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## Calderprep Patch Scraping Tool 150x200mm / 250x280mm


Model: 01-18-002

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### Operating Instructions

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REVISION: 01



# Helping you make the right connections.

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# 01. Introduction

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## General Description

The pipe preparation tool is designed to provide a fusible surface on any polyethylene pipe material (new, weathered or previously installed). In accordance with Gas Industry Standards GIS/PL2-5 Part 5 Electrofusion Ancillary Tools.

**The unit has rotating pre-set spring tension load indicator that is used to apply the correct load to the cutting tip around the whole pipe.**

This product (Calderprep Patch Scraping Tool) has been manufactured, inspected and tested in accordance with the ISO9001 quality control systems and procedures in place at Caldervale Technology Ltd, Dewsbury.



## Important!

This tool should be used in accordance with the pipe manufacturers' recommendations and in line with local codes of practice.

This manual outlines the operation of the pipe scraping tool for PE pipe and forms a part of the product to which it relates. It should be kept for the life of the product. Any amendments issued by Caldervale Technology Ltd should be incorporated in the text. The manual should be passed to any subsequent holder or user of this product.

## Before Using

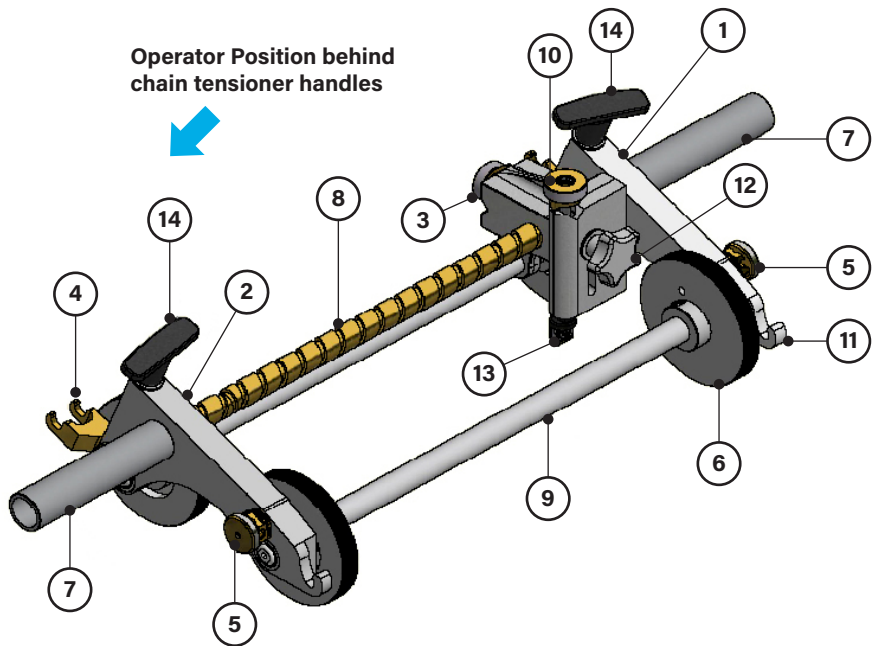
1. It is important to ensure all component parts are present and in serviceable condition.
2. The condition of the roller chains should be inspected thoroughly prior to use.
3. Correct safety clothing including gloves and eye protection should be worn when operating this tool.

## 02. Safety Instructions

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1. Read and understand the whole booklet before using the tool.
2. Never attempt to operate on pipes that are not within the specified dimensions.
3. It is imperative that all possible precautions are made to avoid unexpected pipe movement when the tool is in use.
4. The tool tip holder spring tension is factory set and **MUST NOT** be tampered without adequate training or instruction.
5. Operatives should wear eye protection, gloves, safety headwear & footwear when using the equipment.
6. A single scrape / pass cannot be guaranteed to provide 100% preparation, where this is required users are advised to consider making 2 scrapes.
7. The dimensions of the scraping area can be either 150mm or 250mm around the circumference of the pipe and can be 280mm max in length. Follow the instructions carefully in order to correctly scrape the pipe.

## 03. Operation



### Instructions for Use



**IMPORTANT!** If the pipe has been coiled then it may be oval. If this is the case, a re-rounding tool will have to be used first, to make the pipe circular prior to welding.

