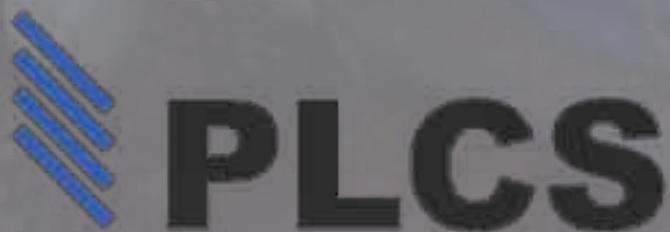


Gas-Free Service Renewal Safe T Stopper



Safe T Stopper Background

Why?

"The American Gas Association (AGA) and its member companies are committed to promoting positive safety cultures among their employees throughout the natural gas distribution industry. All employees, as well as contractors and suppliers providing services to AGA members, are expected to place the highest priority on employee, customer, public, and pipeline safety."



In the early 2000s, many distribution companies introduced new regulations prohibiting pinning off a service tee with a steel pin or wooden dowel.

The mandate leads to the mandatory use of line stoppers, increasing the cost of service renewals and abandonment projects. This is expensive.

SOLUTION: THE SAFE T STOPPER

- Removes operator's exposure to working on live gas while saving money.
- In 2008 – Safe T Stopper introduced Gas the US.
- From 2009 to Present – Worker feedback paved the way for numerous enhancements.
- Gas-Free tools have broadened capabilities for use.
- Today – There are 1000+ tools in the US



Challenges Have Solutions



CHALLENGE		SOLUTION
Many different tees in the ground make repair difficult using standard equipment.	=>	Works on many tees using specialized adapters.
Many old tees do not have an internal stopper to shut down the service branch. Now companies must employ expensive line-stopper procedures to comply.	=>	Stops off open-gut tees in a standard excavation, saving money while enhancing safety.
Increases in pipeline pressures due to population growth cause leaks on outdated service tees that need renewal.	=>	Now, gas operators have a tool in the engineering arsenal to repair thousands of outdated services safely.
Tool implementation can be perceived as expensive rather than an investment in safety.	=>	Many achieve cost savings after one or two tool uses. At the same time, complying with Rule 114 to reduce methane emissions.

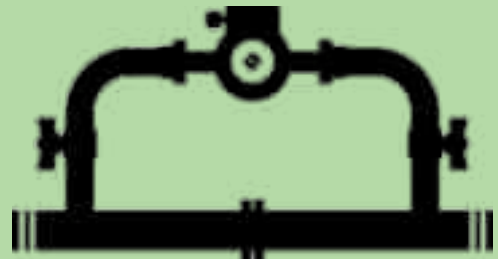
\$avings



Reduces excavation costs by only uncovering the working area.



No wasted service calls from reports of gas odors.



Reduces costs by eliminating bypass procedures.



There is no need for a personal air supply, saving bottled air costs and periodic OQ.

Compatible Tees

1.



$\frac{3}{4}$ "-2" Cap Tees

Welded & On Saddle

2.



$\frac{3}{4}$ "-2" Plug Tee

On a Welded Coupling or
Saddle

3.



$\frac{3}{4}$ "-1 $\frac{1}{4}$ " Elbow Service

On a Welded Coupling or
TOE Nipple

4.



$\frac{3}{4}$ "-1 $\frac{1}{4}$ " Mueller Tees

Missing Completion Plug

5.



$\frac{1}{2}$ "-1 $\frac{1}{4}$ " Punch Tee

On a Saddle

How Does it Work?



First, identify the type of tee, either a cap or a plug tee.

Cap tees are sealed under the cap, and plug tees are sealed around the plug.

How Does it Work?

1. The tool attaches a ball valve on top of the tee. It creates a seal under a cap or around a plug.



Special tools and adapters stop the gas.



2. Remove the cap or plug

3. To Stop the Gas.

A. Insert a rubber stopper below the branch.

B. Tighten a self-tap lug into the main.

Tool Structure



Base Tool



Choose Adapter Tee Packages

$\frac{3}{4}$ " – 2" Pipe Type "Homemade" Tees

$\frac{3}{4}$ " – 1 $\frac{1}{4}$ " Street Tees on a welded coupling / threadolet / saddle

$\frac{3}{4}$ "-1 $\frac{1}{4}$ " Elbow Services

$\frac{3}{4}$ " – 1 $\frac{1}{4}$ " Mueller H 17500 Tees missing completion plug

1-1/4" Flapper Tees.

