



Utility Innovations Services Ltd.

Operators Manual

UIS Click Stick™

WELCOME

ABOUT US

Utility Innovations Services Limited (UIS Ltd) are specialists in manufacturing new innovations equipment for the utilities sector.

Within the staff employed at UIS Ltd, we have a wealth of experience in gas, water and electricity replacement, rehabilitation and reinforcement projects. Our experience has enabled us to target key areas and functions within utilities we feel we can improve upon with new innovations created and manufactured in house.

The concept of UIS Ltd is to develop and advance innovation products that aid the process of replacing / renewing pipe utility work. A main aim is that all of our products should eradicate the inherent safety and technical faults encountered by existing methods. Aligned to safety, quality and engineering compliances there are also productivity benefits that allows our products to be compliant, versatile and proven speedier than alternative approved methods of works within utilities.

As our products have been developed through extensive trials, a detailed technical assessment has been made in which includes a detailed analysis of its performance against alternatives. The use of this equipment may be adapted to water, gas, cabling and sewage activities or any other use for the process of handling and a / best practice / information is provided.



LEADING THE WAY IN UTILITY INNOVATIONS

UIS Click Stick™

SCOPE

The purpose of this operator's manual is to demonstrate the safe working process and procedure of the UIS CLICK STICK™. In this operator's manual you will find all the safe working practices which are required for using the product for its designed purpose.

The main purpose of the design concept of the UIS CLICK STICK™ is to allow its users / customers the ability to break metallic pipelines and enable safe access within the pipelines for insertion purposes.

The UIS CLICK STICK™ offers operatives a safer and more controlled alternative to breaking metallic mains as appose to the traditional methods of manual hammers and podger bars. The UIS CLICK STICK™ is a battery / hydraulic powered device that will break iron pipelines and objects in a safe and controlled manner which will eradicate the need to enter excavations and avoid the need to break mains using a manual process.



The UIS CLICK STICK™ can be used on a wide range of utility operations including gas, water mains replacement as well as drainage and cable replacement projects where access is required. The suggested diameter range for use are between 2" and 8" Pipes (dependant on model being used).

GENERAL

The UIS CLICK STICK™ is a custom-made piece of equipment that is designed to break metallic pipelines in order to allow safe connections and insertion of pipes and cables into existing carrier pipes and ducts.



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INSPECTION / MAINTENANCE & OPERATING PROCEDURES

Use:

1. All weights and condition of tools and component parts to be checked by a competent person prior to use.
2. All hoses / connectors checked prior to use and ensure that they are clean and free from debris / dirt.
3. Whilst in a secure position, connect hydraulic hose to power pack and ensure connections are good and secure.
4. Turn on power pack [*ensure emergency stop button is not activated*].
5. The dial function of the Hydraulic Power Pack must always be set to function #1 when using the UIS Click Stick.
6. Turn the black dial switch through to on position [as indicated].
7. With all pre checks complete, now check the function of the UIS CLICK STICK™ by pressing the remote rocker switch down.
8. Once down, press the remote rocker switch in the opposite direction and the hydraulic ram will automatically return to the retracted start position.
9. Once all operations have been checked and satisfactory, site operations can commence.
10. USE ON SITE [Ensure that all sufficient PPE including eye protection is worn] – Ensure that you have cleared around the full circumference of the pipeline or object to ensure adequate room to position the UIS CLICK STICK™ and ensure that there is no additional third party pipes / cables present under the pipeline you are to break.
11. Whilst standing over the excavation, slowly lower the UIS CLICK STICK™ and position around the pipeline.
12. The UIS CLICK STICK is to be aligned central ensuring the centre point sticker line is centre to the centre of the existing main. (Failure to do this can result in damage to the UIS Click Stick).
13. Once the UIS CLICK STICK™ is positioned safely around the main to be broken, depress the switch on the control [keep pressure applied] until the hydraulic ram and breaking blade break the metallic main.
14. Once the main has initially been broken, it may be necessary to turn the UIS CLICK STICK™ onto an angle and repeat a break to ensure that adequate sections of the pipeline are broken.
15. Using good manual handling techniques, carefully retract the UIS CLICK STICK™ and repeat the operation on another section of the pipeline.
16. Carry handle / strap is provided to ensure comfortable operation and movement of all parts of the UIS CLICK STICK™.
17. Once completed using, turn power pack off, release any hydraulic pressure by pressing the remote rocker switch and disconnect all hoses (only when ram has fully retracted).



