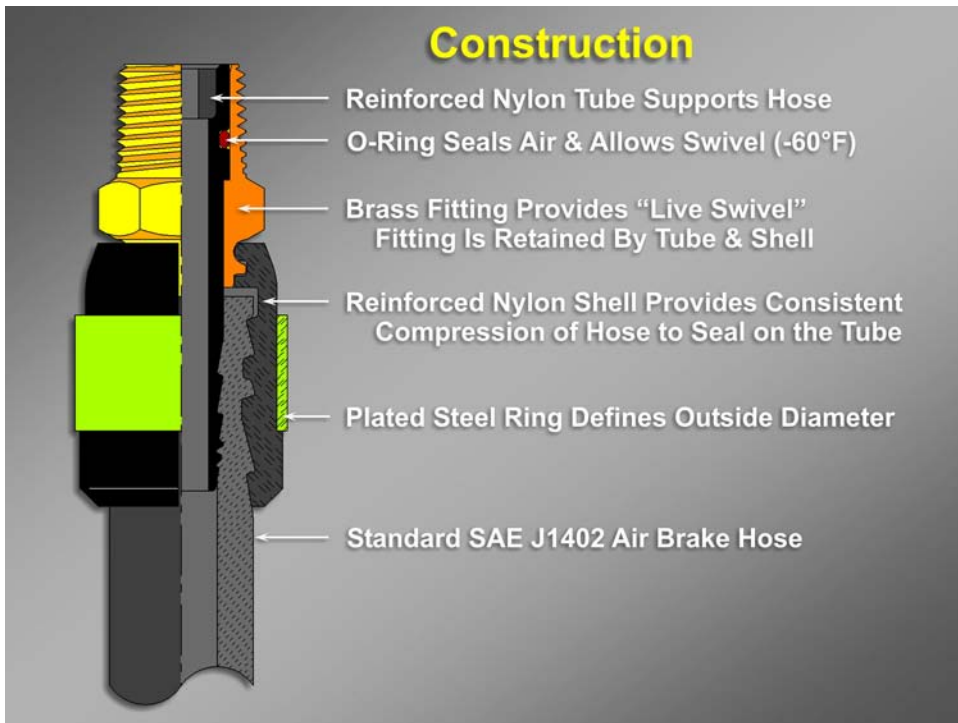


The **TRAMEC** “Live Swivel” system of heavy duty air brake hose assemblies meet and exceed all requirements of FMVSS 106 and SAE J1402. Each end fitting is labeled with certification to the federal standards.

The unique fitting design provides a swivel at both ends of the hose assembly.

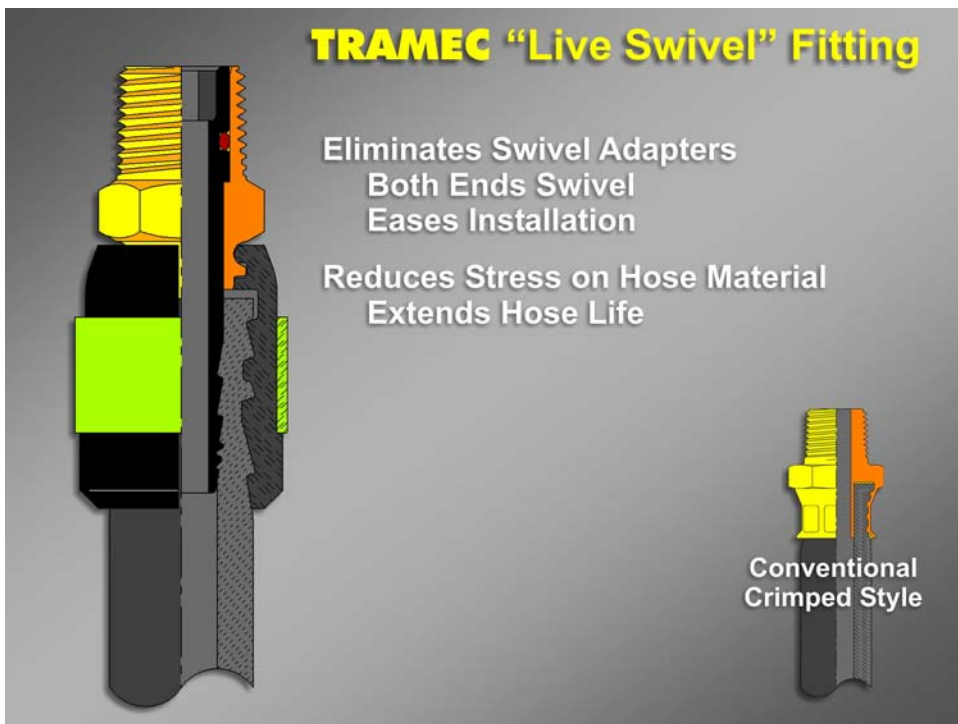
The fittings are available on pre-assembled hoses, or as components for assembly by the OEM, after-market distributor, or the fleet.