1. Following the approved procedure mark on the pipe the area where the window/patch is to be scraped for the saddle fitting to be positioned.
2. Lift the cutting tip clear of the pipe by unscrewing the tool post hand wheel (12) and raising the tool post to its uppermost position.
3. Identify the 4 axle control thumbwheels (5) 2 per axle. Each housing block has a deep groove marked Lock and 2 shallower grooves 1 marked 150mm Stroke and the other 250mm Stroke.

4. Set all of the control thumbwheels to the "Lock" position, rotate both axles (9) until the spring-loaded control thumbwheel pins engage and the wheels (6) should now be locked in the mid scrape position.
5. Place the tool on top of the pipe ensuring that the area to be scraped is between the sides (1) and (2) of the tool and over middle the area to be scraped.
6. Attach the 2 chains onto the fixed hooks (11) on the scraper body passing the free ends beneath the pipe and hook onto the chain tensioner hooks (4).
7. Looking from the operator position (behind the chain tensioner T Screws) the tool post carriage must be positioned to the left, this is achieved by pulling and turning the horizontal V point thumbscrew (3) by a ¼ turn until it sits above its drive indent position. This disengages the drive mechanism and allows the tool carriage to travel freely along the helical feed screw.
8. Ensure the tool scraping tip is over the midpoint and to the left hand side of the marked area to be scraped.
9. Secure the tool by tightening both chain tensioner T Screws (14) until the tool is firmly fixed to the pipe.
10. Test for free rotation of the tool by holding the handles (7) to rotate the tool in a partial arc around the pipe by taking the 4 control thumb wheels (5) out of the lock position and place them into the 150mm position or the 250mm position as necessary. The wheels are now free to rotate either side of the lock point, allowing the tool to move in an arc on the pipe.
11. Move the tool forwards and backwards to find the stops and to ensure free movement, further adjustment of the chain tensioner T Screws (14) may be required if the tool slips or binds, the correct tension is achieved when the tool runs free of excessive slippage or tightness.
12. When rotational movement is satisfactory the tool post carriage should be returned fully to the left. When the tool post carriage has been positioned at the leftmost point of the helical drive screw, the drive mechanism can be re engaged by an additional ¼ turn of the horizontal V thumbscrew (3) until the V is back in the V indent.

13. To set the tool into the scraping mode rotate the vertical V thumb screw (10) at the top of the tool post by  $\frac{1}{4}$  of a turn until the V point is out of the V indent.
14. Release the tool post carriage hand wheel (12) and reposition the carriage so the cutting tip (13) approximately 1.0mm above the pipe, re tighten the hand wheel, finally rotate the vertical V thumb screw (10) by a further  $\frac{1}{4}$  turn until the V is back in the indent and the cutting tip spring tension is released, pushing the cutting tip (13) onto the pipe.
15. The scraping action is performed by pushing the tool forward in an arc relative to the pipe until the forward stop point is reached, to action the automatic feed the operator should roll his wrists in an anticlockwise direction, on the forward stroke (the tool will travel approximately 75mm relative to the pipe,) and then pull the tool in the reverse direction until the back stop point is reached, again the operator should roll their wrists in the opposite (clockwise direction,) it is important that the forward and rear stop position is reached on each stroke to produce a rectangular box shaped scraped area with clearly defined straight edges, and the cutting tip will have traversed approximately 4.0mm along the helical drive screw.
16. The forward and backward motion and the rolling of the operators' wrists should be continued until the cutting tip carriage has travelled the length of the helical feed screw (8) and a scraped area has been produced on the pipe.

