



Parker Hannifin Corporation  
**Fluid System Connectors Division**  
 300 Parker Drive  
 Otsego, MI 49078  
 Phone: (269) 692 6555  
 Fax: (269) 694 4614  
 www.parker.com/fsc

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 Your Local Authorized Parker Distributor

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# FLUID SYSTEM CONNECTORS

Transportation Quick Reference Guide | September 2024



## Fittings

### Brass PTC Fittings

Robust, all-brass push-to-connect fittings meet SAE J2494 and DOT specifications. Designed for all DOT truck and trailer applications. Reduce assembly time versus compression style fittings by 90%. Ideal for tight applications with difficult wrench clearance. Use with Parflex SAE J844 type



### Composite PTCR Fittings

Lightweight, composite push-to-connect fittings meet SAE J2494 and DOT specifications. Designed for all DOT truck and trailer applications. Reduce assembly time versus compression style fittings by 90%. Use with Parflex SAE J844 type A and B tubing.



### Transmission Fittings

For pressure-protected pneumatic transmission applications. Offer a specially designed slotted sleeve to help eliminate notch stress related to over-torque. Electroless nickel-plated bodies work with bio-diesel. Use with SAE J844 type A nylon tubing.



### Vibra-Lok Fittings

Excellent for high vibration, high heat, mechanical shock, or tube movement applications. The sleeve cushions the tubing, permitting it to flex back and forth in the fitting. Seal design compensates for tube misalignment and tube surface defects. Use with seamed or seamless metal tubing: copper, aluminum, steel (Bundy), stainless steel, and glass.



### NTA Fittings

The most economical air brake solution, meeting DOT and SAE specifications. Also excellent for diesel fuel applications. Utilize a ribbed sleeve for compression and positive grip. Electroless nickel-plated bodies work with bio-diesel.



### Air Brake Hose End Fittings

Parker's Air Brake Hose fittings are field attachable and engineered for use with Parker 271 Air Brake Hose. Easy to assemble and disassemble, the fittings utilize a slotted sleeve for compression and positive grip. They meet DOT FMVSS571.106 when used with SAE J1402 Air Brake Hose.



## Valves

### Truck Valves

Brass valves with metal-to-metal seats and fine-thread screw-down for positive sealing up to the valve's capacity. Available with pipe, flare, NTA and hose barb end configurations.



### Lanyard Valve

Compact brass valve designed for releasing condensate from air tanks. Specially formulated low temperature seal remains elastic down to -40°F.



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## Other Applicable Products

### SAE Encapsulated Cartridges

Guarantee the integrity of the sealing system before and after assembly in non-threaded cavities. Compact, one-piece cartridges are available in brass and nickel-plated brass. Self-centering design. Withstands pressure up to 250 psi.



### Compressed Biodiesel (CBD) Fittings

CBD fittings utilize a ribbed sleeve for compression and positive grip. The electroless nickel plating provides superior chemical compatibility for fuels containing greater than 20% biodiesel.



### Manifolds

Provide multiple tube junction connections in truck air applications. Brass and glass filled nylon bodies. Contact us for custom designs.



### Straight Thread O-Ring (STO) Fittings

Straight Thread O-Ring (STO) Fittings are growing in popularity and replacing NPFF fittings on air brake applications. STO Fittings simplify installation and provide a tighter seal over traditional pipe threads.



