149006	3/4"	1/2"

## DISCHARGE HOSE FITTINGS

- Designed for use with stainless steel braided discharge hose
- All brass bodies with brass sleeves and steel nuts

### Fitting Sleeves



5/8" O.D. Part #	3/4" O.D. Part #	Type
142104	-	Sleeve
142108	142109	Nut

### Straight Tubes



Part #	Hose O.D.
142102	5/8"
142103	3/4"

### Compression Fittings



Part #	Hose O.D.	Male Thread
142106	5/8"	13/16" - 18
142107	3/4"	1" - 18

### Male Pipe Fittings



Part #	Hose O.D.	Pipe Thread
142101	5/8"	1/2" - 14

### Female Swivel Fittings



Part #	Hose O.D.	Female Thread
142110	5/8"	7/8" - 14
142111	3/4"	1-1/16" - 14



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# FITTINGS & HARDWARE

## FULLER TRANSMISSION COMPRESSION FITTINGS

- Designed for use with polyethylene nylon and plastic tubing  
NOT FOR AIR BRAKE USE
- All brass construction

### Sleeves



Part #	Tube Size
010093	3/16"

### Male Connectors



Part #	Tube Size	Pipe Size
012016	1/8"	1/16"
012015	3/16"	1/8"
012012	5/32"	1/16"
012014	5/32"	1/8"
012022	1/8"	1/8"

### Male Elbows



Part #	Tube Size	Pipe Size
012069	1/8"	1/8"
012064	5/32"	1/8"
012066	1/8"	1/8"
012068	3/16"	1/8"

### Nuts



Part #	Tube Size
011012	1/8"
011014	3/16"
011016	5/32"

### Slotted Collets



Part #	Tube Size
011000	1/8"
011020	5/32"

### Insert



Part #	Tube Size
010085	3/16"

### Full Unions



Part #	Tube Size
011032	1/8"
011034	5/32"

## INVERTED FLARE FITTINGS

- Designed for use with flareable copper, brass, aluminum and welded steel hydraulic tubing
- All brass construction (unless otherwise noted)
- UL compliant for flammable liquid and gas
- Fittings meet SAE J246 requirements
- DOT compliant

### Male Connectors



Part #	Tube Size	Pipe Size	Straight Thread
006842	1/4"	1/8"	7/16" - 24
006852	5/16"	1/8"	1/2" - 20
006854	5/16"	1/4"	1/2" - 20
006864	3/8"	1/4"	5/8" - 18
006866	3/8"	3/8"	5/8" - 18
006886	1/2"	3/8"	3/4" - 18

### Male Elbows



Part #	Tube Size	Pipe Size	Straight Thread
006942	1/4"	1/8"	7/16" - 24

### Nuts



- Brass construction

Part #	Tube Size	Straight Thread
006103	3/16"	3/8" - 24
006104	1/4"	7/16" - 24
006106	3/8"	5/8" - 10

- Plated steel construction

Part #	Tube Size	Straight Thread
006304	1/4"	7/16" - 24
006305	5/16"	1/2" - 24

### Female Connectors



Part #	Tube Size	Pipe Size	Straight Thread
006642	1/4"	1/8"	7/16" - 24
006664	3/8"	1/4"	5/8" - 18

### Unions



Part #	Tube Size	Straight Thread
006203	3/16"	3/8" - 24
006204	1/4"	7/16" - 24
006205	5/16"	1/2" - 20
006206	3/8"	5/8" - 18

# FITTINGS & HARDWARE

## PIPE FITTINGS

### Pipe Crosses



Part #	Pipe Size	Material
017075	1/4"	Brass
017077	3/8"	Brass
017078	1/2"	Brass

### Male Branch Tees



Part #	Pipe Size	Material
016014	1/8"	Brass
016015	1/4"	Brass
016016	3/8"	Brass
016017	1/2"	Brass

### Pipe Nipples



- Brass

Part #	Pipe Size	Length
016021	1/8"	1-1/2"
016025	1/4"	1-1/2"
016029	3/8"	1-1/2"
016033	1/2"	1-1/2"
016044	1/4"	2 1/2"
016045	3/8"	2 1/2"
016046	3/8"	3"
016047	3/4"	2 1/2"

### Close Nipples



Part #	Pipe Size	Material
016051	1/8"	Brass
016052	1/4"	Brass
016053	3/8"	Brass
016054	1/2"	Brass
016065	3/4"	Malleable iron

### Pipe Elbows



Part #	Pipe Size	Material
017003	1/8"	Brass
017004	1/4"	Brass
017005	3/8"	Brass
017006	1/2"	Brass

