

Keyhole Technology

PROCESS DESIGN

All Tellus procedures and tooling have been designed and developed to employ innovative methods and specialized equipment for the performance of standard maintenance processes through core cut openings (18" diameter) in the road surface or pavement.

PROCESS INTEGRITY

A high level of process integrity can only be achieved through analysis and understanding the failure modes and hazards that may exist. Tellus Underground Technology works closely with the LDC's and their contractors to develop standard operating procedures and tool sets that are designed to address and resolve those unexpected situations in which events do not progress as expected.

OPERATING COST SAVINGS

When the costs of "Keyhole" procedures are compared to conventional methods operating costs are significantly reduced. The elimination of street restoration costs along with labor cost savings have resulted in operating cost reductions of as much as 50%.

Service Retirement (Cast Iron System)



The process known to the gas distribution industry as "Service retirement" or "Service abandonment" for low- pressure (up to 10 PSIG systems) is a process that is performed on a cast iron gas distribution main. In these systems the service tees are threaded directly in the top or side of the main. Tellus has designed this procedure to be performed by two gas mechanics working in tandem to remove the service tee, plug the main and cap off the service line that remains in the ground.

This procedure is almost always performed on services that have been in the ground for more than 75 years and in many cases corrosion will result in a situation in which it can be difficult to remove the service without breaking-off the tee or rounding the square pad on the tee plug. When either of these problems occur the possibility of operating hazards and blowing gas incidents expand dramatically.

While we cannot completely eliminate the possibility of these events, Tellus has designed tooling that will drastically reduce the occurrence of broken tees and stripped plugs. In addition the Tellus procedure has been designed to address the broken tee events by giving the operators the ability to complete the process without the hazards of blowing gas and all problems that can result from these unforeseen events. If the service tee breaks the operator simply inserts a special stopper in the remainder of the tee and then removes the broken part of the tee from the main with a specially designed stub removal tool.



Service Retirement (Cast Iron System)

For operating pressures up to 10 PSIG

Tooling Description and

The keyhole tooling utilized to remove a gas service from a cast iron main includes a socket to remove the threaded plug from the service tee, a stopper to cut-off the flow of gas thru the service tee, a “milk bottle” socket to remove the service tee from the main and a pipe plug socket to assemble a pipe plug into the main after the service tee has been removed. All of these tools are driven by a 6 foot long, 3/4” square drive tee handle wrench and a 1/4” hex drive extension to facilitate easy access into the “keyhole” excavation. The locking drives provide a precise and solid connection for each tool while eliminating the possibility of dropping the tools into the “keyhole” excavation.

This procedure also requires a pneumatic reciprocating saw to cut the service line and a chamfering tool to prepare the service line for the assembly of a plastic stopper into the retired service.



All Tellus processes are supported by a flow chart and a step by step operating procedure. Just as in any scientific or medical procedure each step must be performed exactly as designed and in the prescribed sequence to achieve repeatable and successful results. When well-designed tools are utilized in a thoughtfully-designed procedure the operating gas mechanics can always expect professional results.

Tool Requirements

Tool Description

3/4” locking square drive extension (6 ft. length)
Tee handle, 3/4” drive
Pneumatic extension saw, 3/4” to 2” (6 ft. length)
1/4” hex drive w/remote release, (6 ft. length)
3/4” service tee retirement tool set
1” service tee retirement tool set
1 1/4” service tee retirement tool set
1 1/2” service tee retirement tool set
2” service tee retirement tool set

Additional optional tooling:

Keyhole ratchet (for limited swing space)
90 degree tee stoppers

Tellus P/N

GTN-1006
GTN-1005
GTN-1010
HEX-1011
SAS-1351
SAS-1352
SAS-1353
SAS-1354
SAS-1355

SERVICES AVAILABLE

Technical Support
Setup and Training
Tool Maintenance Support
Procedure Mapping
Special Application Design

200 Hester Street
P.O. Box 157
Portland, PA 18351
Phone 570.234.0325
Fax 570.245.0026

TECHNICAL SUPPORT

We work with your operating crews and contractors to insure that they fully understand every detail of the keyhole process. We also work with your technicians and procurement staff to insure that all of your operating standards are fully satisfied.

SUPERIOR QUALITY

Tellus tools are professional quality tools designed for use by utility professionals. These tools are designed to exceed all of the demands of the underground gas distribution industry.

STATE OF THE ART TECHNOLOGY

The Tellus organization is constantly and consistently engaged in R&D and product development efforts. We are also in constant contact with gas utility industry equipment and hardware suppliers to insure that the latest developments will be applied to all new procedures and keyhole devices.

For more information on any of our products or services please visit us on the Web at:

www.tellusunderground.com