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**NOTE: It is important that the electrofusion service fittings are always stored in their protective plastic bags.**

## Removal

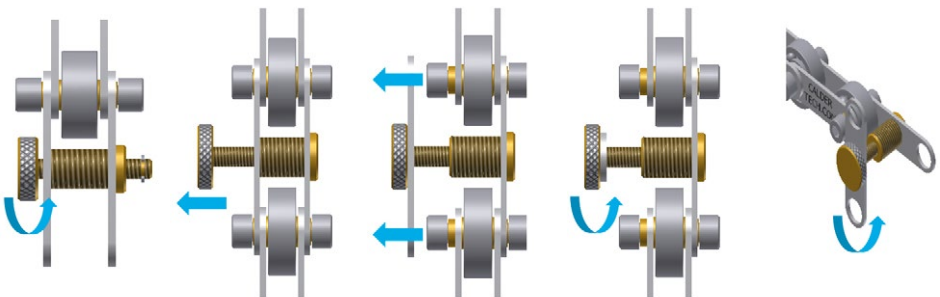
1. When the scrape is completed, firstly the cutting tip should be raised away from the pipe the tip should be removed from the pipe by rotating the vertical V thumbscrew (10) at the top of the tool post by  $\frac{1}{4}$  of a turn until the V is clear of the V indent.
2. Loosen the tool post carriage hand wheel (12) and raise the tool post clear of the pipe and then re tighten.
3. Disengage the drive mechanism by  $\frac{1}{4}$  turning the horizontal V thumbscrew (3) and returning the tool post carriage to the left.



4. Loosen the chain tensioning tee bar screws (14), release the chain and lift the tool clear of the pipe, ensuring that no part of the chain or any other part of the tool comes into contact with the scraped area.

### Joining Lengths of Chain to the Patch Scraping Tool

The chains of the patch scraping tool can be attached together to allow the chains to be quickly and easily be made longer to allow larger diameter pipes to be scraped. The procedure for connecting lengths of chain together is shown below.



**Fig. 1**

Rotate the thumb screw anticlockwise to its full extent.

**Fig. 2**

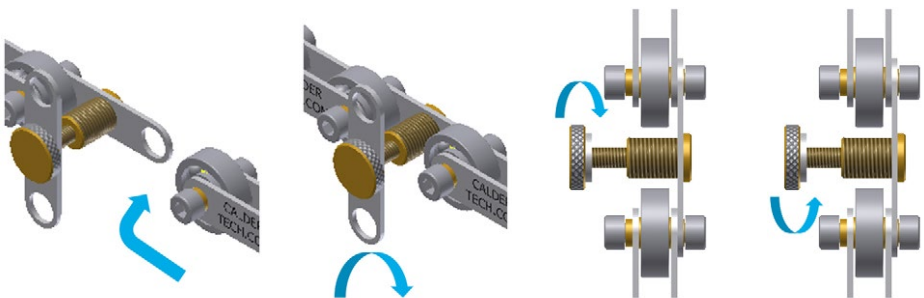
Slide the side link across to meet the thumb screw.

**Fig. 3**

Rotate the side link through 90 degrees.

**Fig. 4**

**Fig. 5**



**Fig. 6**

Take the length of chain to be attached and place the head of the screw into the hole of the opposite link.

**Fig. 7**

**Fig. 8**

Rotate the thumb screw anticlockwise to its full extent.

**Fig. 9**

Twist the other link back through 90 degrees and slide over the two screw heads on the chain.

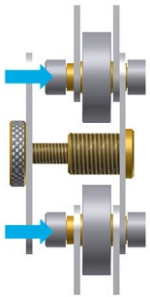


Fig. 10

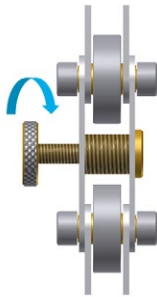


Fig. 11

Rotate the thumb screw clockwise back the start position.

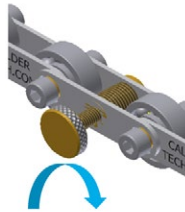


Fig. 12

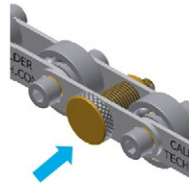


Fig. 13

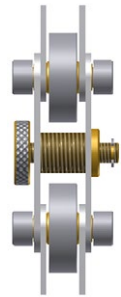


Fig. 14

The side link is now retained and the extension chain is attached.

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**To remove the extension chain simply reverse the procedure.**

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### Storage

#### **IMPORTANT! When not in use always:**

1. Ensure it is clean and dry before storage.
2. Store the tool in its tool box.
3. Ensure the tool tip tension is released (thumb nut (10) sat down).