- Malleable Iron

Part #	Pipe Size	Length
016037	1/8"	2"
016038	1/4"	2"
016039	3/8"	2"
016040	1/2"	2"
016041	1/2"	3"
016042	3/4"	2"
016043	3/4"	3"

### Caps (Female Pipe Fittings)



Part #	Pipe Size
017223	1/8"
017224	1/4"
017225	3/8"
017226	1/2"
017227	3/4"

### 45° Street Elbows



Part #	Pipe Size	Material
017023	1/8"	Brass
017025	1/4"	Brass
017027	3/8"	Brass
017029	1/2"	Brass

### Reducer Bushings



- Brass

Part #	Pipe Size	Material
016079	1/4" x 1/8"	Brass
016089	1/4" x 1"	Brass
016080	3/8" x 1/8"	Brass
016081	3/8" x 1/4"	Brass
016082	1/2" x 1/8"	Brass
016083	1/2" x 1/4"	Brass
016084	1/2" x 3/8"	Brass
016088	1/2" x 1"	Brass
016085	3/4" x 1/4"	Brass
016086	3/4" x 3/8"	Brass
016087	3/4" x 1/2"	Brass
017000	1" x 3/4"	Malleable iron

### Hex Nipples



Part #	Pipe Size	Material
018009	1/8"	Brass
018010	1/4"	Brass
018011	3/8"	Brass
018012	1/2"	Brass
018023	3/4"	Plated steel

### Pipe Tees



Part #	Pipe Size	Material
016001	1/8"	Brass
016002	1/4"	Brass
016003	3/8"	Brass
016004	1/2"	Brass
016005	3/4"	Brass



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# FITTINGS & HARDWARE

## PIPE FITTINGS

### Street Tees



Part #	Pipe Size	Material
017091	1/8"	Brass
017093	1/4"	Malleable iron
017095	3/8"	Malleable iron
017096	1/2"	Malleable iron
017094	3/4"	Brass

### Street Elbows

- Brass construction



Part #	Pipe Size	Material
017015	1/8"	Brass
017039	1/4" x 1/8"	Brass
017017	1/4"	Brass
017019	3/8"	Brass
017021	1/2"	Brass
017031	3/4"	Brass

### Hex Head Plugs



Part #	Pipe Size	Material
017051	1/8"	Brass
017053	1/4"	Brass
017055	3/8"	Brass
017057	1/2"	Brass
017056	3/4"	Brass
017058	1"	Brass

### Square Head Plugs



Part #	Pipe Size	Material
017061	1/8"	Brass
017063	1/4"	Brass
017065	3/8"	Brass
017067	1/2"	Brass
017069	3/4"	Brass
017059	3/4"	Brass
017072	1"	Brass

### Reducer Couplings



Part #	Pipe Size	Material
017081	1/4" x 1/8"	Brass
017083	3/8" x 1/4"	Brass
017089	1/2" x 1/4"	Brass
017085	1/2" x 3/8"	Brass
017090	3/4" x 1/2"	Brass

### Reducer Hex Nipples



Part #	Pipe Size	Material
018013	1/4" x 1/8"	Brass
018030	3/8" x 1/8"	Brass
018025	3/8" x 1/4"	Plated steel
018026	1/2" x 1/4"	NPTF
018027	1/2" x 3/8"	Plated steel
018029	3/4" x 1/2"	Plated steel

### Counter-Sunk Plugs



Part #	Pipe Size	Material
017106	1/8"	Brass
017107	1/4"	Brass
017108	3/8"	Brass
017109	1/2"	Brass
017110	3/4"	Brass

### Couplings



Part #	Pipe Size	Material
016067	1/8"	Brass
016068	1/4"	Brass
016069	3/8"	Brass
016070	1/2"	Brass
016077	3/4"	Malleable iron

### Adapters



Part #	Pipe Size	Material
018034	1/8" x 1/8"	Brass
018006	1/4" x 1/8"	Brass
018035	1/4" x 1/4"	Brass
018007	3/8" x 1/4"	Brass
018036	3/8" x 1/8"	Brass
018037	3/8" x 3/8"	Brass
018008	1/2" x 3/8"	Brass
018038	3/4" x 1/2"	Brass

### Slotted Plugs



Part #	Pipe Size	Material
017101	1/8"	Brass
017102	1/4"	Brass
017103	3/8"	Brass

# FITTINGS & HARDWARE

## SAE 45° FLARE FITTINGS

- Designed for use with flareable copper, brass, aluminum and welded steel hydraulic tubing
- All brass construction
- UL compliant for flammable liquid and gas
- Fittings meet SAE J246 requirements

### Unions



Part #	Tube Size	Straight Thread
014204	1/4"	7/16" - 20
014206	3/8"	5/8" - 18
014208	1/2"	3/4" - 16
014200	5/8"	7/8" - 14
014209	3/4"	1 1/16" - 14

