



## TEST EQUIPMENT RENTAL SERVICES

When you rent Test Equipment from TDC, we want you to know that you will have a dedicated personal service from start to finish. Our Customer Service team is here to support you throughout your rental period.

TDC are independent specialists promoting all high quality manufacturers and instrument types. Equipment can be delivered Next Day or Same Day to suit your requirements.

When you are finished, simply contact us to arrange your equipment collection or alternatively you can despatch it back to us – we make it easy.

## RENTING FROM TDC JUST MAKES SENSE

By using TDC Test Equipment Rental Solutions, you benefit from our extensive rental inventory that is second to none. We constantly refresh our equipment range with branded equipment manufacturers such as Megger, FLUKE, Chauvin Arnoux, OMICRON, FLIR, b2 HVA, Agilent Technologies, Dranetz BMI, Fujikura, JDSU, Ametek Jofra, GE DRUCK, RAE Systems, TSI Airflow, Rohde & Schwarz, NORBAR, PANAMETRICS, Tektronix and many more.

You can utilise our rental equipment to suit your own requirements, from one week to as many months as you need. You only pay for what you use down to the day. Renting with TDC is straightforward and easy. Our expert Sales and Applications Engineers will find the best solution to suit your application.

Delivery & Collection is arranged by us - we make it hassle free and easy.

## TDC 6 POINT RENTAL GUARANTEE - OUR REPUTATION MATTERS



### 1 SAME DAY DISPATCH

Many of our customers operate to very strict deadlines. Providing the order is placed and confirmed before 3pm, your equipment will be despatched the same day.



### 2 QUALITY

All Equipment is checked prior to dispatch to ensure it is servicable and in safe working order. Certification checks are standard.



### 3 SUPPORT

We will provide you with enough information to make an informed choice of the correct equipment required for your application.



### 4 PRICE

We offer a simple price match promise. We'll match any genuine competitor quote.



### 5 CUSTOMER SERVICE

We can promise that throughout your rental period, we will do our utmost to provide you with the best customer service. All information we provide is in good faith and free of charge. We will provide a quote for any consultancy or professional advice that may be required.



### 6 REPUTATION

We know we are only as good as our last job. We don't just want regular customers - we want to build loyal customers.



For all enquiries, please contact: Gordon Thow (Test Equipment Rental Manager)

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Since 1913



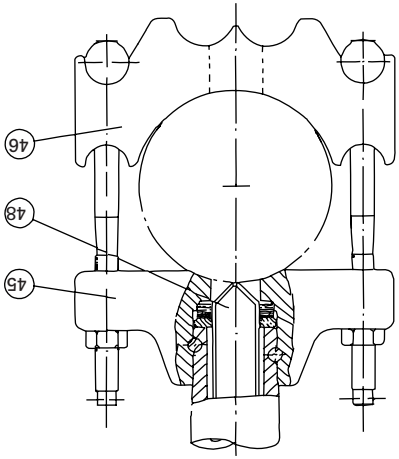
**TEST EQUIPMENT RENTAL SERVICES**

## Cable Spiker

User Manual/Datasheet

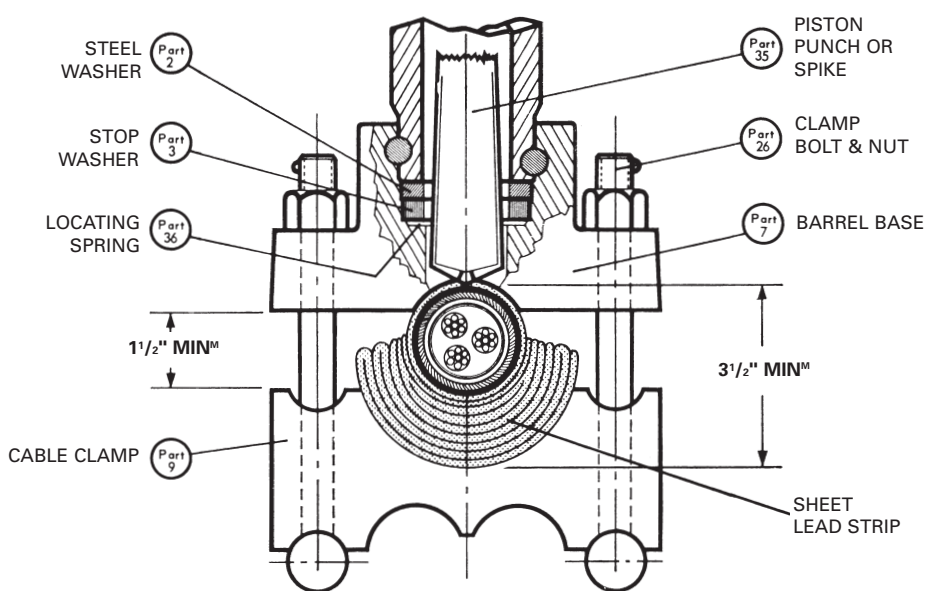
The heavy duty cable spiker has the capacity to spike steel wire armoured cable up to 6 in. diameter. Except for the special large capacity barrel base (45), cable clamp (46) and modified punch (48) the heavy duty cable spiker is the same as the standard tool.

