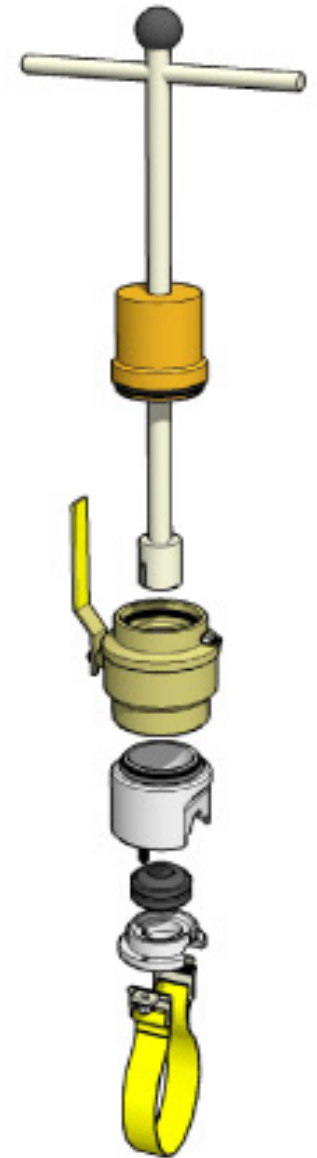


Safe-T-Stopper

Gas-Free* Service Tee Renewal and Removal
for CenterPoint Energy



*In a controlled gas environment

Presentation Goals

What is the Safe-T-Stopper?

What are the tool's benefits?

What is the typical operation?

What is the Safe-T-Stopper and Why?

Increase Worker Safety: Now is the time to get away from blowing gas when renewing or removing service tees...

The **Safe-T-Stopper** is a tool specifically designed for Gas-Free* service tee renewal or removal on open gut pipe tees and street tees.

How does it work?

The tool assembly mounts on the tee. The plug is removed and an expandable plug is inserted into the throat of the tee or a self tapping plug is inserted directly into the pipe to stop the flow of gas.

Once stopped, renewal connections or service cutoffs can now be performed Gas-Free*

Stop Doing This!



Safe-T-Stopper Benefits

1. Increase worker safety- No blowing gas when renewing or abandoning services.
2. Reduce excavation cost – Only need to uncover the working area of the service and branch.
3. Efficient operation– Procedure can be completed within 30-45 minutes.
4. Reduced fitting and labor cost – Eliminates stopple and by-pass procedure.
5. Gas-Free* tooling eliminates the need for personal air supply, saving the cost of bottled air.
6. Environmental Stewardship – Operation does not release gas into the atmosphere.
7. No blowing gas – No wasted services calls from reports of gas odors. Also, keeps good public relations with neighbors.



Energy Tee Characteristics

Tee Type

Open gut $\frac{3}{4}$ " – 1-1/4" Street-Tees threaded into a coupling / half coupling welded on a steel main operating at a maximum of 60 psig.

Operation Scenarios

- 1.Hole in the main is either concentric or non-concentric (e.g. burn hole).
- 2.The location of the main hole is either off-center or the same bore as the coupling I.D

Safe-T-Stopper 3000 BV

Based on feedback to date, the customized tool package performs service renewal and abandonment operations under gas-free conditions for use on $\frac{3}{4}$ " - $1\frac{1}{4}$ " street tee services threaded into a welded steel coupling on steel mains operating at a maximum of 60 psig.

The components will allow the following operations:

1. Insert self tapping plug remotely to stop the flow of gas when main hole is concentric.
2. Over-drill the main hole and insert self tapping plug to stop the flow of gas when main hole is non-concentric, such as a burn hole.
3. Remove street-tee and replace with a plug when main hole is larger than coupling I.D or off-center.



Operation performed on a Street-Tee Threaded into a Welded Coupling



Street-Tee Threaded into a Welded Coupling

Start by loosening the plug with a pipe wrench to break the initial seal.

Aluminum ring with integrated rubber o-ring is placed on the boss of the tee.



Housing adapter and ball valve are secured with the chain strap on top of aluminum ring creating gas tight seal.



Street-Tee Threaded into a Welded Coupling

Plug is removed from the tee.



Plug adapter with integrated magnet.