### 45° Elbows



Part #	Tube Size	Pipe Size	Straight Thread
015942	1/4"	1/8"	7/16" - 20
015944	1/4"	1/4"	7/16" - 20
015964	3/8"	1/4"	5/8" - 18
015966	3/8"	3/8"	5/8" - 18
015986	1/2"	3/8"	3/4" - 16
015988	1/2"	1/2"	3/4" - 16
015906	5/8"	3/8"	7/8" - 14
015908	5/8"	1/2"	7/8" - 14

### Hose Barb to Female Flare Swivels



Part #	Tube Size	Hose Size
016945	3/8"	3/8"
016948	1/4"	1/4"

### Male Elbows



Part #	Tube Size	Pipe Size	Straight Thread
014942	1/4"	1/8"	7/16" - 20
014944	1/4"	1/4"	7/16" - 20
014946	1/4"	3/8"	7/16" - 20
014952	5/16"	1/8"	1/2" - 20
014962	3/8"	1/8"	5/8" - 18
014964	3/8"	1/4"	5/8" - 18
014966	3/8"	3/8"	5/8" - 18
014968	3/8"	1/2"	5/8" - 18
014984	1/2"	1/4"	3/4" - 16
014986	1/2"	3/8"	3/4" - 16
014988	1/2"	1/2"	3/4" - 16
014906	5/8"	3/8"	7/8" - 14
014908	5/8"	1/2"	7/8" - 14
014918	3/4"	1/2"	1-1/16" - 14
014911	3/4"	3/4"	1-1/16" - 14

### Long Nuts



Part #	Tube Size	Straight Thread
014106	3/8"	5/8" - 18

### Male Connectors



Part #	Tube Size	Pipe Size	Straight Thread
014822	1/8"	1/8"	5/16" - 24
014832	3/16"	1/8"	3/8" - 24
014842	1/4"	1/8"	7/16" - 20
014844	1/4"	1/4"	7/16" - 20
014210	1/4"	3/8"	7/16" - 20
014211	3/8"	3/4"	5/8" - 18
014852	5/16"	1/8"	1/2" - 20
014854	5/16"	1/4"	1/2" - 20
014862	3/8"	1/8"	5/8" - 18
014864	3/8"	1/4"	5/8" - 18
014866	3/8"	3/8"	5/8" - 18
014868	3/8"	1/2"	5/8" - 18
014884	1/2"	1/4"	3/4" - 16
014886	1/2"	3/8"	3/4" - 16
014212	5/8"	3/4"	7/8" - 14
014888	1/2"	1/2"	3/4" - 16
014806	5/8"	3/8"	7/8" - 14
014808	5/8"	1/2"	7/8" - 14
014818	3/4"	1/2"	1-1/16" - 14
014811	3/4"	3/4"	1-1/16" - 14

### Cap Nuts



Part #	Tube Size	Straight Thread
014216	3/8"	5/8" - 18
014217	1/2"	3/4" - 16
014218	5/8"	7/8" - 14



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# FITTINGS & HARDWARE

## INVERTED FLARE FITTINGS

- Designed for use with flareable copper, brass, aluminum and welded steel hydraulic tubing
- All brass construction (unless otherwise noted)
- UL compliant for flammable liquid and gas
- Fittings meet SAE J246 requirements
- DOT compliant

### Male Connectors



Part #	Tube Size	Pipe Size	Straight Thread
006842	1/4"	1/8"	7/16" - 24
006852	5/16"	1/8"	1/2" - 20
006854	5/16"	1/4"	1/2" - 20
006864	3/8"	1/4"	5/8" - 18
006866	3/8"	3/8"	5/8" - 18
006886	1/2"	3/8"	3/4" - 18

### Female Connectors



Part #	Tube Size	Pipe Size	Straight Thread
006642	1/4"	1/8"	7/16" - 24
006664	3/8"	1/4"	5/8" - 18

### Nuts



Part #	Tube Size	Straight Thread	Material
006103	3/16"	3/8" - 24	Brass
006104	1/4"	7/16" - 24	Brass
006106	3/8"	5/8" - 10	Brass
006304	1/4"	7/16" - 24	Plated steel
006305	5/16"	5/16" - 24	Plated steel

### Unions



Part #	Tube Size	Straight Thread
006203	3/16"	3/8" - 24
006204	1/4"	7/16" - 24
006205	5/16"	1/2" - 20
006206	3/8"	5/8" - 18