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INSPECTION / MAINTENANCE & OPERATING PROCEDURES Continued

For further operating and maintenance information regarding the safe use of the UIS Click Stick, please refer to the below documents found at the back of the operating manual.



Toolbox Talk on Click Stick Safe Working Practices

Do

- Fully expose the existing main
- Make sure it is safe to use the Click Stick on section of pipe
- Correctly align Click Stick central to main (centre point label)
- Make sure you are fully trained in correct working procedure
- Fully retract ram once main has been broken
- Only use when Battery Power Pack is set to number 1 working function
- Only lift Click Stick using provided Handle(s)
- Only use HV1/15 oil to re-fill Battery Power Pack



Do Not

- Use Click Stick on mains which aren't fully exposed
- Use if there are any other utilities obstructing the pipe
- Use if pipe is not aligned central with Click Stick Ram
- Use if not trained or competent in the safe working practices of the Click Stick
- Use if Battery Power Pack is set to any other setting other than 1
- Lift Click Stick by the hose or any other component other than the handle(s) provided
- Do not overfill oil in the Battery Power Pack



Working Outside of these guidelines could cause injury or Damage to the product. The Operator will take responsibility for injury or damage if safe working practices are not followed.

Operators Daily Inspection Check Sheet



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 VAT Reg. No: 129 4541 09
 Company No: 07850938

Name:	
Week Commencing Date:	
Company:	
Plant Number:	
Item Description:	

Note: The below checks MUST be completed prior to end during the use of the product. If any of the inspections result in fail, STOP and report it to your supervisor immediately prior to use.

Items	Check to be performed:	Days of the Week						
		Mon	Tue	Wed	Thu	Fri	Sat	Sun
Generic Inspection Checks								
1	Hydraulic Ram - Pressure test completed and satisfactory? - Visual condition satisfactory?							
2	Hydraulic Head - Pressure test completed and satisfactory? - Visual condition satisfactory? - Free from outer casing damage?							
3	Hydraulic Connectors - Connect connectors, which are free from dirt/damage?							
4	Site Conditions - Does the site provide sufficient access to deploy and operate the UIS Click Stick?							
5	PPE - Operatives wearing the correct PPE as stated within the Operators Manual and site specific requirements set by contract?							
6	Paperwork - All necessary documentation including UIS product Operators Manual for additional guidance?							
7	Operator Competence - Operator competent in the use of the UIS product?							

UIS Click Stick Inspection Checks								
8	Joint Opening - Correct dimensions for specific Click Stick unit? - Visual condition satisfactory? - Inspection test completed and satisfactory?							
9	Breaking Teeth - Visual condition satisfactory? - Inspection test completed and satisfactory?							
10	Head Lifting Handle - Visual condition satisfactory?							
11	Long Detachable Handle - Fully Screwed in and Tight?							
12	Hydraulic Power Pack - Visual condition satisfactory? - Free from Dirt and Debris? - Pressure Released Before attaching Hydraulic Head?							
13	Safety / Advisory Stickers - All Safety and Advisory Stickers Visible/correctly applied?							

Corrective Actions Required / Additional Comments

LEADING THE WAY IN UTILITY INNOVATIONS

SAFETY & CONTROL MEASURES

EMERGENCY SHUT DOWN PROCEDURE

In case of any emergencies whilst using the UIS Click Stick™, the most efficient way of shutting down all operations is to firstly stop pressing any buttons or switches followed by a good firm push on the emergency stop button, which is located on the side of the power pack (as seen in below image).

**Emergency
Stop Button**



ADVISORIES & CONTROL MEASURES

- The operator must have been trained in the correct use of the equipment prior to use
- Correct UIS Click Stick to be used in accordance with correct pipe diameter
- Speed of operation dictated by specific site conditions
- Site set out to restrict public access (barriers / herras fencing)
- All works to be contained within the site area
- Any existing utilities to be adequately protected against accidental contact / damage
- Equipment to be adequately maintained
- Operator to perform pre-start checks of all connectors
- No excessive pressure to be applied
- Spill kits to be readily available



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SAFETY

The UIS Click Stick™ is a metallic pipe breaking device for the use on cast and spun iron pipelines. The equipment is activated using the portable battery powered hydraulic pack. This manual will help the user adhere to the safe and correct manner of using the UIS Click Stick™, the operator should have completed the following before using the equipment:

- Make sure the person using the equipment is trained and is competent in the use of the UIS Click Stick™
- Make sure the correct PPE is being worn, items such as Safety Glasses, Hard Hat, Safety Toe Cap Boots, High Visibility Work Wear and Protective Gloves. (Additional PPE may be required dependant on the site-specific requirements)

Whilst using the UIS Click Stick™, we advise that the product is always used in a safe and correct manner. To be complying with this the operator should have completed basic training and follow the above guidance before using the equipment.