1/2" – 1 $\frac{1}{4}$ " Continental / Dresser / Mueller Saddle Punch Tees.

Adaptable for custom applications.

Tool Structure



Add any Tee Adapter Kit to the Base Tool

KIT TYPE	KIT #	KIT DESCRIPTION
BASE	54-MSTS S3000BV	STANDARD 3000BV BASE KIT
BASE	54-MSTS3000BV	ENHANCED 3000BV BASE KIT
BASE	54-BASETOOL	ALL WEATHERPROOF CUSTOM CASE AND FOAM
BASE	54-PLCSLUBE	PLCS LUBRICANT
BASE	54-MSTS3000BV-C	3000BV Base Kit w/Cap DD Case
BASE	54-MSTS3000BV-P	3000BV Base Kit w/Plug DD Case
BASE	54-MSTS2500BV	2500BV BASE TOOL KIT
CAP	54-MSTS7501250	¾"-1 ¼" CAP KIT
CAP	54-MSTS10001250	1"-1 ¼" CAP KIT
CAP	54-MSTS7501000	¾"-1" CAP KIT
CAP	54-MSTS150200	1 ½"-2" CAP KIT ADD ON
CAP	54-CAPCASEC	CAP CASE WITH FOAM
PLUG	54-100125STCPK	1" TO 1 ¼" PLUG ADAPTER KIT
PLUG	54-750100STCPK	¾" TO 1" PLUG ADAPTER KIT
PLUG	54-750125STCPK	¾" TO 1 ¼" PLUG ADAPTER KIT
PLUG	54-150200STCPK	1 ½"-2" PLUG ADAPTER ADD-ON
PLUG	54-PLUGCASEC	CUSTOM PLUG KIT CASE
PLUG	54-PDRILL750200	¾"-2" PLUG DRILL ADD-ON KIT
MUELLER	54-MUEL7501250	¾"-1 ¼" MUELLER TEE ADAPTER KIT
MUELLER	54-MUEL1001250	1"-1 ¼" Mueller Tee Adapter Kit
MUELLER	54-ST57520M	STS ¾"-2" KIT MUELL STOP-OFF FOR STEEL
MUELLER	54-MUEL7501000	¾"-1" MUELLER TEE ADAPTER KIT
MUELLER	54-MUELLERCASEC	FOAM/ CASE MUELLER
ELBOW	54-EL10001250B	1" TO 1 ¼" ELBOW ADAPTERS C/W RUBBER PLUGS
ELBOW	54-EL7501250B	¾" TO 1 ¼" ELBOW ADAPTERS C/W RUBBER PLUGS
ELBOW	54-ELBOW7501000	¾" TO 1" ELBOW ADAPTERS C/W RUBBER PLUGS
ELBOW	54-DR7501000	¾"-1" DRESSER ELBOW ADAPTER ADD-ON
ELBOW	54-MF100125	1"-1-1/4" MALE X FEMALE STREET ELBOW REMOVAL ADD-ON
ELBOW	54-MF750125	¾"-1-1/4" MALE X FEMALE STREET ELBOW REMOVAL ADD-ON
ELBOW	54-100180MOD	1" MODIFIED EXPANSION PLUG FOR SAFE T L STOPPER
ELBOW	54-100181MOD	1 ¼" MODIFIED EXPANSION PLUG FOR SAFE T L STOPPER
ELBOW	54-100179MOD	¾" MODIFIED EXPANSION PLUG FOR SAFE T L STOPPER
FLAPPER	54-FLAP1250	1 ¼" FLAPPER TEE ADAPTER PACKAGE
FLAPPER	54-57462	ATMOS CONTR. MID-TX STS KIT
PUNCH	54-PUNCH50100	½"-1" SADDLE PUNCH TEE ADAPTER KIT
PUNCH	54-PUNCH5001250	1/2"-1-1/4" 2500 SADDLE CLAMP ON PUNCH TEE
PUNCH	54-PUNCH5001000	1/2"-1" 2500 SADDLE CLAMP ON PUNCH TEE
PUNCH	54-PUNCH50125	½"-1 ¼" SADDLE PUNCH TEE ADAPTER KIT
PLASTIC	54-PELK125246	1 ¼"-6" PLCS MECH. PE TEE
STOP PLUGS	54-STRPKIT75020	¾"-2" SELF TAP/RUBBER PLUG KIT
STOP PLUGS	54-STRPKIT75012	¾"- 1 ¼" SELF TAP/RUBBER PLUG KIT
STOP PLUGS	54-STRPKIT10001	1"- 1 ¼" SELF TAP/RUBBER PLUG KIT
STOP PLUGS	54-XP5020KT	1/2"-2" Expansion Plug Kit
BASE 125 PSI	54-1253000BV	125PSI SAFE-T-STOP BASE TOOL
CAP 125 PSI	54-7520X125CK	¾"-2IN 125 PSI STS CAP TOOL
CAP 125 PSI	54-125750200	¾"-2 125 PSI STS CAP KIT
PLUG 125 PSI	54-7520X125CPK	¾"-2 125 PSI STS PLUG KIT
MUELLER 125 PSI	54-125M75020	¾"-2 125 MUELLER STS KIT