### Male Elbows



Part #	Tube Size	Pipe Size	Straight Thread
006942	1/4"	1/8"	7/16" - 24

## TRUCK & TRAILER REPAIR KITS

### Transmission Air Line Repair Kit

- 11 total fittings

Part #	Description	Qty.
016112	1/8 x 1/8" Male connector	1
016120	5/32 x 1/16" Male connector	2
016122	5/32 x 1/8" Male connector	2
016212	1/8 x 1/8" Male connector	1
016222	5/32 x 1/8" Male connector	1
016610	1/8" Union	1
016620	5/32" Union	1
016630	3/16" Union	1
090028	Nylon tube cutter	1

### Nylon Air Brake Tube Fitting Kit

- 33 total fittings

Part #	Description	Qty.
016240	1/4" Full union	2
016260	3/8" Full union	2
016280	1/2" Full union	2
016200	5/8" Full union	2
016842	1/4 x 1/8" Male connector	2
016844	1/4 x 1/4" Male connector	3
016864	3/8 x 1/4" Male connector	2
016866	3/8 x 3/8" Male connector	1

**NOTE:** See next page for kit part numbers

Part #	Description	Qty.
016886	1/2 x 3/8" Male connector	1
016942	1/4 x 1/8" Male elbow	2
016944	1/4 x 1/4" Male elbow	3
016964	3/8 x 1/4" Male elbow	2
016966	3/8 x 3/8" Male elbow	3
016986	1/2 x 3/8" Male elbow	2
016988	1/2 x 1/2" Male elbow	2

# FITTINGS & HARDWARE

## TRUCK & TRAILER REPAIR KITS



Part #	Description
690031	In-Cab Air Line Repair Kit - Push Lock
690033	Air Brake Line Repair Kit - Push Lock
690035	Nylon Tubing Repair Kit - Push Lock
690037	Transmission Air Line Repair Kit - Push Lock
690050	NTA Fitting Kit

### In-Cab Air Line Repair Kit

- 24 total fittings

Part #	Description	Qty.
016112	1/8 x 1/8" Male connector	2
016114	1/8 x 1/4" Male connector	2
016142	1/4 x 1/8" Male connector	2
016144	1/4 x 1/4" Male connector	2
016162	3/8 x 1/8" Male connector	1
016164	3/8 x 1/4" Male connector	1
016242	1/4 x 1/8" Elbow	1
016244	1/4 x 1/4" Elbow	1
016264	3/8 x 1/4" Elbow	1
016610	1/8" Union	2
016630	3/16" Union	2
016640	1/4" Union	2
016660	3/8" Union	1
016910	1/8" Tee	1
016930	3/16" Tee	1
016940	1/4" Tee	1
016960	3/8" Tee	1

### Air Brake Line Repair Kit

- 24 total fittings

Part #	Description	Qty.
016166	3/8 x 3/8" Male connector	2
016168	3/8 x 1/2" Male connector	1
016184	1/2 x 1/4" Male connector	1
016268	3/8 x 1/2" Male connector	1
016284	1/2 x 1/4" Male connector	1
016286	1/2 x 3/8" Male connector	1
016186	1/2 x 3/8" Male connector	2
016188	1/2 x 1/2" Male connector	1
016660	3/8" Union	2
016680	1/2" Union	2
016266	3/8 x 3/8" Elbow	2
016288	1/2 x 1/2" Elbow	1
016960	3/8" Tee	2
016980	1/2" Tee	2

### Nylon Tubing Repair Kit

Part #	Description	Qty.
020132	1/8" Blue nylon tubing	2'
020065	5/32" Black nylon tubing	2'
020066	3/16" Black nylon tubing	2'
020164	1/4" Yellow nylon tubing	2'
020156	3/8" Red nylon tubing	2'
020168	1/2" Yellow nylon tubing	2'
016610	1/8" Union	2
016620	5/32" Union	2
016630	3/16" Union	2
016640	1/4" Union	2
016660	3/8" Union	2
016680	1/2" Union	2
090014	7" Nylon tie straps	12
090028	Nylon tube cutter	1



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## FITTING ASSORTMENTS

### Large Air Brake Fitting Assortment

- Assortment includes the following part numbers and quantities plus rack 690090 (in [RETAIL](#) section)

Part #	Total Fittings
690059	583

**NOTE**  
See previous pages for fitting photos and descriptions.

Part #	Quantity
010087	50
010089	50
010094	25
010096	25
010098	25
011001	25
011003	50
011005	25
011007	10
011009	10
011013	25
011023	15
011025	5
011027	3
011029	3
011033	10

Part #	Quantity
011041	15
011043	10
011045	3
011047	2
011057	5
011059	3
011073	5
012017	10
012021	10
012035	5
012037	20
012041	10
012043	5
012045	10
012047	10
012049	5

Part #	Quantity
012053	3
012055	3
012067	10
012071	10
012087	5
012091	20
012093	5
012095	5
012097	5
013001	10
013003	5
013011	3
013041	5
013057	5
013075	5
690090	1