### Routine Maintenance

1. Check for correct movement and operation and lubricate moving parts at regular intervals before using.
2. It is important to ensure all component parts are present and in serviceable condition.
3. In addition, the condition of the cutting / peeling tip should be checked for damage or excessive wearing.

The cutter tip can be replaced (see Parts page).

## 04. Specifications

<b>Materials:</b>	Mild Steel EN3A / Stainless Steel / Aluminium / Brass / Tungsten Carbide
<b>Finish:</b>	Natural / Zinc passivate to mild steel
<b>Dimensions:</b>	L. 650mm x W. 200mm x H. 290mm
<b>Weight:</b>	4kg (excluding tool box)
<b>Depth of cut:</b>	0.2-0.3mm
<b>Pipe Range:</b>	75-800mm (with chains)
<b>SDR:</b>	All SDR Ratings
<b>Dimensions:</b>	250x280mm and 150x200mm
<b>Feed:</b>	4mm/stroke
<b>Area of scrape:</b>	30cms <sup>2</sup> and 70cms <sup>2</sup>
<b>Product Code:</b>	01-18-002

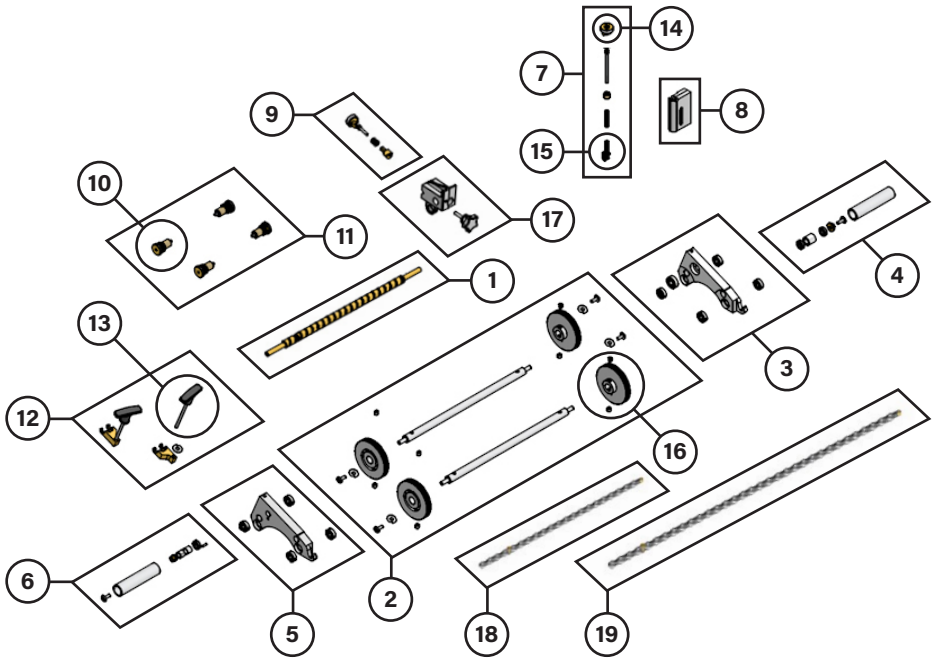
**Note:** Specifications are exclusive of chains.

This unit is design and manufactured to meet the requirements of National Grid Gas Industry Standards GIS/PL2-5 Part 5 Electrofusion ancillary tooling.

Caldervale Technology Ltd has a policy of continuous improvement in product quality and design. Caldervale Technology Ltd therefore reserves the right to change the specification of its models at any time, without prior notice.

**It is the responsibility of the operator to ensure that the PE pipe is suitable for this clamping system if in doubt contact the PE pipe manufacturer for confirmation.**

## 05. Parts Diagram



Part	Product Code	Description
1	TBC	Feed Screw
2	TBC	Single Axel Repair Kit
3	TBC	L/H Body Repair Kit
4	TBC	L/H Handle Repair Kit
5	TBC	R/H Body Repair Kit
6	TBC	R/H Handle Repair Kit
7	TBC	Blade Repair Kit
8	TBC	Tool Tip Cartridge
9	TBC	Tool Carriage Quick Release Repair Kit
10	TBC	Castle Nut Assembly

