

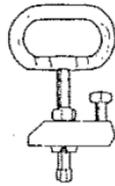
SAFE REMOVAL OF GATIC® MANHOLE COVERS

The following information is provided as a guide for the safe removal of GATIC® covers.

Please contact your GATIC representative for additional information if required.

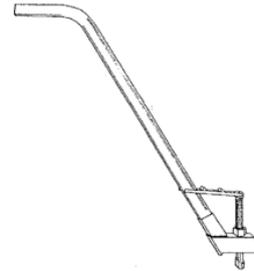
All GATIC® covers are provided with key holes for the location of lifting keys. These procedures apply to:

The short handle standard key



*SHORT HANDLE
STANDARD KEY 742*

The long-handle lifting key

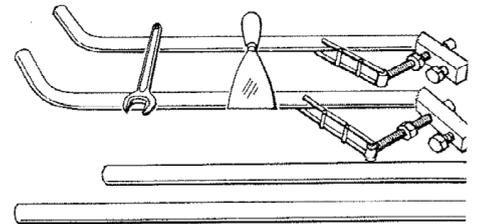


*LONG HANDLE
STANDARD KEY 740*

A keypack kit bag is available for convenient storage of equipment used for removing GATIC® covers.

This comprises:

- Two long-handle lifting keys.
- A spanner.
- A length of 25mm diameter steel piping.
- A scraper.
- A canvas bag for carrying and storage of the above items.



KEYPACK BAG AND CONTENTS 740-B

Removal Procedure Using the Long-Handle Lifting Keys

You will need the following equipment:

- A pair of GATIC® long-handle lifting keys.
- A shifting spanner or adjustable spanner.
- One or two lengths of 25 mm diameter (approximately) water pipe at least 150mm longer than the width of the cover to be removed.
- A screwdriver, brush, paint scraper and a tin of GATIC® manhole sealing compound.

For your safety, steel capped safety shoes **MUST** be worn.

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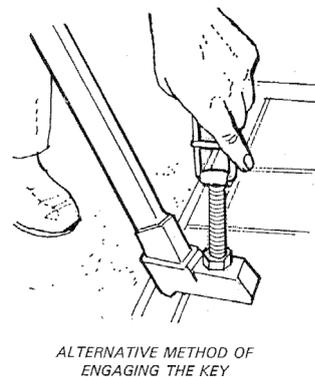
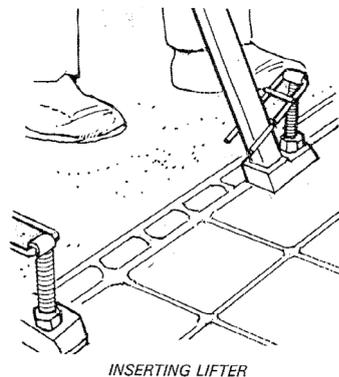
Removal Procedure

1. Prise out the plastic keyhole plugs and remove all dirt to enable the key to engage properly. Brush away any loose soil from the working area to allow the cover to be easily moved away from the pit opening. Also ensure that the sides around the cover are level and free of gravel so that the pipe used for rolling the cover clear of the pit can move freely.
2. Before lifting the cover, the seal must first be broken. This can be done using the jacking screw of the short-handle standard key (Product No. 742). (See "BREAKING THE SEAL OF HARD-TO-LIFT COVERS).

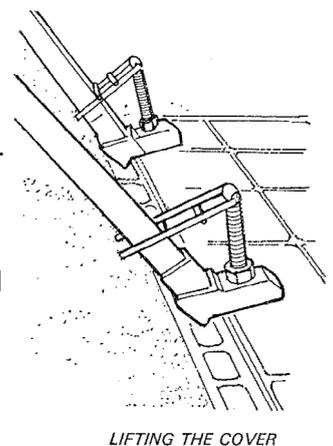
Alternatively, if fitted, the jacking screw of the long-handle lifting key may be used. The long-handle lifting key may be damaged if used as a lever to break the seal of a cover.

3. Insert the long-handle lifting keys as shown in the diagram. Note the position of the keys relative to the cover and note the height of the nut. Drop each key into the keyhole slot and turn the lifter handle back towards you a quarter turn.

