

SH1 & SH3 SCABBLING HAMMERS

Operation & Maintenance Manual



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INTRODUCTION

Your new Trelawny SPT power tool will more than satisfy your expectations. It has been manufactured under stringent Trelawny SPT Quality Standards to meet superior performance criteria. You will find your new tool easy and safe to operate, and, with proper care, it will give you many years of dependable service.

**WARNING**

Carefully read through these original instructions before using your new TRELAWNY power tool. Take special care to read the warnings. Your TRELAWNY power tool has many features that will make your job faster and easier. Safety, performance, and dependability have been given top priority in the development of this tool, making it easy to maintain and operate.

**ENVIRONMENTAL PROTECTION**

The machine, accessories and packaging should be sorted for environmentally friendly recycling. The plastic components are labelled for categorised recycling.

**DISPOSAL**

Waste products should not be disposed of with household waste. Please recycle where facilities exist. Check with your local authority or retailer for recycling advice.

DECLARATION OF CONFORMITY



Tel: +44 (0)1926 883781 Fax: +44 (0)1926 450352

www.trelawnspt.co.uk Email: sales@trelawnspt.co.uk

DECLARATION OF CONFORMITY

We,

Trelawny SPT Limited of Trelawny House, 13 Highdown Road, Sydenham Industrial Estate, Leamington Spa, Warwickshire, CV31 1XT, United Kingdom,

Declare that under our sole responsibility for supply/manufacture of the product

Name of product _____

Model, Serial Number _____

Year of production _____

to which this document relates is in conformity with the provisions of the following Directive(s), Normative Documents and their relevant Standards:

2006/42/EC MACHINERY DIRECTIVE

2006/95/EC LOW VOLTAGE DIRECTIVE (Applicable only to products using electric power)

EN ISO 11148-4:2010 HAND HELD NON-ELECTRIC (Non-Rotary Percussive Tools)

[Signature]

Rob Chapman, Commercial Director.

Date and place of issue, 1st January 2010 Leamington Spa, England.



Registered Office: Trelawny SPT Ltd, Trelawny House, 13 Highdown Road, Sydenham Industrial Estate, Leamington Spa, Warwickshire, CV31 1XT, United Kingdom



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DECLARATION OF CONFORMITY

Table with 2 columns (Country Code and Language) and multiple rows (CZ, DE, DK, EE, ES, FI, FR, GR, HU, IT, LT, MT, NL, PL, PT, RJ, SE, SI, TR) containing technical specifications and standards for various European markets.

GENERAL INFORMATION



WARNING! Before operating, performing maintenance or repairing this tool, this manual Must be read and understood. If in any doubt, ask your supervisor before using this equipment.

Trelawny SPT Ltd disclaims all responsibility for damage to persons or objects arising as a consequence of incorrect handling of the tool, failure to inspect the tool for damage or other faults that may influence its operation prior to starting work, or failure to follow the safety regulations listed or applicable to the job site.

The heavy-duty SH1 & SH3 are suitable for concrete reduction and the removal of laitance from concrete.

Note: Cruciform headed pistons are suited to the removal of heavy rust and scale and for the reduction of concrete where a smoother finish is required; these will reduce the aggregate as well as the concrete surface.

Bush Hammer style headed pistons are best suited to concrete reduction and for laitance removal; these also reduce the damage caused to the aggregate, ensuring that a stronger bond is created with the next layer.

AIR SUPPLY

The compressed air must be free from water and dirt. The installation of a filter/regulator/lubricator air preparation set (with moisture trap) adjacent to the tool is strongly recommended.

Always clear the air hose before connection to the tool. Ensure that no moisture (condensation) is present in the air hose.

Ensure that a minimum 10mm (3/8") bore air hose is used and that all couplings are secure, leak free and in good condition.

Limit the length of air hose to 10M (33ft). Where extra length is necessary, for each additional 15M (50ft) of air hose used, the pressure drop is approximately 0.16bar (3psi).

Correct operating pressure is 6.2bar (90 psi).

Do not let the operating pressure fall below 5.5bar (80p.s.i.) or rise above 6.9bar (100 psi) absolute maximum. The compressor must be able to supply a minimum of 7.0 lps (15cfm) for Single Scalers and 12 lps (25cfm) for Triple Scalers, (Free air, not displaced as quoted by some compressor manufactures).