USE RED MARK (HEAVY CHARGE) CARTRIDGES  
 (45) BARREL BASE (46) CABLE CLAMP  
 (48) PISTON PUNCH.



### HEAVY DUTY CABLE SPIKER

### SPIKING SMALL DIAMETER CABLE



#### IMPORTANT

Use only Green or Silver Cartridges when Spiking small diameter cables.

Adequate and correct lead-packing is essential for trouble-free spiking of small diameter cables.

First wrap a single layer of sheet lead completely round the cable and then pack further lead strips underneath and at sides to give at least 3 1/2" of solid resistance essential to absorb the full thrust of the piston punch or spike. Equal tightening of the two clamp bolt nuts in conjunction with proper lead-packing will ensure that the barrel base is satisfactorily aligned with and spaced at least a safe 1 1/2" from the cable clamp.

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Neglect to properly clean and oil each day after use and before putting away will lead to early trouble due to corrosion from acid products of combustion.

Carefully wipe all other components with a clean but oily rag and reassemble complete and return all equipment and cartridges to safe keeping ready for immediate future use.

Assemble barrel (1) with care seeing piston punch is correctly positioned and that the marks 'V' on the barrel (1) and barrel base (7) are adjacent. Push in barrel base taper pins (8) and tap them home securely.

See that the barrel base stop washer (3) is in good condition - replace it if damaged - and assemble it on top of the locating spring (36) and then place the barrel base steel washer (2) on top with its slot in line with that of the locating spring.

Carefully wipe out barrel bore with clean but oily rag, smear light clean grease sparingly over the piston portion of the piston punch (35) and reassemble it to barrel (1).

Barrel (1) is removed from barrel base (7) by tapping out the two barrel base taper pins (8). Piston punch (35) may then be withdrawn. The cleaning tool (40) is then carefully inserted in the barrel bore and pushed right home and then rotated with firm forward pressure to remove powder deposit at breach.

### CLEANING GUIDE (ALL CABLE SPIKERS)

## 'ACVOKE' CABLE SPIKER

### STANDARD CABLE SPIKER

For use with steel wire armoured cable up to 4 1/2 in. diameter.

### HEAVY DUTY CABLE SPIKER

For use with steel wire armoured cable up to 6 in. diameter.

### CABLE SPIKER CONVERSION KIT

For use with the standard cable Spiker ONLY when aluminium sheathed 11 kV cables are to be spiked.

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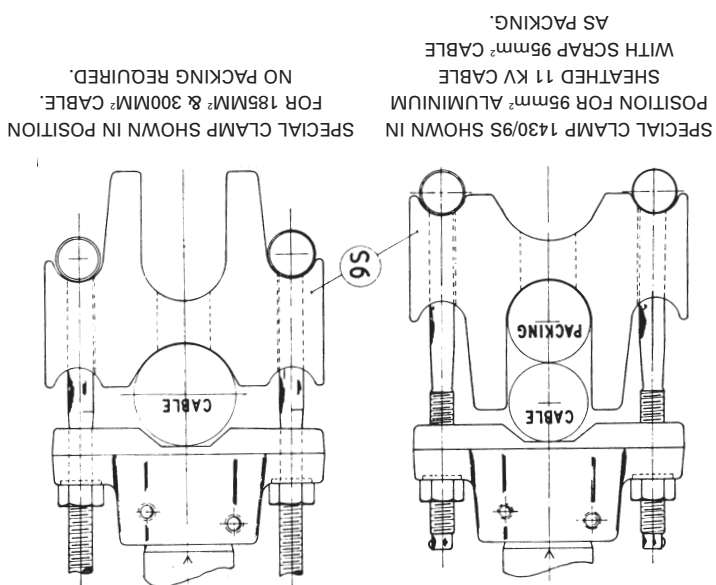
Contractors to Ministry of Defence,  
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In all other respects use the cable spiker in the manner described under 'Instructions for Use (All Cable Spikers)', page 3.

**DO NOT ATTEMPT TO SPIKE THE 95 mm<sup>2</sup> CABLE WITHOUT PACKING OF THE TYPE DESCRIBED ABOVE AS SERIOUS DAMAGE WILL RESULT TO THE TOOL**

The clamp is designed so that one side marked 300 and 185 takes both the 300 mm<sup>2</sup> and 185 mm<sup>2</sup> conductor area cables. Providing only the 'Super Light' cartridges are used (see under cartridge selection), no packing of this size of cable is required. The clamp is reversible to take the 95 mm<sup>2</sup> conductor area cable. It will be seen, from the diagram above, that packing is necessary when spiking this size of cable. A short length (say 4 in. long) of scrap 95 mm<sup>2</sup> cable should be used as packing by placing it under the cable to be spiked as shown in the diagram. It will be found that the scrap length cable can be used as packing more than once by moving it to a new position. If preferred, packing can be in the form of a rolled or cast billet of lead of similar diameter.