All components in contact with the air flow are produced from corrosion resistant materials such as nylon and brass.



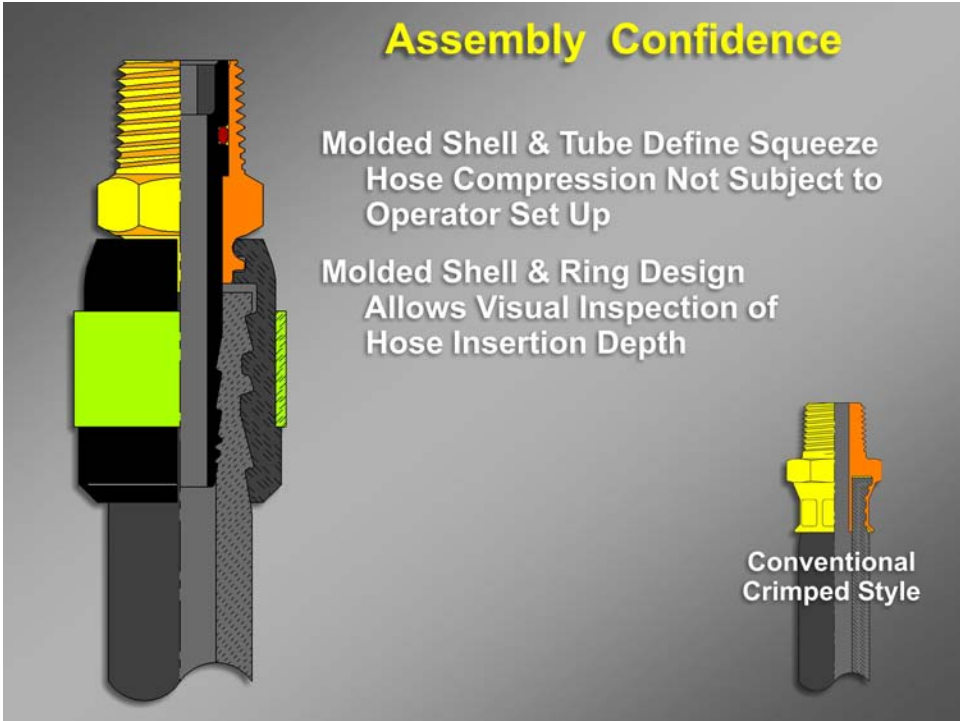
In this sectional view of the 3/8" I.D. hose fitting, we can see the construction of the assembly. The tube through which the air flows is constructed of a special "long fiber" reinforced nylon. The tube supports the hose I.D. and provides flexural strength to the assembly. An o-ring allows the brass fitting to swivel on the tube.

The fiber-reinforced shells are molded to provide deformations to squeeze the hose against the barbs on the tube. The plated steel ring contains the shell halves within the required diameter to ensure the proper squeeze is achieved to meet the tensile and burst test requirements of the DOT. The fittings are designed to function with standard SAE J1402 air brake hose.



Here we see the **TRAMEC** "live swivel" fitting compared to the conventional crimp style fitting assembly. In order to install the conventional hose on the vehicle without kinking the assembly, one end of the hose must be provided with a swivel adapter. The entire length of the hose must be turned in order

to install the fixed end. The life of the hose assembly is extended because the "live swivel" continues to swivel after installation. This prevents residual torque from building up in the hose material as the suspension flexes and attempts to twist the hose.