In particularly cold weather it is recommended that a proprietary anti-freeze lubricating oil is used.

SAFETY



WARNING! Always observe safe-working practices at all times.

- Do wear Personal Protective Equipment including safety goggles, footwear, ear defenders and gloves. In some environments it will be necessary to wear face masks or breathing apparatus.
- Do be aware that this tool is not electrically insulated.
- Do keep hands and clothing away from moving parts.
- Do ensure that this tool is lubricated daily.
- Do be aware that the tool can create dust and flying debris.
- Do be aware of others working around you.
- Do store this tool in a secure and dry environment.

Always observe safe-working practices at all times.

- Do not allow the tool to run unattended.
- Do not use this tool in potentially explosive environments.
- Do not drag this tool by the air hose.
- Do not use the Scaler as a lever.
- Do not use petrol (gasoline), thinners or any other high flash point solvent to clean the tool.
- Do not modify this tool in any way, as this will invalidate the warranty and could lead to serious injury.

RISK OF HAND-ARM VIBRATION INJURY

These tools may cause Hand-arm Vibration Syndrome injury if their use is not adequately managed.

We advise you to carry out a risk assessment and to implement measures such as; limiting exposure time [i.e. actual trigger time, not total time at work], job rotation, ensuring the tools are used correctly, ensuring the tools are maintained according to our recommendations, and ensuring that the operators wear personal protective equipment [PPE] particularly gloves and clothing to keep them warm and employers should consider setting up a programme of health surveillance to establish a benchmark for each operator and to detect any early symptoms of vibration injury.

We are not aware of any PPE that provides protection against vibration injury by attenuating vibration emissions.

See 'Specifications' section for vibration emission data.

Further advice is available from our Technical Department.

RECOMMENDED LUBRICANTS

Oil the tool daily before use. Put a few drops of one of the following zinc free air tool lubricants through the air inlet.

SHELL	S22 or R10
CASTROL	Hyspin ZZ32

Cleaning

At intervals of no more than 40 hours or if operation becomes unproductive and the piston shows signs of sticking, dismantle and clean with a highly refined paraffin.

Immediately after cleaning, thoroughly oil the tool with one of the recommended lubricants.

STARTING WORK

Prior to operating the tool check: -

That all fittings are secure, free from leaks and air hoses are in good condition.

That the air pressure is correct for this tool 6.2 bar (90 p.s.i.). Put a few drops of recommended lubricant into the air inlet of the tool.

To operate the tool, which is dependant on the type of lever fitted, for those fitted with a safety lever, first push thumb button forwards and then for both styles of lever, pull the lever towards the handle grip to start the tool, then apply the cutter heads to the surface being prepared.

To switch off, simply release the throttle lever.

Care must be taken to avoid damaging or tripping over the air hose. Maintain contact with the work surface with sufficient pressure only to keep the tool from bouncing off. Excessive pressure can prevent the tool from working to its full capacity. Handled correctly the Scaler will work quickly and efficiently.

Excessive operator pressure will not improve the tool efficiency but will cause premature tool failure and operator fatigue.

Never allow the tool to run continuously whilst not in contact with the surface being prepared.

Please be aware: that this tool will reduce in power or stop working if the end cap (17) has become unscrewed.

MAINTENANCE



Maintenance must only be carried out by a competent person, in a suitably equipped workshop. Any electrical maintenance work needs to be carried out by a Trelawny representative.
Before carrying out any dismantling, ensure the power supply is turned off and that the trailing cable doesn't present an obstruction or hazard. Clean all deposits from the outside of the tool.

ONE PIECE PISTON & PISTON CYLINDER REMOVAL (WORKSHOP)

Hold the scaler body (24) in a vice, using the flats provided and with the end cap uppermost. On triple scalers, secure the tool in a vice, clamping on all three cutter heads (On one piece pistons take care not to clamp on the ground surfaces). Unscrew the end cap (17). Remove spring cap (19) and spring (18) from the end cap. From the bottom of the body, push up the cutter head to remove the piston assembly.

ONE PIECE PISTON & CYLINDER ASSEMBLY (WORKSHOP)

Lubricate the piston (20/33) and cylinder bore (21/29) and push the piston into the cylinder bore.
Lay the tool on a bench with the body (23/24) on its side and Insert the cylinder assembly into the body.