Clip the latch back onto the handle. This ensures that the key is correctly located in the keyhole slot and will not slip out. Alternatively, the latch may be unclipped and turned to insert the key into the keyhole slot; when the key is engaged, turn the latch back and clip it to the handle (see diagram below).

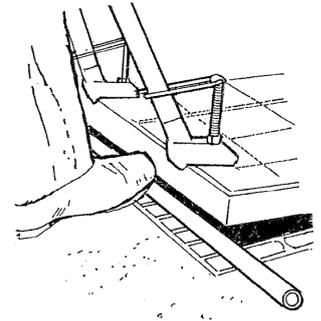


4. Lean back on the handles and the cover will lift approximately 10mm. With a little practice you will find the right amount of slack between the nut and handle to allow rapid key engagement and good lifting leverage. Note that the latch must always be clipped back onto the handle as mentioned above.
5. Position a length of pipe behind the cover as shown in the diagram WITH A STRAIGHT BACK AND KNEES BENT, lift the cover sufficiently to allow the introduction of the pipe.



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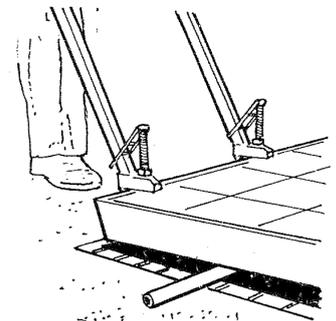
- With one foot, gently kick the pipe under the cover to just short of the middle of the cover, (see diagram). Safety footwear **MUST** be worn for this task.



POSITIONING THE PIPE

- Lower the cover onto the pipe and roll it back towards you clear of the edge of the pit, (see diagram).

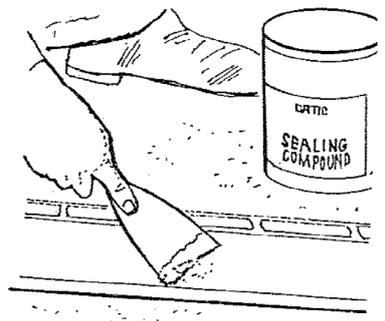
With the repeated introduction of a second pipe, the cover can be moved away to one side of the pit.



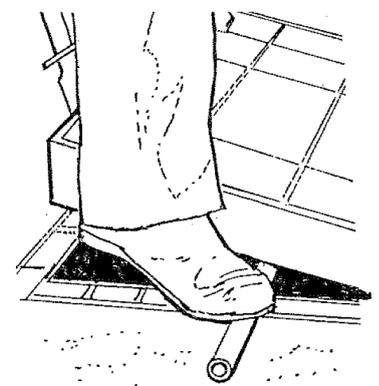
WITHDRAWING THE COVER

Replacement Procedure

- Scrape any loose dirt or old grease from the seating surfaces and wire brush them clean.
- Using the paint scraper, liberally coat the cleaned surfaces of the frame with GATIC® manhole sealing compound. This compound has been formulated with a high melting point to withstand extreme temperature. The compound also contains corrosion inhibitors that give maximum protection to the sealing surfaces.
- Replace the cover by rolling it forward and tilting it downwards so that the cover contacts the frame
- Keeping your foot away from the pit edge, step over the handle and roll the pipe away with your foot.
- Lower the cover onto its seating. It may be necessary to lift and drop the cover to force the sealing compound along the seating surfaces.
- Remove the lifting keys and replace the plastic keyhole plugs.



CLEANING COVER AND FRAME



REMOVING THE PIPE

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Break the Seal of Hard-to-Lift Covers

Covers that do not respond to levering on the lifting handle can often be dislodged by tightening the nut on the key screw, (see sketch below). The foot of the lifter acts as a bridge for the screw. Tightening the nut jacks the cover from the frame.