### Push-Lock Fitting Assortment

- Assortment includes the following part numbers and quantities plus rack 690090 (in [RETAIL](#) section)

Part #	Total Fittings
690072	155



Part #	Quantity
016112	5
016114	5
016120	5
016122	5
016142	5
016144	5
016162	5
016164	5
016166	5
016168	5

Part #	Quantity
016184	5
016186	5
016188	5
016242	5
016244	5
016264	5
016266	5
016268	5
016284	5
016286	5
016288	5

Part #	Quantity
016610	5
016620	5
016630	5
016640	5
016660	5
016680	5
016930	5
016940	5
016960	5
016980	5
690090	1

# FITTINGS & HARDWARE

## FITTING ASSORTMENTS

### Nylon Air Brake Tube Fitting Assortment

- Assortment includes the following part numbers and quantities plus rack 690090 (in **RETAIL** section)

Part #	Total Fittings
690071	304



Part #	Quantity
016100	3
016101	3
016140	25
016160	10
016180	5
016200	3
016201	2
016240	10
016260	5
016280	5
016300	10
016301	10
016340	25
016360	25

Part #	Quantity
016380	25
016808	3
016818	2
016842	10
016844	10
016862	5
016864	5
016866	5
016884	5
016886	5
016888	5
016908	3
016916	5
016918	2

Part #	Quantity
016922	5
016942	10
016944	10
016962	5
016964	5
016966	5
016968	5
016984	5
016986	5
016988	5
017264	5
017266	5
017286	3
690090	1

### Brass Pipe Fitting Assortment

- Assortment includes the following part numbers and quantities plus rack 690090 (in **RETAIL** section)

Part #	Total Fittings
690064	340



Part #	Quantity
016001	5
016002	5
016003	5
016004	5
016051	10
016052	20
016053	20
016054	5
016067	10
016068	10
016069	5
016070	5

Part #	Quantity
016079	10
016080	10
016081	30
016083	5
016084	5
016087	5
017015	5
017017	5
017019	5
017021	5
017023	5
017025	5
017027	5

Part #	Quantity
017029	5
017051	10
017053	20
017055	20
017057	5
018006	10
018007	10
018008	10
018009	10
018010	20
018011	10
018012	5
690090	1



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# FITTINGS & HARDWARE

## HOSE CLAMPS AND COOLANT VALVES

### Miniature/General Purpose Slotted/Liner/EuroSeal® Clamps

- All clamps feature 300 series stainless steel bands
- Miniature, general purpose and liner clamps include yellow dichromate slotted hex head screws. Euro-Seal® clamps feature 300 series stainless steel screws



Miniature clamps ideal for use on air and fuel lines



General purpose slotted clamps meet applicable SAE J1508 requirements

Miniature Clamps	General Purpose Slotted Clamps	Liner Clamps	Euro-Seal® Clamps	SAE Size	Clamping Range (in.)
022204	-	-	-	4	7/32 – 5/8
022206	022306	022106	022506	6	5/16 – 5/8
-	022308	022108	022508	8	1/2 – 55/64
-	022310	022110	022510	10	5/8 – 1-1/16
-	022312	022112	022512	12	3/4 – 1-1/4
-	022316	022116	022516	16	1 – 1-5/8
-	022320	022120	022520	20	1-11/64 – 1-3/4
-	022324	022124	022524	24	1-1/4 – 2
-	022328	022128	022528	28	1-5/8 – 2-3/8
-	022332	022132	022532	32	1-3/4 – 2-1/2
-	022336	022136	022536	36	2 – 2-3/4
-	022340	022140	022540	40	2-5/32 – 2-15/16
-	022344	022144	022544	44	2-3/8 – 3-1/8
-	022348	022148	022548	48	2-3/4 – 3-1/2
-	022352	-	-	52	2-13/16 – 3-3/4
-	022356	-	022556	56	3-1/8 – 4
-	022360	-	-	60	3-1/2 – 4-3/8
-	022364	-	022564	64	4 – 4-3/4
-	022372*	-	022572	72	4-3/8 – 5-1/8
-	022380*	-	022680	80	4-3/4 – 5-1/2
-	022388*	-	022688	88	5-1/8 – 5-7/8
-	022396*	-	-	96	5-9/16 – 6-1/2
-	022404*	-	022574	104	6-1/4 – 7-5/64

\*These clamps may be made smaller than the clamping range shows in the table. Following are the smallest diameters for each of these clamps in the order shown on the chart: 1-7/8", 2-1/2", 3-1/8", 3-5/8", 4-1/8"



Euro-Seal® clamps with embossed threads and rounded band edge help eliminate hose abrasion and damage. Clamps meet or exceed international specifications for material, corrosion resistance, sizing and torque