VALVE BODY SERVICING (WORKSHOP)

Clamp the handle (10) assembly firmly in a soft face jawed vice (valve body end) throttle lever upper most. Using a 3mm diameter pin punch, remove the throttle lever roll pin (8), and then remove the throttle lever (7). Rotate the tool 180 degrees in the vice to access the valve. Unscrew the valve cap (1) using a screwdriver, check the valve cap 'O'Ring (2), remove the spring (3), push out the valve stem (4) and remove the 'O'Ring (5). Check the valve and 'O'Ring for wear.

VALVE BODY ASSEMBLY (WORKSHOP)

Clamp the handle (10) assembly firmly in a soft faced vice (valve body end), insert new valve stem 'O'Ring (5) into valve body (6), followed by the valve stem (4), spring (3), then the valve cap (1) complete with its 'O'Ring (2), tighten the valve cap with a screwdriver.
Rotate assembly 180 degrees in vice. Using a 3mm diameter pin punch locate and align the throttle lever (7) in position, then drive in the throttle lever roll pin (8) into the pin location.

ASSEMBLY (WORKSHOP)

Before any assembly takes place, ensure all parts are clean and have a film of air tool oil lubrication unless otherwise stated. Avoid lubricating oil or grease contaminating the threads of the end cap (17), the threads within the bore of the bodies (23/24) and the tapers on piston and cutter heads. The end caps will require securing with a thread-locking adhesive. It is good practice to renew all 'O' Rings (2/5) and the brush seals (22). Replace any parts showing signs of wear; paying particular attention to the small bore of the cylinder.

FINAL ASSEMBLY (WORKSHOP)

Assemble the end cap (17), fit spring (18) into the end cap and fit spring cap (19) into the end cap as shown in the service layout.

Select as required, a piston/cutterhead, insert into the body (23/24) and apply a few drops of air tool lubricant to the top of the piston(s).

Hold the handle (10) in a soft faced vice ensuring the screw cap threads are uppermost.

Remove all traces of oil from the screwed cap threads and threads of the body by cleaning with suitable oil free solvent.

Apply a bead of Loctite 243 sealant to the first 3 threads of the end cap.

Screw end cap assembly into the body until finger tight and using a suitable spanner torque down to 55N.m. (40 lbs.ft).

DISPOSAL

When the tool and its accessories are taken out of service for disposal, it is recommended that: - They are rendered unusable to prevent improper re-use.

They are dismantled into component form, segregated according to material composition and disposed of using waste recycling processes specified by local regulations.