Pressure Rating



1. Contingent on tee style and configuration

2. Abandonment / Renewal Procedure

- 80 PSI – Most common Homemade / Manufactured Tee with a cap or a plug. A detachable rubber stopper or self-tapping plug stops the gas. The tee is then cut and capped or removed.
- 125 PSI—Special Tool Package: A homemade or manufactured Tee with a cap or a plug.
- 60 PSI - Special Situations:– Street Tees on a Coupling and Bolt-On PE Tees where the tee is removed and replaced with a plug.

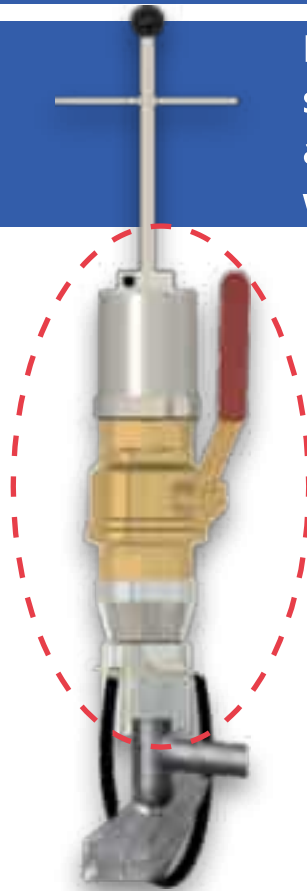
Key Safety Features



Each Housing is equipped with a shaft brake to prevent accidental upward movement when under pressure.



Rigid Modular Base



Enclosed Gas-Free Installation System



Included sight glass to view inside the tee.



Easy to Install Stoppers

Self Tap Plugs

Tighten into a round hole in steel pipe to stop the flow of gas.



24 TPI 4140 Nitride Harden Steel

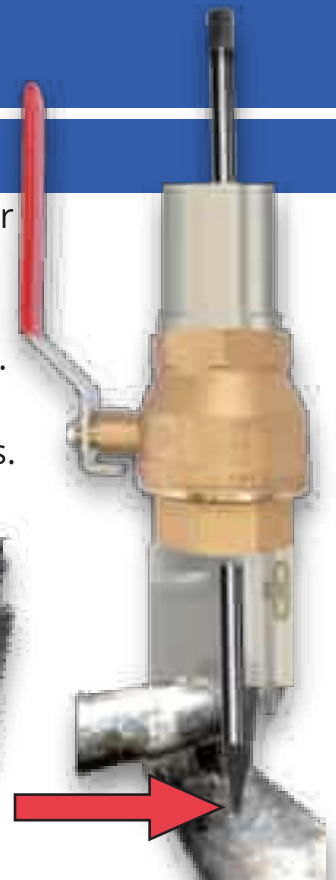
- No tapping required. Plugs cut their own threads.
- Use with the Safe T Stopper for gas-free service tee abandonment.
- Hex head for easy tightening.
- Available in many sizes and lengths.



Tighten into a pipe to plug the hole.