Liner clamps designed with inner liner to protect silicone hose from extruding through band slots; unique construction allows more tightening torque to the perforations while maximizing vibration resistance

Euro-Seal® is a registered trademark of Breeze Industrial Products

# FITTINGS & HARDWARE

## HOSE CLAMPS AND COOLANT VALVES

### Spring Loaded T-Bolt Clamps

- Eliminates "cold flow hose leaks" by automatically adjusting diameter for hose compression set or expansion/contraction of hose and fittings due to temperature changes
- Recommended for bus, truck and heavy-duty equipment air intake and coolant connectors
- 300 series stainless steel band, floating bridge liner and trunion
- Yellow dichromate plated steel bolt, spring, washer and 1/2" lock-nut
- Clamps meet applicable SAE J1508 requirements



Part #	Clamping Range (mm)	Clamping Range (in.)
022580	57 – 65	2-1/4 – 2-9/16
022581	67 – 77	2-3/4 – 3-1/16
022582*	78 – 86	3-1/16 – 3-3/8
022583	87 – 95	3-7/16 – 3-3/4
022584*	90 – 98	3-9/16 – 3-7/8
022585	98 – 106	3-7/8 – 4-3/16
022626*	103 – 111	4-1/16 – 4-3/8
022586	106 – 114	4-3/16 – 4-1/2
022627*	116 – 124	4-9/16 – 4-7/8

\* Designed for charge-air cooling

### T-Bolt Clamps

- Applications include engine air intake, exhaust, hoses, filters and low pressure hydraulic connections
- 300 series stainless steel band, floating bridge liner and trunion
- Yellow dichromate plated steel bolt and 7/16" locknut
- Clamps meet applicable SAE J1508 requirements



Part #	Clamping Range (mm)	Clamping Range (in.)
022550	63 – 71	2-1/2 – 2-13/16
022551	67 – 77	2-3/4 – 3-1/16
022587	76 – 84	3 – 3-5/16
022588	83 – 90	3-1/4 – 3-9/16
022589	87 – 98	3-7/16 – 3-7/8
022591	95 – 103	3-3/4 – 4-1/16
022592	108 – 116	4-1/4 – 4-9/16
022593	121 – 128	4-3/4 – 5-1/16
022557	133 – 141	5-1/4 – 5-9/16
022594	146 – 154	5-3/4 – 6-1/16
022596	159 – 166	6-1/4 – 6-9/16
022597	184 – 192	7-1/4 – 7-9/16
022598	216 – 223	8-1/2 – 8-13/16



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## HOSE CLAMPS AND COOLANT VALVES

### Constant-Torque® Clamps

- Patented Belleville spring design eliminates "cold flow hose leaks" by automatically adjusting diameter for hose compression set or expansion/contraction of hose and fittings due to temperature changes
- Specified by many top fleets for new vehicle installations
- Recommended for bus, truck and heavy-duty equipment air intake and coolant connections
- Extended inner liner covers worm gear slots to protect against extrusions and damage
- All stainless steel construction
- Extended adjustment range permits fewer stocked parts

NOTE: For proper installation, the Belleville spring washer stacks should be nearly collapsed flat and the screw tip should extend beyond 1/4". Using a torque wrench, tighten to recommended torque range

Part #	Clamping Range (mm)	Clamping Range (in.)
Torque rated at 30-70 in./lb.		
022410	14 – 27	9/16 – 1-1/16
022412	17 – 32	11/16 – 1-1/4
022416	21 – 38	13/16 – 1-1/2
022420	21 – 44	13/16 – 1-3/4
022424	27 – 51	1-1/16 – 2
Torque rated at 40-125 in./lb.		
022400	32 – 54	1-1/4 – 2-1/8
022425	45 – 67	1-3/4 – 2-5/8
022430	57 – 79	2-1/4 – 3-1/8
022435	70 – 92	2-3/4 – 3-5/8
022440	83 – 105	3-1/4 – 4-1/8
022445	95 – 118	3-3/4 – 4-5/8
022450	108 – 130	4-1/4 – 5-1/8

### Hi-Torque® Clamps

- Heavy gauge housing engineered so eight screw threads are simultaneously engaged to provide over four times the recommended SAE torque requirements of standard worm drive clamps
- All stainless steel construction
- Extended diameter ranges allow coverage from 1-1/4" to 9-1/8" with only four clamps
- Clamps exceed applicable SAE J1508 requirements

Part #	Clamping Range (mm)	Clamping Range (in.)
022462	32 – 67	1-1/4 – 2-5/8
022463	54 – 105	2-1/8 – 4-1/8
022464	102 – 156	4 – 6-1/8
022465	156 – 232	6-1/8 – 9-1/8