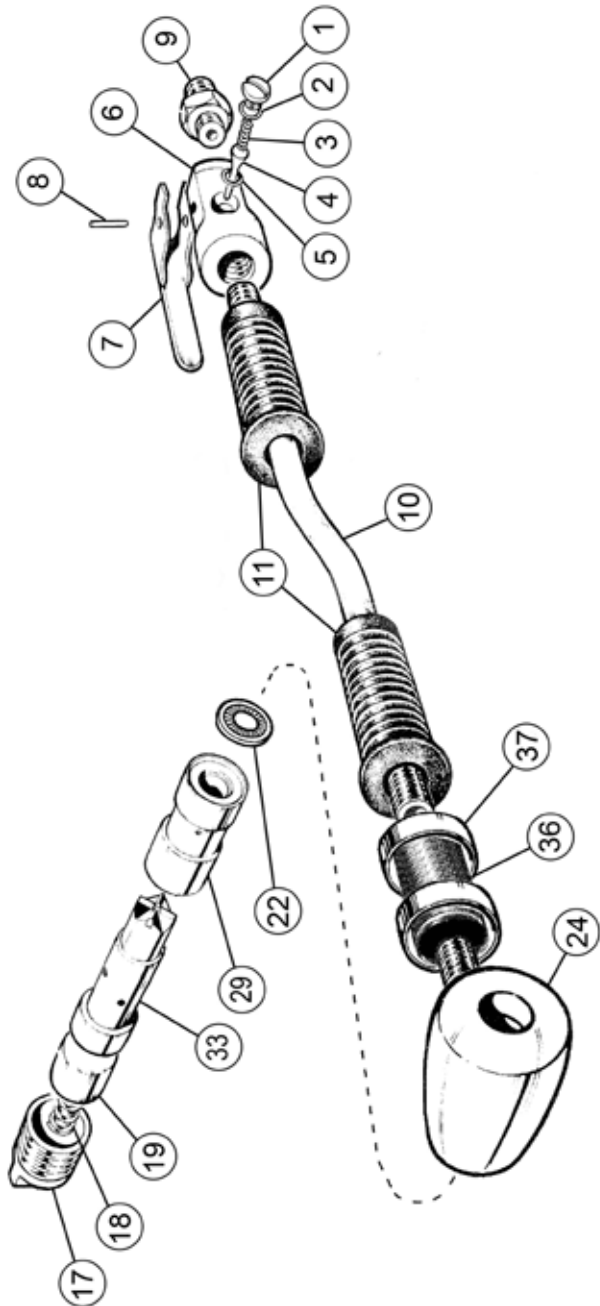
MACHINERY DIRECTIVE INFORMATION

This machine has been designed and produced in accordance with the following directives:

2006/42/EC Machinery Directive and applicable harmonised standard: **EN ISO 1 1148-4:2010**

Trelawny tools are thoroughly tested under specified conditions in accordance with applicable internationally recognised standards.