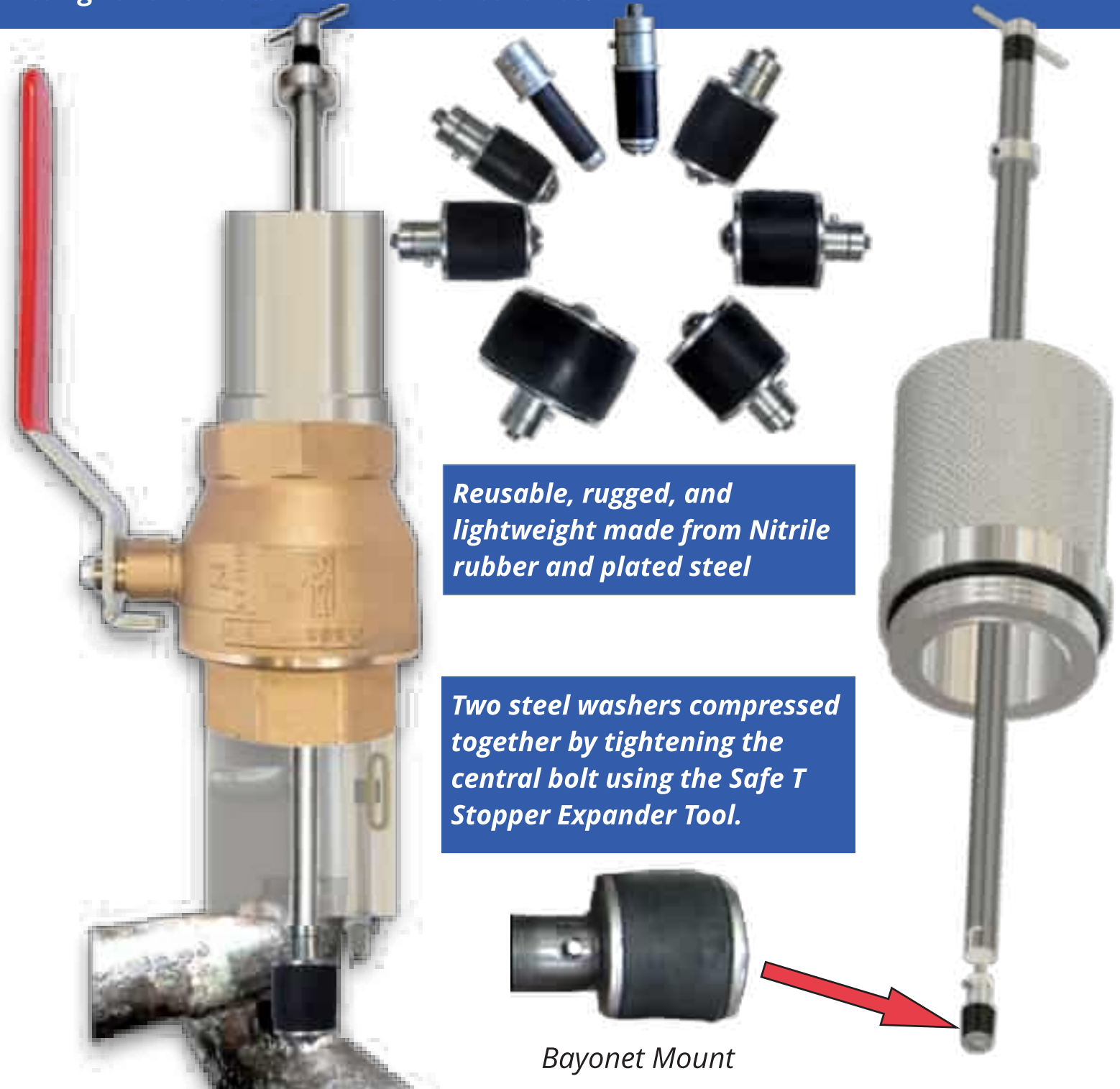
Short plugs available to leave a low profile within the pipe.



Part#	Description	Hex
54-MTP 250375E	SELF TAP PLUG 0.125"-0.375" HEX 1/4", 7/8"L	1/4"
54-MTP375	SELF TAP PLUG 0.250"-0.350" HEX 5/16"	5/16"
54-MTP500375	SELF TAP PLUG 0.125"-0.450" HEX 5/16" (PLUG LENGTH 1.00", POINTED)	5/16"
54-MTP625375	SELF TAP PLUG 0.125"-0.580" HEX 1/2" X 1.69"L, POINTED)	1/2"
54-MTP625750	SELF TAP PLUG.500"-0.710" HEX 1/2" X 1"L	1/2"
54-MTP750875	SELF TAP PLUG 0.625"-0.830" HEX 1/2" X 1"L	1/2"
54-MTP12501000	SELF TAP PLUG 0.850-1.255 HEX 1/2" (LENGTH 1.25")	1/2"
54-MTP11251375	SELF TAP PLG 1.125-1.375 7/8" HEX	7/8"
54-MTP12501500	SELF TAP PLUG 1.250-1.500 7/8" HEX	7/8"

Rubber Expansion Plugs

Specially designed to temporarily seal and stop off metallic or PE pipe remotely for fitting renewal or service line maintenance.