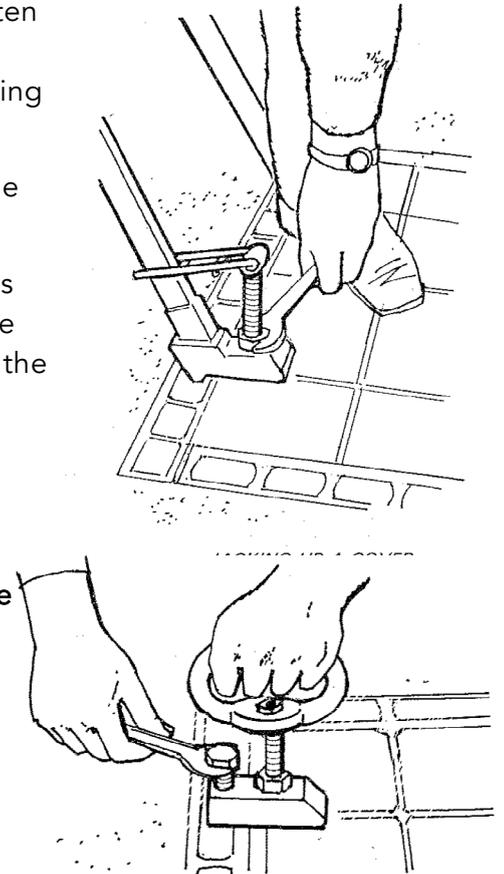
A frozen cover can often be opened by applying jacking force to the cover and hitting the cover around its edge with a heavy hammer.

Occasionally, covers are so badly corroded that the seating surfaces have knitted together. These covers are best dealt with by using the GATIC® short-handle keys (which have an extra jacking screw) and the below method. .

1. Soak the joint well with Penetrene or light oil for one day, or several days if possible.

Insert the key in the cover keyhole and turn the handle a quarter turn until it locks. **The handle must be parallel with the axis of the base of the key to ensure positive 90° location in the GATIC® cover keyhole.**

2. Run the nut down the handle thread and nip it tight onto the base of the short-handle key. Ensure that the jacking screw is over the GATIC® cover frame.
3. Screw down the jacking screw to apply a lifting force on the cover. In addition, it is often necessary to hit the cover near the joint with a heavy hammer to shock fracture the bond.



When the seal has been broken, the cover **MUST** be removed with the long-handle keys following the procedure for long handle keys.

NOTE:

The short-handle keys are only intended for use when breaking the seal on hard-to-lift covers. Serious injury may result if they are used instead of the long-handle keys to remove the cover from the frame.

The short-handle keys are also not designed for use with slings attached to mechanical equipment such as forklift trucks or excavators. Such misuse is expressly prohibited by the manufacturer.

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ADDITIONAL SAFETY CONSIDERATIONS

Falls from Height

The risk of a person falling into a pit or shaft must be considered at the job planning stage. Portable safety railing should be installed around the opening to prevent accidental falls.

If access into the pit or shaft is required, safe entry and egress must be considered. Preferably, permanent ladder rungs, conforming to relevant construction standards, should be installed in the shaft.

Work sites should be barricaded and signs placed to keep people not associated with the task away from the area. This is particularly important if the open pit or shaft is in an area accessible to the public.

The GATIC® cover must be replaced overnight if the job remains unfinished or if the site is left unattended.

Confined Spaces

A proper assessment of the hazards posed by confined spaces must be carried out by qualified and experienced personnel prior to entry into a pit or shaft. Some of the hazards to which those entering a confined space may be exposed include:

- Low oxygen levels leading to asphyxiation.
- The presence of asphyxiating or toxic vapours or gases.
- Elevated levels of flammable vapours or gases.
- Contact with live electrical wiring or operating mechanical equipment.
- Drowning due to flash flooding in storm water drains.
- Engulfment from entry into silos or storage vessels containing grain or powdered materials.

It should be noted that low oxygen levels cannot be detected by the sense of smell. Low oxygen levels can occur due to the natural breakdown of organic materials or even through the slow oxidation (rusting) of iron and steel.

Biological hazards

GATIC® covers may be used over sewerage systems. Those personnel entering pits on such systems should ensure that advice is obtained on any likely biological hazards and take appropriate precautions to prevent infection. This may include the use of eye, skin and respiratory personal protective equipment.

DISCLAIMER

The information contained in this publication on the safe removal of GATIC® covers is provided in good faith.

It is accurate to the best of our knowledge but as the manufacturer or supplier cannot exercise control over the use of the product, they accept no responsibility for any damage, injury or loss which may result from its use.