SH1 EXPLODED DIAGRAM

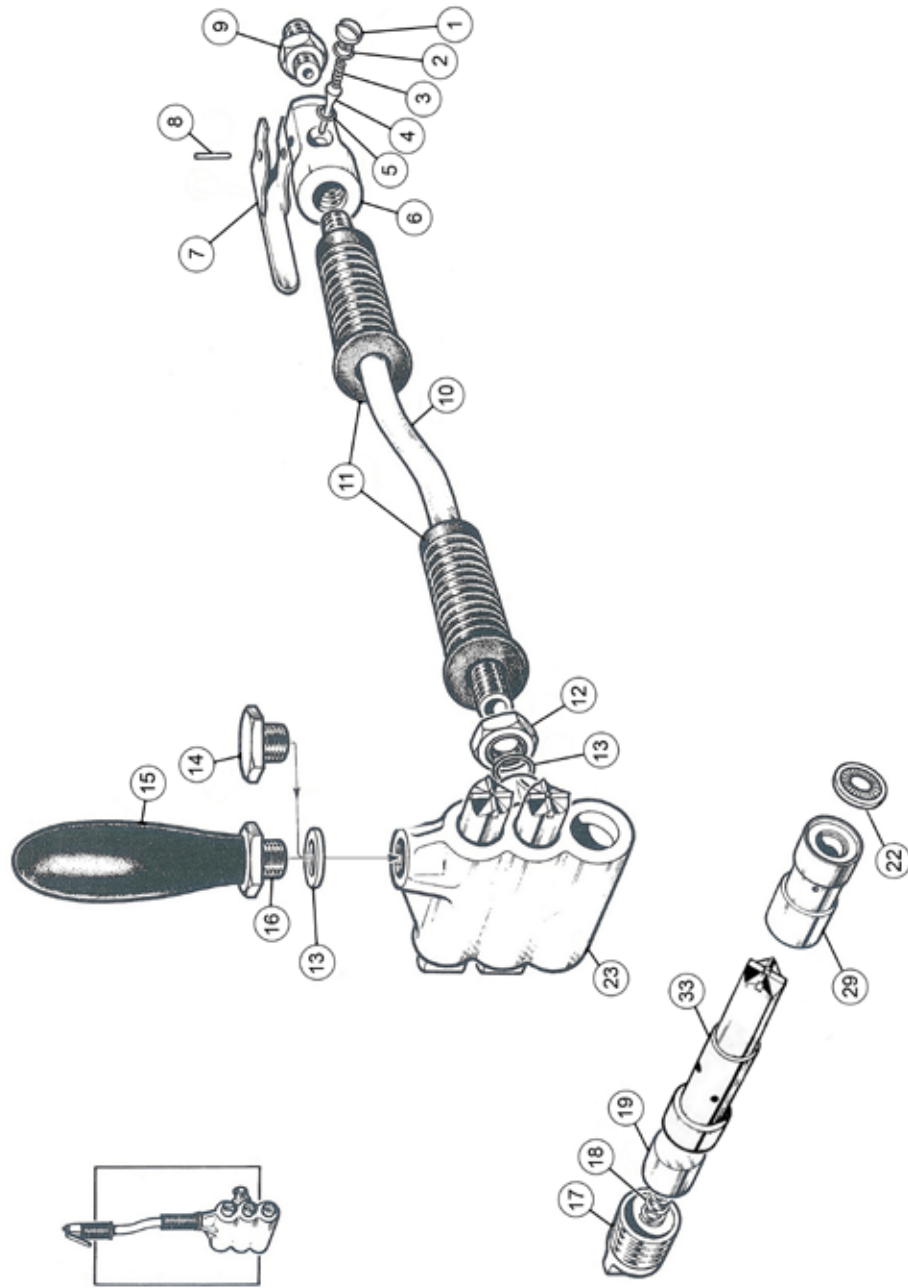


SH1 PARTS LIST

SPARE PARTS			
ITEM NO.	PART NO.	DESCRIPTION	QUANTITY REQUIRED
1	615.3021	Cap Valve	1
2	809.0139	O'Ring 10.8x1.78 Valve Cap	1
3	712.3022	Spring Valve Universal	1
4	618.3022	Valve Stem	1
5	809.0089	O'Ring square section v/seat	1
6	423.5321	Valve S/A Scaling Hammer	1
7	716.3000	Throttle Lever Universal	1
8	813.0108	Spring Pin 1/8" x 1" Long	1
9	711.5301	Adaptor 3/8 NPT x 1/2 BSP	1
10	624.5301	Tube Handle	1
10*	624.5350	Tube handle Lo-Vib	1
11	717.5301	Grip Rubber S/Hammer	2
12	625.5301	Locknut - Scaler Handle	1
13	810.9001	Sealing Washer 1/2"BSP	1
17	615.5341	Cap - Screwed Scaling Hammer	1
18	712.5301	Spring Recoil S/Hammer	1
19	615.5361	Cap - Spring Scaling Hammer	1
22	614.5301	Brush Seal Nylon	1
24	411.5101	Single Scaler Body S/A S/D	1
24*	411.5121	Lo-vib Single Scaler Body s/a	1
29	613.5303	Cylinder SH1/SH3	1
36*	719.1380	Flexible Connector	1
37*	821.2000	Band-It Hose Clamp	2
CONSUMABLES			
ITEM NO.	PART NO.	DESCRIPTION	QUANTITY REQUIRED
33	612.5320	Single Piece Piston - Cruciform	1
33	612.5325	Single Piece Piston - Bush	1
ACCESSORIES			
ITEM NO.	PART NO.	DESCRIPTION	QUANTITY REQUIRED
	437.5100	Shroud Assembly SH1 TVS	1
	815.1555	Whip Check (Hose Retaining)	1
	859.1555	1/2" BSP Lubricator	1
	421.3452	Air Hose 3/8" BSP Claw 2.0mtrs	1
	458.1555	1/2" BSP Inline Oiler Assembly	1

* Only used on the Low Vibration models.

SH3 EXPLODED DIAGRAM



SH3 PARTS LIST

SPARE PARTS			
ITEM NO.	PART NO.	DESCRIPTION	QUANTITY REQUIRED
1	615.3021	Cap Valve	1
2	809.0139	O'Ring 10.8x1.78 Valve Cap	1
3	712.3022	Spring Valve Universal	1
4	618.3022	Valve Stem	1
5	809.0089	O'Ring square section v/seat	1
6	423.5321	Valve S/A Scaling Hammer	1
7	716.3000	Throttle Lever Universal	1
8	813.0108	Spring Pin 1/8" x 1" Long	1
9	711.5301	Adaptor 3/8 NPT x 1/2 BSP	1
10	624.5301	Tube Handle - Scaler	1
11	717.5301	Grip Rubber S/Hammer	2
12	625.5301	Locknut - Scaler Handle	1
13	810.9001	Sealing Washer 1/2" BSP	2
14	634.5301	Plug - Hex Triple Scaler	1
15	822.5302	Grip PVC 7/8" I/Dia	1
16	422.5315	Handle Side S/A - Triple	1
17	615.5341	Cap - Screwed Scaling Hammer	3
18	712.5301	Spring Recoil S/Hammer	3
19	615.5361	Cap - Spring Scaling Hammer	3
22	614.5301	Bush Seal Nylon	3
23	611.5355	Body Triple Scaler HD Black	1
29	613.5303	Cylinder SH1/SH3	3
CONSUMABLES			
ITEM NO.	PART NO.	DESCRIPTION	QUANTITY REQUIRED
33	612.5320	Single Piece Piston - Cruciform	3
33	612.5325	Single Piece Piston - Bush	3
ACCESSORIES			
ITEM NO.	PART NO.	DESCRIPTION	QUANTITY REQUIRED
	437.5300	Shroud Assembly SH3 TVS	1
	815.1555	Whip Check (Hose Retaining)	1
	859.1555	1/2" BSP Lubricator	1
	421.3452	Air Hose 3/8" BSP Claw 2.0mtrs	1
	458.1555	1/2" BSP Inline Oiler Assembly	1