Product Storage

Ensure that the product is stored safely and securely ensuring to avoid against any accidental damage or collision. Do not store under any heavy objects which could fall any damage any of the parts of the UIS Click Stick™. The batteries for the UIS Power pack are always also to be stored in the provided carry bag when not in use.

LEADING THE WAY IN UTILITY INNOVATIONS

STOCK LIST / SPARE & REPLACEMENT PARTS

Frame:

- Steel C-Clamp Frame
- Cutting blade
- Long Handle
- Operators Manual

Hydraulics:

- 10 tonne spring return ram
- 10 000 PSI elbow on ram
- 10 000 PSI 2m long hose
- 10 000 PSI MPT flat face QR female

Hydraulic Pump:

- 18V Makita battery on pump
- 240V mains charger
- 12V car charger (Optional)
- 10 000 PSI MPT flat face QR male
- Shoulder strap and bag
- Oil HV1/15 hydraulic
- Remote with lead
- Operators manual



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DESIGN BASIS & SPECIFICATION

The UIS Click Stick™ has been designed, tested and implemented to suit the needs of gas / water / electric & sewage replacement schemes. As the mechanical alternative to manual hammers and podger bars the UIS Click Stick™ is the safe lightweight and portable solution to breaking out metallic cast and spun iron pipelines.

3"-6" Click Stick SPECIFICATIONS	
Height	570mm
Length	230mm
Width	130mm
Weight	15kg
Recommended Working pressure	Max 700 Bar
Max Load	10 Tonne

6"-8" Click Stick SPECIFICATIONS	
Height	730mm
Length	330mm
Width	140mm
Weight	30kg
Recommended Working pressure	Max 700 Bar
Max Load	20 Tonne



Hydraulic Power Pack SPECIFICATIONS	
Height	Max. 700 bar
Oil volume	Approx. 800 ml
Flow rate low pressure range	Up to 0.9 l/min
Flow rate high pressure range	0.3 l/min
Battery voltage	18 V
Battery capacity	3.0 Ah, Li-Ion
Charging time	22 min
Weight with 2 batteries	Approx. 6.4 kg
Type of protection	IP 43
Ambient temperature	-15° C up to +40° C
Dimension (L x W x H)	330 x 160 x 280 mm

LEADING THE WAY IN UTILITY INNOVATIONS

OPERATORS DAILY INSPECTION CHECK SHEET

Name:	
Week Commencing Date:	
Company:	
Plant Number:	
Item Description:	

Note: The below checks MUST be completed prior to and during the use of the product. If any of the inspections result in fail, STOP and report it to your supervisor immediately prior to use.

Item:	Check to be performed:	Mon	Tue	Wed	Thu	Fri	Sat	Sun

Generic Inspection Checks

1	Hydraulic Ram	<ul style="list-style-type: none"> Pressure test completed and satisfactory? Visual condition satisfactory? 							
2	Hydraulic Hose	<ul style="list-style-type: none"> Pressure test completed and satisfactory? Visual condition satisfactory? Free from outer casing damage? 							
3	Hydraulic Connectors	<ul style="list-style-type: none"> Correct connectors, which are free from dirt/debris? 							
4	Site Conditions	<ul style="list-style-type: none"> Does the site provide sufficient access to deploy and operate the UIS Click Stick? 							
5	PPE	<ul style="list-style-type: none"> Operatives wearing the correct PPE as stated within the Operators Manual and site specific requirements set by contract? 							
6	Paperwork	<ul style="list-style-type: none"> All necessary documentation including UIS product Operators Manual for additional guidance? 							
7	Operator Competence	<ul style="list-style-type: none"> Operator competent in the use of the UIS product? 							

UIS Click Stick® Inspection Checks

8	Jaw Opening	<ul style="list-style-type: none"> Correct dimensions for specific Click Stick unit? Visual condition satisfactory? Inspection test completed and satisfactory? 							
9	Breaking Teeth	<ul style="list-style-type: none"> Visual condition satisfactory? Inspection test completed and satisfactory? 							
10	Fixed Lifting Handle	<ul style="list-style-type: none"> Visual condition satisfactory? 							
11	Long Detachable Handle	<ul style="list-style-type: none"> Fully Screwed in and tight? 							
12	Hydraulic Power Pack	<ul style="list-style-type: none"> Visual condition satisfactory? Free from Dirt and Debris? Pressure Released Before attaching Hydraulic Hose? 							
13	Safety / Advisory Stickers	<ul style="list-style-type: none"> All Safety and Advisory Stickers Visual/correctly applied? 							