Part	Product Code	Description
11	TBC	4x Castle Nut Assembly
12	TBC	Chain Tension Handle Repair Kit
13	TBC	Pair of Chain Tension Handle Repair Kit
14	TBC	Spare V button
15	TBC	Spare Blade
16	TBC	Spare Knurled Wheel
17	TBC	Tool Carriage
18	01-18-009	Small Diameters Chain (650mm Length)
19	01-18-010	Large Diameter Chain (1000mm Length)

## 06. Warranty Information

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### 1. Extent of Warranty

- a) Subject to clauses 2 and 3, Caldervale Technology Ltd warrants to the end-user customer that its products will be free from defects in materials and workmanship, for six months after the date of purchase by the end-user customer, subject to providing proof of purchase.
- b) If Caldervale Technology Ltd receives, during the warranty period, notice of a defect in product which is covered by this warranty; Caldervale Technology Ltd shall either repair or replace the product, at its option. Any replacement product may be either new or like-new, provided that it has functionality at least equal to that of the product being replaced.
- c) All warranty work will be carried out by Caldervale Technology Ltd unless otherwise agreed. On-site warranty and repair or replacement services are available from authorised Caldervale Technology Ltd service facilities world-wide.
- d) Customers shall prepay shipping charges for products returned to Caldervale Technology Ltd for warranty service, and Caldervale Technology Ltd will charge for return of the products back to the customer.
- e) This warranty statement gives the customer specific legal rights. The customer may also have other rights which vary from country to country in the world.

### 2. Pre-conditions for Warranty Application

Caldervale Technology Ltd's warranty covers only those defects which arise as a result of normal use of the product, and this warranty shall only apply in the following circumstances:

- a) All the instructions contained in the operating manual have been complied with; and
- b) None of the following apply:
  - i) Improper or inadequate maintenance;
  - ii) Physical abuse;
  - iii) Unauthorised modification, misuse or any use not in accordance with the operating manual and good industry practice;

- iv) Operation outside the products specifications;
- v) Improper site preparation or maintenance;
- vi) Faulty pipes.

### 3. Limitations of Warranty

- a) Caldervale Technology Ltd does not warrant the operation of any product to be uninterrupted or error free.
- b) Caldervale Technology Ltd makes no other warranty of any kind, whether express or implied, with respect to its products. Caldervale Technology Ltd specifically disclaims the implied warranties of satisfactory quality and fitness for a particular purpose.
- c) To the extent that this warranty statement is inconsistent with the law of the locality where the customer uses the product, this warranty statement shall be deemed modified by the minimum necessary to be consistent with such local law.
- d) To the extent allowed by local law, the remedies provided in this warranty statement are the customer's sole and exclusive remedies.
- e) This tool has been designed for the range of pipes available at the time of its design and development. Caldervale Technology Ltd can accept NO liability for the unit's ability or otherwise to work with new or different pipes that subsequently appear in the market place.

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**Please complete this information and keep it safely with your proof of purchase receipt. You will require it for any warranty claim.**

Where purchased: \_\_\_\_\_

Date of purchase: \_\_\_\_\_

Name of purchaser: \_\_\_\_\_

Address of purchaser: \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

Type of tool: \_\_\_\_\_

Serial number: \_\_\_\_\_

## 07. Service and Repair

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This product has no specific calibration period, however periodic safety inspections should be carried out by the operator as specified in this manual, if in any doubt please contact the manufacturer for further information.

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## 08. Decommissioning and Disposal

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These give the instructions for decommissioning and disposal of the equipment and confirm how it is to be taken out of service safely, in respect of the Essential Environmental, Health and Safety Requirements.

- If a Caldertech pipe preparation tool has reached the end of its useful working life and cannot be refurbished it must be sent to a licensed recycling facility for treatment. That will ensure the waste hierarchy requirements are met.
- End of life treatment is the responsibility of the Customer. This can also be achieved by returning the product back to the manufacturer if required.



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## Certificate of Conformity

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This document certifies that the product detailed below fully conforms to the following standard without derogation.

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**GIS/PL2-5:2018 Electrofusion Ancillary Tools**

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**Product: Calderprep Patch ScrapingTool**

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**MARCH 2019**



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**I. Smith**  
Managing Director



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