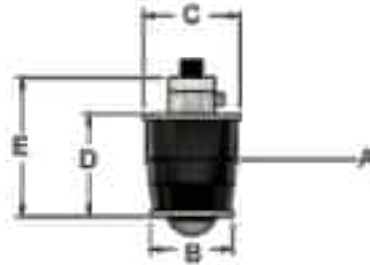
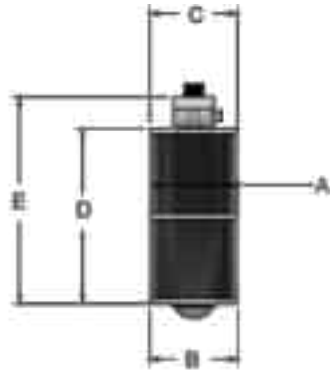


Reusable, rugged, and lightweight made from Nitrile rubber and plated steel

Two steel washers compressed together by tightening the central bolt using the Safe T Stopper Expander Tool.

Bayonet Mount

Rubber Expansion Plugs



Material: Plated Steel & Nitrile Rubber			B	C	Dimensions (in)		E	D	A	A
Part#	Size	Wt.	Min Washer	Max Washer	Min Pipe ID	Max Pipe ID	Plug Length	Rubber Length	Rubber Min Dia.	Rubber Max Dia.
54-1000185-10	1/2" CTS	0.10	0.25	0.300	0.439	0.550	1.750	1.130	0.594	0.781
54-100178-10	1/2" IPS	0.10	0.375	0.438	0.594	0.622	1.750	1.130	0.594	0.781
54-100179-10	3/4" IPS	0.10	0.625	0.740	0.813	0.824	1.750	1.130	0.813	1.130
54-100179-10S	3/4" CTS	0.10	0.500	0.718	0.685	0.742	1.750	1.130	0.685	1.000
54-100180-10	1" IPS	0.10	0.781	0.875	0.875	1.049	1.750	1.130	0.875	1.250
54-100179-10	1" CTS	0.10	0.781	0.875	0.750	1.000	1.750	1.130	0.719	1.000
54-100181-10	1 1/4" IPS	0.20	1.031	1.125	1.130	1.380	1.875	1.188	1.130	1.440
54-100181-10S	1 1/4" CTS	0.20	1.125	1.281	1.281	1.380	1.875	1.188	1.130	1.440
54-100182-10	1 1/2" IPS	0.30	1.375	1.375	1.380	1.610	1.810	1.188	1.380	1.750
54-100183-10	2" IPS	0.30	1.820	1.910	1.940	2.067	1.880	1.188	1.940	2.310
54-100179-50	3/4"	0.13	0.625	0.740	0.813	0.824	2.500	2.063	0.813	0.824
54-100180DL	1" CTS	0.13	0.781	0.875	0.750	1.000	2.500	2.063	0.719	1.000
54-100181DL	1" IPS	0.13	1.031	1.031	0.875	1.029	2.500	2.219	0.875	1.250
54-100181-50	1 1/4" IPS	0.25	1.281	1.281	1.281	1.360	2.625	2.375	1.250	1.360
54-100182-50	1 1/2" IPS	0.38	1.375	1.375	1.375	1.590	2.625	2.375	1.375	1.590
54-100184DL	2" IPS	0.38	1.820	1.820	1.820	2.047	2.625	2.375	1.750	2.047

Tapered Weld Plugs



Steel weld plugs to permanently seal off gas services or pipe ends.

Quickly abandon pipe ends.

Weld into place in minutes.

Perfect for service cut offs.



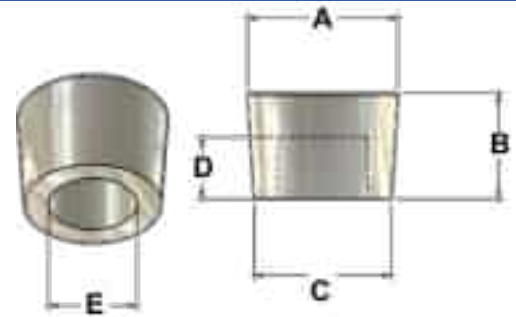
Insert into opening.