Corrective Actions Required / Additional Comments

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SAFE WORKING PRACTICES

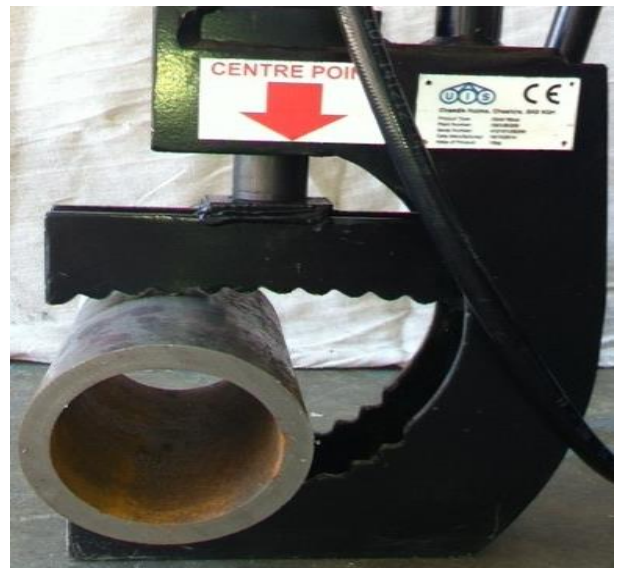
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- Lift Click Stick by the hose or any other component other than the handle(s) provided
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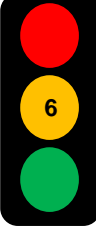
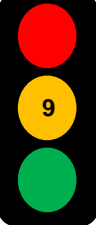

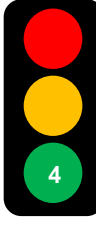



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LEADING THE WAY IN UTILITY INNOVATIONS

GENERAL RISK ASSESSMENT

Note: All employees are to be informed of control measures prior to work commencing

ACTIVITY: Use of UIS CLICKASTICK™ [Combined mechanical and manual method of breaking of iron / metallic pipelines]							RISK RATING
Activity affecting (Tick appropriate box)	EMPLOYEE	✓	THIRD PARTY	✓	VEHICLE	✓	Frequency x Severity
	PLANT	✓	PROPERTY	✓	OTHER		
1	HAZARD	POSSIBLE CONSEQUENCES					POST-CONTROL
	Manual handling of UIS CLICK STICK®	Personal injury including Crushing, Muscle strains and Entrapment					
	PRE- CONTROL	CONTROL MEASURES					
4 x 3 = 12	1. Operatives to be trained in manual handling operations 2. Utilise Team Lifting – one person to give instructions 3. Use designated grips and handles to lift and manoeuvre CLICK STICK® 4. Assume correct posture at all times 5. Ensure PPE is worn at all times [including gloves] 6.						
2	HAZARD	POSSIBLE CONSEQUENCES					POST-CONTROL
	Moving parts of machinery	Crush injuries / death					
	PRE- CONTROL	CONTROL MEASURES					
5 x 5 = 25	1. Operatives to be aware of Permit to Work controls and restrictions. 2. Live gas pipelines / utilities to be protected against impact damage. 3. Banksman to control close working. 4. Underground services to be protected. 5. Site set out to restrict public access (barriers/herras fencing) 6. All works to be contained within the site area no working over live footpaths or traffic.						
3	HAZARD	POSSIBLE CONSEQUENCES					POST-CONTROL
	Working in close proximity to live apparatus	Impact Damage to Pipe work causing uncontrolled release of gas / water / electricity Personal injuries					
	PRE- CONTROL	CONTROL MEASURES					
6 x 5 = 30	1. The section of main to be broke MUST be excavated under by hand tools to confirm no under passing utilities. 2. Competent person to ensure that main to be broke is decommissioned. 3. Prior to breaking, visual check for any other utilities. 4. Any existing pipe and other utilities to be adequately protected against accidental contact/damage.						
4	HAZARD	POSSIBLE CONSEQUENCES					POST-CONTROL
	Pressurised system [Hydraulics]	Un controlled release of high pressure hydraulics causing injury and possible damage to the environment.					
	PRE- CONTROL	CONTROL MEASURES					
2 x 3 = 6	1. Machinery to be adequately maintained. 2. Operator to perform pre-start checks of all connectors 3. No excessive pressure to be applied. 4. Spill kits to be readily available. 5. Ensure surface water drains are adequately protected and precautions to be taken wen working in close proximity to water ways.						
5	HAZARD	POSSIBLE CONSEQUENCES					POST-CONTROL
	Use of hand tools	Personal injury to operatives/users					
	PRE- CONTROL	CONTROL MEASURES					
3 x 2 = 6	1. Training given in the correct handling and use of hand tools 2. Correct maintenance of hand tools, Replace or maintain as necessary 3. Use the correct tool for the job and appropriate PPE, e.g. gloves, eye protection etc. as instructed						