## How to Order – NTA, AB, Transmission Fittings (Inch)

	VS	2	69	NTA	-4	-2
	A	B	C	D	E	F
<b>A</b> Thread Sealant						
VS	Vibra Seal					
<b>B</b> Body Material						
1	Forged Brass					
2	Extruded Brass					
<b>D</b> Product Series						
NTA	NTA					
AB	Air Brake					
TF	Transmission					
VL	Vibra-Lok					
<b>C</b> Fitting Configuration						
60	Sleeve					65
61	Nut					66
62	Union					68
63	Tube Insert					69
64	Union Tee					70
65	Union Elbow					71
66	Female Connector					72
68	Male Connector					79
69	Male Elbow					45° Male Elbow
70	Female Elbow					
<b>E</b> Tube Size						
2	1/8	6	3/8			
3	3/16	8	1/2			
5/32	5/32	10	5/8			
4	1/4	12	3/4			
<b>F</b> Thread Size						
1	1/16	6	3/8			
2	1/8	8	1/2			
4	1/4	12	3/4			



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## APPLICATIONS

Air Brakes | Cab Controls | Fuel System | Engine | Transmission | Cooling | Air Tanks



### PERFORMANCE EXPECTATIONS

- Compact design
- Impact resistant
- Meets DOT and SAE requirements
- Robustness
- Vibration resistance
- High reliability
- High temperature resistance
- Installation flexibility

### APPLICABLE PRODUCTS

- PTC Brass Fittings
- PTCR Composite Fittings
- SAE Encapsulated Cartridges
- Manifolds
- NTA Fittings
- Transmission Fittings
- Vibra-Lok Fittings
- Truck Valves
- Lanyard Valve
- Metric Prestomatic Fittings
- Safe Lock Fittings
- Air Brake Hose End Fittings
- AB Fittings



### ENGINEERING AN INNOVATIVE SOLUTION QUICKLY

SLA model confirms solution design and fit, saves time and expense

**SITUATION:** A major North American truck manufacturer initiated a tubing routing change that required a fitting not currently in stock. To meet the build schedule, the customer needed a production-ready solution in six weeks.

**SOLUTION:** With the application requirements understood, the Parker team provided a 3D model within two days to confirm the tube connection configurations. The customer approved the functionality of the design, but

still needed to confirm fit in the confined application. In fewer than 10 days, the Parker team provided a stereolithography (SLA) model that confirmed the design's fit. Satisfied with the results, the client authorized the go-ahead to create the final part, meeting his need for a production-ready solution.

**BENEFITS:** Concept to production in less than five weeks. Reduced prototype costs.



## TRANSPORTATION FITTINGS



### NTA Compression

#### Specifications:

**Working Pressure** Up to 150 PSI (10.3 bar)

**Working Temperature** -40° to +200° F (-40° to +93.3° C)

#### Product Features:

- Meets DOT FMVSS571.106 & SAE J1131
- Use with SAE J844 Type A & B Nylon air brake tubing (Parker 1120 & 1220 nylon air brake tubing) and fuel tubing
- Includes pre-applied thread sealant

#### Additional Information:

- NTA fittings are commonly used by customers whose primary concern is cost
- NTA fittings offer highest performance in high vibration applications and extreme temperatures (high or low)
- NTA fittings are also used with Parflex tubing to transfer fuel from tank to engine
- In fuel applications, electroless nickel NTA are available if customer is concerned about material compatibility

### PTCR Composite

#### Specifications:

**Working Pressure** Up to 250 PSI (17.2 bar)

**Working Temperature** -50° to +230° F (-45.5° to +100° C)

#### Product Features:

- Meets DOT FMVSS571.106 & SAE J2494-3
- Use with SAE J844 Type A & B Nylon air brake tubing (Parflex 1120 & 1220) and fuel tubing

#### Additional Information:

- Composite fittings average a 43% weight reduction compared to brass
- PTCR fittings offer 90% reduction in assembly time compared to compression style DOT fittings

### PTC Brass

#### Specifications:

**Working Pressure** Up to 250 PSI (17.2 bar)

**Working Temperature** -50° to +230° F (-45.5° to +100° C)

#### Product Features:

- Meets DOT FMVSS571.106 & SAE J2494-3
- Use with SAE J2494 & J2494-3 Type A & B Nylon air brake tubing (Parker 1120 & 1220 nylon air brake tubing) and fuel tubing