Knock into place.



Weld around edges to seal pipe.



PART#	DESCRIPTION	A	B	C	D	E	MATERIAL	STD PIPE ID
54-MSTS 1012A	3/4" SCH 40 WELD PLUG	0.875	0.750	0.750	0.439	0.625	1018 STEEL	0.824
54-MSTS 1013A	3/4" SCH 80 WELD PLUG	0.750	0.750	0.688	0.439	0.500	1018 STEEL	0.742
54-MSTS 1012B	1" SCH 40 WELD PLUG	1.063	0.750	0.971	0.439	0.625	1018 STEEL	1.049
54-MSTS 1013B	1" SCH 80 WELD PLUG	1.000	0.750	0.875	0.439	0.688	1018 STEEL	0.957
54-MSTS 1012C	1 1/4" SCH 40 WELD PLUG	1.438	0.750	1.375	0.439	0.688	1018 STEEL	1.380
54-MSTS 1013C	1 1/4" SCH 80 WELD PLUG	1.313	0.750	1.188	0.439	0.688	1018 STEEL	1.278
54-MSTS 1013D	1 1/2" SCH 40 WELD PLUG	1.625	0.750	1.500	0.439	1.250	1018 STEEL	1.610
54-MSTS 1012D	1 1/2" SCH 80 WELD PLUG	1.563	0.750	1.438	0.439	1.125	1018 STEEL	1.500
54-MSTS 1012E	2" SCH 40 WELD PLUG	2.125	0.750	1.938	0.439	1.875	1018 STEEL	2.067
54-MSTS 1013E	2" SCH 80 WELD PLUG	2.375	0.750	1.875	0.439	1.750	1018 STEEL	1.939

Over 800+ tools in use all over the USA today and growing

Ameren	New Mexico Gas Company
Atmos Energy	North Shore Gas
Benton-Georgia	North WestEnergy
Black Hills Energy	Northern Pipeline Construction
Border States Electric	Northwestern Energy
Centerpoint Energy	Ohio Valley Gas
Citizen Energy	Onegas- Texas Gas Service
Columbia Gas (Nisource)	Pacific Gas & Electric
Consolidated Edison	Public Service Electric & Gas
Dominion Energy	Q3 Contracting
Driver Pipeline Co - Corp	Ritter Plumbing
Eversource	Ronald Cline Trenching
Hawkeye Construction	SJ Industries - Elizabethtown Gas
HIS Pipeline	Southern Pipeline Construction
Infrasource	Spire
KS Energy Service	Summit Utilities
Liberty Utilities	Superior Light
Liberty Utilities MidstatesMo	Tom Loftin Construction Co.
LM Endeavor LLC	Vectren / Centerpoint
Madison Gas & Electric	Waker Plumbing
Meade Electric	Washington Gas
Miller Pipeline	Wayne Holden & Company
MJ Sheridan Of Texas	We Energies
Montana-Dakota Utilities Co	Wichita Construction Inc.
MP Nexlevel LLC	Xcel Energy
National Grid	
New Jersey Natural Gas Co.	



3/4-2" Cap Tee Tool Package



Seals Under Cap



Removes Cap Gas-Free



View Inside Tee

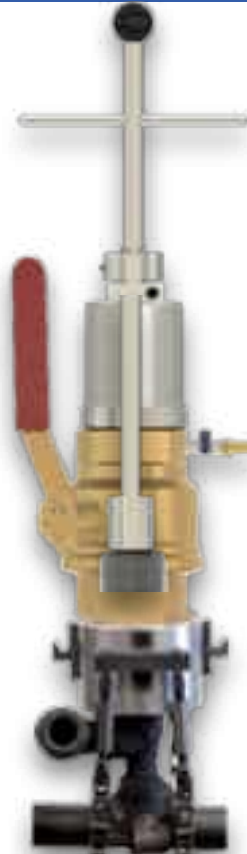


Stop Gas with a Rubber Plug or Steel Self Tap Plug





3/4"-2" Plug Tee Tool Package



1. Disc with O-ring Seals, Around the Plug

2. Install Base and Ball Valve

3. Remove Plug

4. View Inside Tee



Stop Gas with a Rubber Plug or Self Tap Plug



H17500 Mueller Tee Tool Package



3/4"-1 1/4" Old Mueller Tees
Missing the Completion Plug



Seals Under Cap

Special Four Slot Cap
Removal Adapter

View Inside Tee



Install or Remove
Completion Plugs

Optional Threaded Adapter when
Completion Plug is in the Tee.