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6	HAZARD	POSSIBLE CONSEQUENCES	POST-CONTROL
	Traffic & General Construction Hazard	Collision, crushing, trips & falls	
	PRE- CONTROL	CONTROL MEASURES	
	5 x 3 = 15	<ol style="list-style-type: none"> 1. Full compliance with NRSWA 2. Site barriered off, signed and guarded with appropriate signs, care for the pedestrian. 3. Ensure vehicles and trailers are parked in safe area and not obstructing traffic movements or visibility of road users. 4. Operatives to have safe access and egress to all excavations. 	
7	HAZARD	POSSIBLE CONSEQUENCES	POST-CONTROL
	Working in and around excavations	Asphyxiation, crushing, falling and overhead power / communication lines	
	PRE- CONTROL	CONTROL MEASURES	
	6 x 6 = 36	<ol style="list-style-type: none"> 1. Planning for excavations in advance to ensure the supply of adequate trench support systems for the work taking place. 2. Excavation work and support systems installed by a competent person taking into account ground and weather conditions. 3. Spoil stored away from excavation edge. 4. Operative to position themselves in suitable location over the excavation ensuring sides are adequately supported. 5. When vehicles are operated next to the excavations, place stop blocks to prevent vehicles falling in. 6. Where works are encroaching in the vicinity of overhead lines, physical barrier to be erected. Guidance in HSE's publication GS 6. 	
8	HAZARD	POSSIBLE CONSEQUENCES	POST-CONTROL
	Fitting and dis-mantling of unit	Personal injury to operatives – contact with moving machinery parts	
	PRE- CONTROL	CONTROL MEASURES	
	3 x 3 = 9	<ol style="list-style-type: none"> 1. Where possible, fit and install / dis mantle attachment to power pack unit at excavation side to avoid unnecessary handling. 2. The hydraulic hoses should be attached to the power pack using the quick release couplings and ensure that the couplings are in the locked position and that the hydraulic taps are in the open position (if fitted). 3. Full PPE to be worn as per above. 	
9	HAZARD	POSSIBLE CONSEQUENCES	POST-CONTROL
	Flying debris / metallic pieces of pipe work	Personal injury to operatives – contact with moving flying parts	
	PRE- CONTROL	CONTROL MEASURES	
	4x 3 = 12	<ol style="list-style-type: none"> 1. Avoid where possible entry to the excavation. 2. Once the correct position is achieved, the operatives must stand well clear from the excavation and ensure it is adequately protected from the public. 3. Where close contact is required, prescribed PPE must be worn to include chin level visor. 4. Operatives must adhere to site specific PPE requirements as a minimum i.e. light eye protection. 5. Excavations shall be made of a sufficient size to have adequate room to safely carry out the work. 6. All other utilities and apparatus to be protected. 	

KEY			SEVERITY OF: INJURY / DAMAGE OR LOSS		SCORE
Improbable	Infrequent	1	Trivial	First Aid Only	1
Possible	Annual	2	Minor	Medical Treatment	2
Occasional	Quarterly	3	Major	Lost Time	3
Frequent	Monthly	4	Major	Multiple Injuries	4
Regular	Weekly	5	Death	Fatality	5
Common	Daily	6	Multiple	Fatalities	6
RISK RATING		ACTION	TIMESCALE		MONTHS
Low		1 - 4	Review Risk & Existing Controls		12 - 14
Medium		5 - 9	Review Risk & Existing Controls		6 - 7
High		10 - 16	Review Risk & Existing Controls		3 - 6
Major		17 - 19	Implement Action Plan for progressive reduction		0 - 3
Unacceptable		20 - 36	Stop activity immediately		Urgently

Compiled By: David G Stevens	Date:	Reviewed by: J J Iredale	Date:
Signature(s): <i>D G Stevens</i>	N/A	Signature: <i>J J Iredale</i>	N/A

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