Using t-handle the plug adapter is lowered onto the square head of the plug, loosened, removed and retracted above the ball valve.



Plug removed. Held in place with magnet.

Street-Tee Threaded into a Welded Coupling

Verify that the hole in the main is concentric using the sight glass attachment, so the low profile self tapping plug can be inserted into the main to stop the flow of gas.



Sight Glass



Low profile self-tapping plugs available in different sizes.

Fine thread made from 4140 steel and nitride hardened

PLCS Threadseal mastic is applied to self tapping plug for leak free seal.



Self tapping plug insertion tool

Street-Tee Threaded into a Welded Coupling

If hole in the main is non-concentric (e.g. burn hole), then simply over-drill the existing hole and insert the self-tapping plug.



Drill bit



Drill assembly



Insert self-tapping plug

Street-Tee Threaded into a Welded Coupling

Once self tapping plug stops the flow of gas, purge remaining gas, cut branch, remove tee and complete operation by tightening malleable plug into coupling. Check for leaks.



Self-tapping plug shown in main for illustration.



Self tapping plugs have a low profile in main.



Completed operation.

Street Tee Threaded into a Welded Coupling

(Coupling ID and hole in the main are the same or hole is off-center)

If the location of the main hole is either off-center or the same bore as the coupling I.D, then an alternative operation is used.



Coupling I.D and hole in the main are the same.



Hole is off-center

Street Tee Threaded into a Welded Coupling

(Coupling ID and hole in the main are the same or hole is off-center)

Remove Street-Tee plug and insert rubber expansion plug into the throat of the Street-Tee to stop the flow of gas.



Expansion plug insertion tool



Expansion plug is secured into throat of tee.



Assembly is removed.



Rubber expansion stopper is inserted into throat of tee and plug is replace.



Expansion stoppers available sizes 1/2"-2"

Street Tee Threaded into a Welded Coupling

(Coupling ID and hole in the main are the same or hole is off-center)

Once expansion stopper is secure in the throat of the tee, completely remove Safe-T-Stopper assembly.

Re-install the malleable plug and tighten the plug. Then loosen the tee to only break the initial seal. (Plug must be tighter than tee)

Cut branch close to the body of tee and re-build ball valve assembly on top of the tee using the base adapter.



Plug tighter than tee



Cut branch.



Base adapter: Half collars that seal around coupling.

Street Tee Threaded into a Welded Coupling

(Coupling ID and hole in the main are the same or hole is off-center)

Remove tee with plug removal adapter.



Plug removal adapter.



Plug removal adapter removes the tee Gas-Free.



Tee removed.

Street Tee Threaded into a Welded Coupling

(Coupling ID and hole in the main are the same or hole is off-center)

After tee removal, tighten plug into coupling using plug insertion adapter. Remove assembly and tighten plug with a pipe wrench to complete the operation.



Plug insertion adapter



Completed operation

Street Tee Threaded into a Welded Coupling

(Coupling ID and hole in the main are the same or hole is off-center)

When performing the tee removal process, the original assembly used a rubber saddle that was fitted on the main. Leaks occurred at the apex of the main between the main and saddle.

Rubber Saddle
(original design)

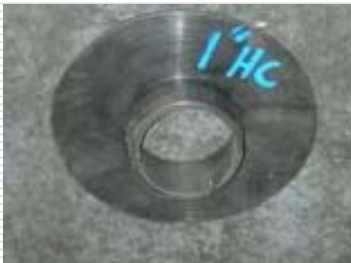


Leak

Street Tee Threaded into a Welded Coupling

(Coupling ID and hole in the main are the same or hole is off-center)

SOLUTION: A custom rubber gasket used with a set of steel half collars for sizes 3/4"-1-1/4", tightened around the coupling to provide the seal. The entire assembly is rigid and held secure by the chains.



Rubber gasket is fitted over tee and placed around coupling.



Half Collars



Hex wrench tightens collar.

Gasket and half collars are fitted around the coupling.

Shown without tee for illustration only.



Contact

For more information about the Safe-T-Stopper and other gas distribution products contact:

Mazco Products & Services Ltd.

32 Adamic Crescent
Leduc, AB
T9E 5H9
780-690-7504

ivan@mazcoproducts.com | www.mazcoproducts.com