TECHNICAL SPECIFICATIONS

	SH1 Single Scabblor	SH1 VL Single Scabblor	SH3 Triple Scabblor
Part Numbers	151.5250 151.5200 139.5192	196.5105 196.5100	153.5250 153.5200 139.5392
Piston Diameter	27mm (1.06")		
Piston Length	111.75mm (4.4")		
Piston Stroke	26.5mm (1.04")		
Blows Per Minute	2400	2900	3 x 2400
Air Consumption	3.7lps 8.0 cfm	4.25 lps (9.0 cfm)	7.0 lps (15 cfm)
Air Pressure	6.2 bar (90psi)		
Air Inlet	3/8" NPT (c/w 3/8"BSP Adapter)		
Length	465mm (18.3")	515mm (20.3")	450mm (17.7")
Working Height	160mm (6.3")	160mm (6.3")	160mm (6.3")
Weight	2.6kg (5.7 lbs)	2.49kg (5.49lbs)	5.2 kg (11.4 lbs)
Noise Level LpA dB (A)	93.9	90.9	98.3
Noise Level LwA bD (A)	106.9	104.5	111.3
Vibration Level m/s2 Primary	6.96 (k)	4.5 (k)	8.7 (k)
Vibration Level m/s2 Secondary	26.0 (k)	9.4 (k)	13.5 (k)

Noise Levels:

Noise level measured in accordance with: BS EN ISO 3744:2010

Vibration Levels:

Vibration measured in accordance with: EN ISO 28927-9:2009 and EN ISO 20643:2005. (k) Equals the factor of uncertainty, which allows for variations in measurement and production. Vibration Data figures are tri-axial, which gives the total vibration emission. Because of various factors, the range of vibration from these tools may vary between -0% +40%. The vibration is dependent on the task, the operators grip and feed force employed etc.

NOTE:

The above vibration levels were obtained from tri-axial measurements to comply with the requirements of "The Control of Vibration at Work Regulations 2005*" and the revisions to the (8662) now EN ISO 28927-9:2012 and EN ISO 20643:2005 series of standards. These values are at least 1.4 times larger than the values obtained from single axis measurements.

*Based on European Union Council Directive 2002/44/EC (Physical Agents (Vibration) Directive)).
Risk of Hand Arm Injury

Because of various factors, the vibration from this range of tools may be between 8.7 m/s2 – 12.2m/s2
The vibration is dependent on the task, the operators grip, and feed force employed.

TROUBLE SHOOTING

TROUBLE SHOOTING	CAUSE	ACTION
Poor performance or lack of power	Low air pressure.	Ensure that the air pressure is correct at 90psi, max 100psi.
	If tool has been left for some time without use, the oil may dry out slightly causing a sticky residue.	Strip tool down and re-oil.
	Tool worn out, can you feel side ways movement between the piston and cylinder bore.	Replace the piston and cylinder, along with a new bush seal.
Tool continues to run with trigger released	Valve seal may have become dislodged through the tool being disconnected with the trigger in the open position.	Ensure that the trigger has not been taped or wired in the open position. Do not use quick release couplings to switch tool off.

NOTES

TRELAWNY™

SURFACE PREPARATION TECHNOLOGY

Dealer Stamp:

Trelawny SPT Limited

Trelawny House, 13 Highdown Road, Sydenham Industrial Estate,
Leamington Spa, Warwickshire, CV31 1XT, United Kingdom

Telephone: +44 (0)1926 883781 Fax: +44 (0)1926 450352 Email: sales@trelawny.co.uk

Website: www.trelawnyspt.com



**Manual Part Number:
735.5100**