Once again comparing the **TRAMEC** "live swivel" to a crimped fitting, we can see that the amount of squeeze that the conventional crimped fitting makes on the hose is subject to the operator's set up of the crimping machine - too little squeeze and the end fitting may pull off or be blown off under pressure. Once the conventional fitting is crimped, the operator cannot tell whether the hose is fully inserted into the fitting - if

not, the end fitting may pull off or be blown off under pressure.

The squeeze applied by the shells of the **TRAMEC** "live swivel" is predetermined by the molding dies, not the operator. In addition, the operator can perform a 100% inspection of the **TRAMEC** "live swivel" by looking into the small gap between the shells to verify that the hose is in the proper position.

Assembly Confidence

In addition to exceeding all DOT & SAE requirements for tensile, burst, flexural, temperature, etc. The TRAMEC live swivel has demonstrated that it is as least as strong as the conventional fitting in resisting side impact (no DOT requirement).

Fitting Style	Average Impact Ht At Failure
3/8" Live Swivel	14.9
3/8" Crimped	14.5
1/2" Live Swivel	19.3
1/2" Crimped	14.5

Repeated impacts by a weight dropped from increasing heights, while at 150 psi

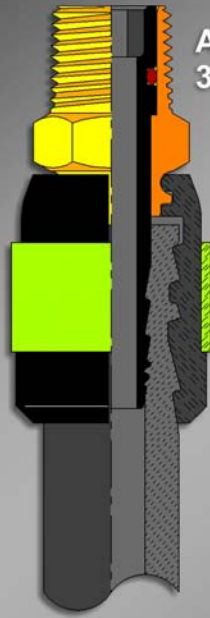
The diagram shows a vertical test stand with a weight being dropped onto a fitting connected to a pressurized hose system. A gauge is visible on the hose line.

In addition to exceeding all DOT & SAE requirements for tensile, burst, flexural, temperature, etc. The **TRAMEC** live swivel has demonstrated that it is as least as strong as the conventional fitting in resisting side impacts.

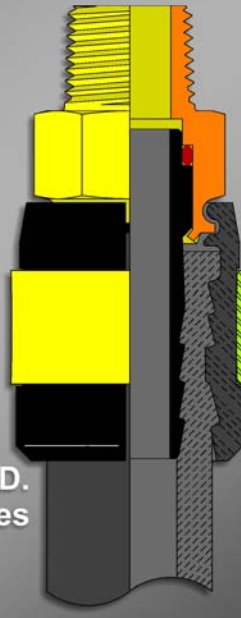
To test this, we isolate a pressurized hose in a test stand.

Beginning at a height of 10", we apply successive impacts of a 13 lb. weight allowed to free fall against the fitting. The drop height is increased in 1" increments until the fitting breaks or pressure is lost.

TRAMEC "Live Swivel" Fitting



Available for
3/8" I.D. ...



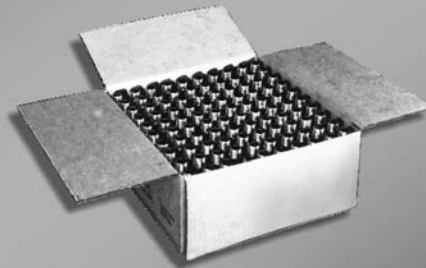
And for 1/2" I.D.
Air Brake Hoses

The **TRAMEC** "live swivel" is available for 3/8" and 1/2" I.D. hose sizes.

TRAMEC "Live Swivel" Fitting



In Kits for
3/8" I.D. Hose



... or Bulk Packed for
3/8" & 1/2" I.D. Hose

... and may be purchased in kits or bulk packaging.

Assembly Methods



By Hand Using
A Hex Key
or
With A Powered
Screw Driver
(3/8" Hose)



HA300
Bench Fixture



HA100
Machine

Assemblies with 3/8" hose may be made by hand in small quantities with no more than a hex key, or by inserting a hex bit in a power screw driver.

For larger quantities, or for 1/2" hose, the HA300 bench fixture or the automated HA100 machine can be used.