Stop Gas with a Rubber
Plug or Steel Self Tap Plug

3/4"-1 1/4" Elbow Service Tool Package

Removes troublesome elbow swing services within 30 minutes



- Simple clamp-on assembly.
- No blowing gas, keeping workers safe.
- No need for expensive by-pass operations.
- Compact, only need a standard excavation.
- 60 psi rating.



OPERATION

1. Drill through the backside of the elbow.
2. Insert rubber stopper into nipple or elbow to stop the flow of gas.
3. Abandon service.

Abandons these fitting configurations.



1. Elbow on TOE Nipple

2. Street Elbow on a TOE Nipple

3. Street Elbow on a Coupling

KIT Description (add Base Tool)	Part #
3/4" to 1 1/4" Elbow Adapters c/w rubber plugs	54-EL7501250B
1" to 1 1/4" Elbow Adapters c/w rubber plugs	54-EL10001250B
3/4"-1" Dresser Elbow Adapter Add-On	54-DR7501000
3/4"-1-1/4" Male x Female Street Elbow Removal Add-On	54-MF750125
1"-1-1/4" Male x Female Street Elbow Removal Add-On	54-MF100125



Tool assembled on elbow.

Clamp-on housing provides seal and rock steady base.



Top view: Hole drilled and rubber plug inserted to stop the flow of gas.

Flapper Tee Tool Package



The Flapper Tee has a unique rubber flap that acts as a valve and prevents gas from escaping when the cap is removed.

To stop the gas flow to the branch, the Flapper Disc Assembly must be taken out, allowing for a rubber stopper or self-tapping plug to be inserted for abandonment.

This process is similar to a standard Cap Tee but uses a Flapper Slide-Hammer Extractor to remove the metal disc at the top of the tee



Flapper Jaw Puller removes the disc.





1/2"-1 1/4" Punch Tee on a Saddle Tool



PROBLEM: Since the tee is on a Saddle, running the tapper down will not stop the gas.

SOLUTION: Special Punch Tee Adapter Removes Tapper. Then a Self Tap Plug is installed into the main. Stopping the gas to remove the tee.



Punch Removal Tool



Bolt-On PE Tee Abandonment

A gas-free tool to abandon leaking Mechanical PE Service Tees operating at a maximum of 60 psi on 1-1/4"-6" main without squeeze off procedures.



- Removes tee safely and Gas-Free.
- No squeeze-off.
- Sturdy lightweight construction.
- Fast and easy to install.
- Minimal training.
- Includes a safety clamp to ensure the tee is always held securely on the main during operation.



Operation



1. Install Safety Clamp



2. Install Adapter.



3. Remove Cutter.



4. Remove Sleeve.



5. Insert Plug.



6. Plug is in the main.



7. Operation Complete

125 PSI Tool Package

Gas-Free open-gut service tee renewal or abandonment at 125 psi.

The tool secures a ball valve on the tee as the control point using a turnbuckle-style chain fastening system and unique sealing mechanism. Added safety specialized attachments and controlled feed remove the plug and stop the gas using either a rubber stopper or a unique screw-in plug. Now the tee is safely "cut and capped" or renewed without gas release.

Safely move away from blowing gas repair methods and save the costs of line stopper procedures at elevated pressures



Key Safety Features



Controlled tool feed.



Rock steady chain base.



Easy install stopper system.



J-Loop Collars offers added security.

Works on these tees without an internal stopper.



3/4-2" Cap Tees



3/4-2" Plug Tees



3/4-1 1/4" Old Mueller Tees

Field Photos



Field Photos



Field Photos



Field Photos



Summary

Gas-Free tools provide a safer work environment.

The technology available accommodates tee and fitting variation using semi-standard equipment while employing an efficient operation.

Service projects do not require expensive stopple and by-pass procedures.

Reduces excavation cost.

No blowing gas saves on service calls for gas odors and maintains good public relations with the public.

Cost savings on bottled air and the time it takes to suit up.

Reduces methane emissions.





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