Constant-Torque® clamp



Hi-Torque® clamp

Constant-Torque® and Hi-Torque® are registered trademarks of Breeze Industrial Products

# FITTINGS & HARDWARE

## HOSE CLAMPS AND COOLANT VALVES

### Muffler Clamps/Saddle Clamps

- Heavy duty clamp with round 3/8-16
- Zinc plated for corrosion protection
- Complete with grade 2 serrated flange nuts
- Individually packaged

Part #	Size
022048	1.75"
022049	2"
022050	2.5"
022051	3"
022052	3.5"
022053	4"
022054	4.5"
022055	5"



Muffler/saddler clamp

### Flat Band Clamp

- Manufactured with a stainless steel band for corrosion protection
- Clamp assembly consists of a stainless steel band with one spacer, two bolts and one reaction block pre-attached to band with one spacer and two nuts packaged with the band

Part #	Size
022059	4"
022060	5"



Flat band clamp

### Guillotine Style Clamp

- Heavy-duty guillotine clamps are manufactured with a round 3/8 - 16 u-bolt and are zinc plated for corrosion protection
- Clamp contains a reinforced rib design for enhanced strength
- Packaged individually in a poly bag
- Complete with grade 2 serrated flange nuts

Part #	Size
022056	4"
022057	4.5"
022058	5"



Guillotine style clamp



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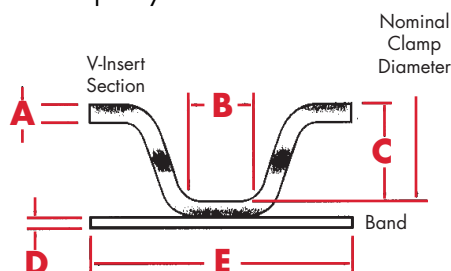
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## HOSE CLAMPS AND COOLANT VALVES

### Turbo V-Band Clamp

Part #	Nominal (in.)	Clamp Dimensions (in.)					Application
		A	B	C	D	E	
022470	3.82	.077	.207	.281	.040	.875	CAT, DDC, Ford, GMC, Navistar
022471	3.88	.050	.400	.281	.040	.875	Cummins, Ford, Volvo
022472	4.50	.077	.207	.281	.040	.875	DDC, GMC, Navistar
022473	4.61	.050	.156	.218	.035	.750	Mack, Switzer
022474	4.75	.077	.158	.310	.040	.875	Cummins, CAT, Freightliner, GMC, Navistar, Volvo, Western Star
022475	5.25	.050	.262	.141	.035	.750	DDC, Navistar, Freightliner
022476	5.88	.050	.400	.281	.040	.875	Cummins, DDC, CAT
022477	4.50	.050	.262	.141	.035	.750	Navistar
022478	3.21	.050	.262	.141	.035	.750	Cummins, Freightliner, Blue Bird bus, Ford, Oshkosh

- Clamps connect vehicle exhaust pipe flange to turbo or engine manifold
- Built to withstand high temperatures produced by heavy-duty engines and turbos
- All stainless steel construction
- Clamps meet or exceed OEM standards for material and quality



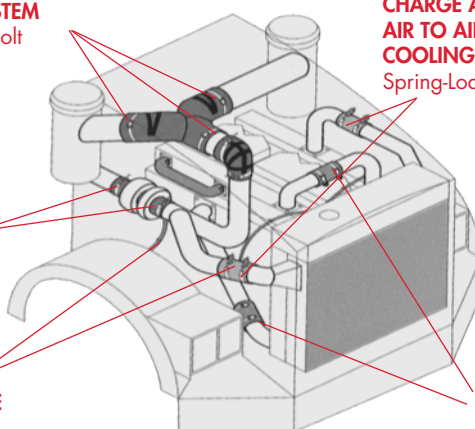
**AIR INTAKE SYSTEM**  
Hi-Torque or T-Bolt

**TURBO EXHAUST MANIFOLD**  
V-Bolt

**FUEL LINE**  
Miniature

**CHARGE AIR COOLING, AIR TO AIR AFTER-COOLING SYSTEM**  
Spring-Loaded T-Bolt

**COOLANT SYSTEM**  
Constant Torque or Hi-Torque



### Coolant Shutoff Valves

- All brass construction

Part #	O.D.	Pipe Size
023066	3/8"	3/8"
023106	5/8"	3/8"
023108	5/8"	1/2"
023126	3/4"	3/8"
023128	3/4"	1/2"