#### Additional Information:

- Primarily used by small truck OEMs and aftermarket customers due to perception of impact resistance
- PTC fittings offer 90% reduction in assembly time compared to compression style DOT fittings
- Available with metric threads which are commonly used on air tanks to reduce potential leakage caused by cross-threading

### Air Brake Hose Ends

#### Specifications:

**Working Pressure** Up to 400 PSI (27.5 bar)

**Working Temperature** -65° to +250° F (-53.8° to +121.1° C)

#### Product Features:

- Meets DOT FMVSS571.106
- Use with SAE J1402 air brake hose (Parker 271 air brake hose)

#### Additional Information:

- DOT regulations do not allow thermoplastic air brake tubing to connect directly into air brake chamber due to vibration concerns
- Thermoplastic tubing runs along the chassis and the SAE J1402 rubber hose connects from the chassis to the air brake chamber
- This hose is often called the jounce line

## How to Order – Composite PTCR, Brass PTC, Vibra-Lok Fittings (Inch)

	VS	3	69	PTCR	SP	-4	-4
	A	B	C	D	E	F	G
<b>A</b> Thread Sealant							
VS	Vibra Seal						
<b>B</b> Body Material							
1	Brass						
3	Composite						
<b>D</b> Fitting Series							
PTC	PTC Brass						
PTCR	PTCR Composite						
VL	Vibra-Lok						
<b>E</b> Fitting Description							
SP	Plug-in						
BHR	Retaining Ring Bulkhead						
BH	Bulkhead						
NS	Non-swivel						
L	Long rigid						
R	Positional						
<b>C</b> Fitting Configuration							
32	Union					69	Male Elbow
37	Adapter					70	Female Elbow
62	Union					71	Male Run Tee
64	Union Tee					72	Male Branch Tee
65	Union Elbow					77	Female Branch Tee
66	Female Connector					79	45° Male Elbow
68	Male Connector					89	Dual Port Male Elbow
685	Male Connector Straight Thread						
695	Male Elbow Straight Thread						
715	Male Run Tee Straight Thread						
725	Male Branch Tee Straight Thread						
<b>F</b> Tube Size							
4	1/4						
6	3/8						
8	1/2						
10	5/8						
12	3/4						
<b>G</b> Thread Size							
2	1/8						
4	1/4						
6	3/8						
8	1/2						
12	3/4						



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## Product Specifications

	Temperature	1/8"	5/32"	3/16"	1/4"	5/16"	3/8"	1/2"	5/8"	3/4"	7/8"	4mm	6mm	8mm	10mm	12mm	16mm	Type	
PTCR	-40° to 200° F							250	250	250	250								Push-to-Connect
Brass PTC	-40° to 200° F		250		250		250	250	250	250				250	250	250	250		
SAE Cartridges	-40° to 200° F		250		250		250	250	250	250									
Manifolds		Pressure and temperature dependent upon manifold configuration																	
NTA	-40° to 200° F			150	150		150	150	150	150									Compression
Air Brake	-65° to 250° F				400		400	400	400	400									
Transmission Fittings	-40° to 200° F	150	150																
Vibra-Lok	-30° to 275° F				1,000	1,000	900	700	500	400									
Air Brake Hose	-65° to 250° F							400	400										
Truck Valves	-30° to 250° F							150	150	150	150								Valve
Lanyard Valve	-40° to 200° F					150													
Drain Cocks	-65° to 250° F	150				150		150											

Maximum working pressure (psi) by tube size at 73°F

### Tubing Compatibility

	Copper	Aluminum	Steel	Nylon N	Nylon PAT	PFT Air Brake (SAE J844) Inch	Air Brake DIN 74324 (Nylon 12)	PFT Diesel Fuel	HTFL Diesel Fuel	Parker 271 Hose (SAE J1402)
PTCR										
Brass PTC										
SAE Cartridges										
NTA										
Air Brake										
Transmission Fittings										
Vibra-Lok										
Air Brake Hose										

Compatible

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