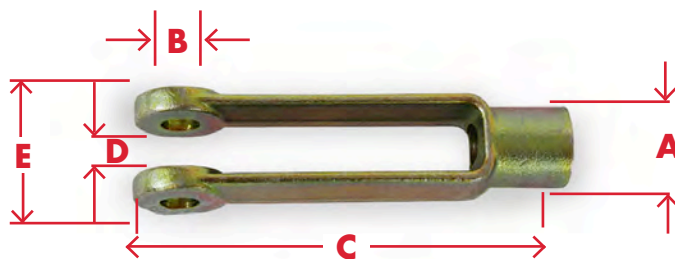


# FITTINGS & HARDWARE

## CLEVIS AND CLEVIS PINS

### Clevis

- Forged steel construction
- Zinc-plated for corrosion resistance



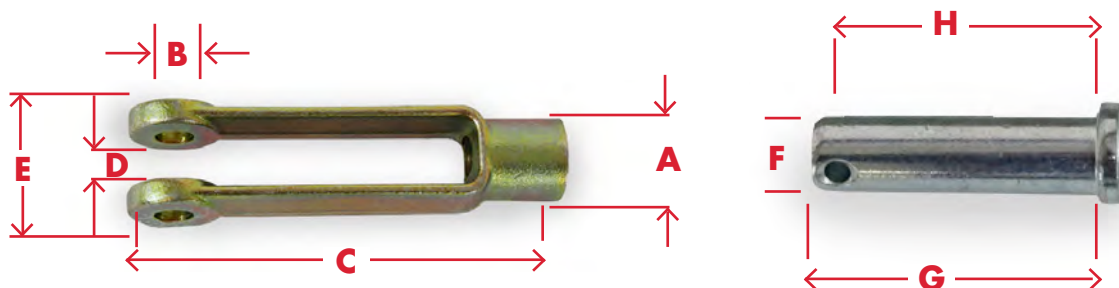
Part #	A	B	C	D	E
019003	5/16" - 24	5/16"	2-1/4"	11/32"	3/4"
019004	3/8" - 24	3/8"	2-1/2"	7/16"	7/8"
019006	1/2" - 20	1/2"	3"	9/16"	1-1/8"
019009	1/2" - 20	1/2"	1-7/8"	9/16"	1-1/4"
019011	5/8" - 18	1/2"	1-7/8"	9/16"	1-1/4"
019013	5/8" - 18	1/2"	2-5/16"	9/16"	1-1/2"
019015	5/8" - 18	5/8"	4-15/16"	11/16"	1-3/8"
019017	5/8" - 18	5/8"	2-5/16"	9/16"	1-1/2"

### Clevis and Clevis Pin Kits

- Each kit includes one yoke, clevis pin and cotter pin
- Forged steel construction
- Zinc-plated for corrosion resistance

Part #	A	B	C	D	E	F	G	H
019049	5/8" - 18	1/2"	1-7/8"	9/16"	1-1/4"	1/2"	1-1/2"	1-3/8"
019050	1/2" - 20	1/2"	1-7/8"	9/16"	1-1/4"	1/2"	1-1/2"	1-3/8"
019051	5/8" - 18	1/2"	4-15/16"	9/16"	1-1/4"	1/2"	1-5/8"	1-3/8"
019088*	5/8" - 18	1/2"	1-7/8"	9/16"	1-1/4"	1/2"	1-1/2"	1-11/32"

\*Includes 3/8" x 1/4" reducer bushing and 5/8" - 18 hex nut



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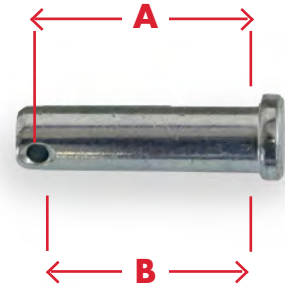
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## CLEVIS AND CLEVIS PINS

### Standard Clevis Pin

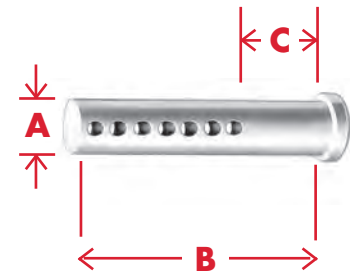
Part #	Nominal Size	A	B
019057	1/4	0.672"	0.633"
019059	5/16	0.812"	0.757"
019061	3/8	0.938"	0.883"
019065	1/2	1.203"	1.133"
019067	1/2	1.343"	1.273"
019069	1/2	1.593"	1.523"
019071	5/8	1.453"	1.383"
019073	5/8	1.593"	1.523"



### Universal Clevis Pin

- Each includes cotter pin

Part #	A	B	C
019058	1/4"	2"	17/32"
019060	5/16"	2"	9/16"
019062	3/8"	2"	17/32"
019064	7/16"	2"	9/16"
019070	1/2"	2"	9/16"
019072	5/8"	3"	9/32"



\*Holes are spaced at 1/4" intervals

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