The conversion kit consists of a special cable clamp replacing the standard cable clamp part number 1430/9S which must only be used with the standard cable spiker replacing the standard cable clamp part number 1430/9. See diagram above.



**CABLE SPIKER CONVERSION KIT FOR USE WITH 11 KV ALUMINIUM SHEATHED CABLES 300 mm<sup>2</sup>, 185 mm<sup>2</sup>, 95 mm<sup>2</sup> CONDUCTOR AREAS**

**CARTRIDGE SELECTION**

**'RED' STRENGTH (HEAVY)** For use with the older types of steel wire armoured cables over 3<sup>3</sup>/<sub>8</sub>" outside diameter, in the Standard Cable Spiker and up to 6" outside diameter in the Heavy Duty Cable Spiker.

**'GREEN' STRENGTH (MEDIUM)** For lead covered and all armoured cables up to 3<sup>3</sup>/<sub>8</sub>" outside diameter.

**'SILVER' STRENGTH (LIGHT)** For Aluminium sheathed cables up to 300mm<sup>2</sup> and the modern small diameter plastic covered cables.

**'YELLOW' STRENGTH (EXTRA LIGHT)** For small polymeric type cables having no outer metallised sheath.

**Important Note:** Cartridge selection is of vital importance and Accles & Shelvoke Limited will not be held responsible for damage to personnel or equipment as a result of incorrect selection.

**MISFIRE PROCEDURE**

If the cartridge fails to fire instantaneously when struck by the firing pin, it is unlikely that a delayed explosion will occur.

However, if the tool does not fire:

1. Do not touch anything.
2. Wait three minutes.
3. Ensure that safety catch is in 'safe' position.
4. Ease breech cap one full turn only and then lift extractor to free cartridge rim from chamber.
5. Completely remove breech cap and lift out cartridge by hand.

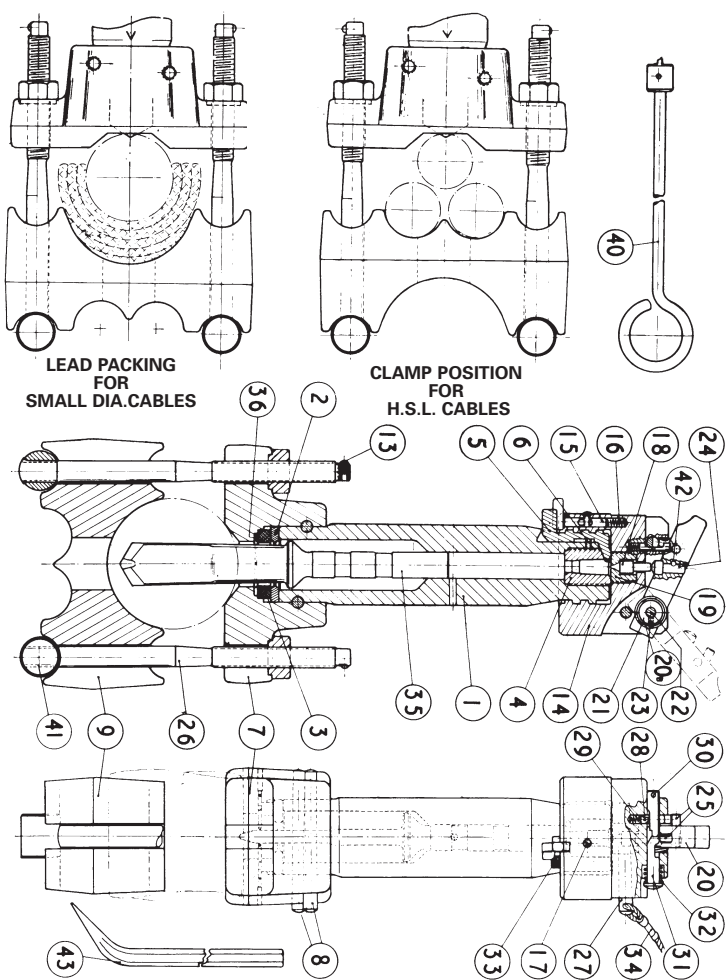
The probable cause of the failure will be:

- (a) Weak hammer spring.
- (b) Hammer tight on bush.
- (c) Firing pin eroded.

The cartridge can safely be used or fired again once the firing mechanism of the tool has been checked. If cartridge still does not fire, then return it to Accles and Shelvoke Limited, for testing and report.

1. Clamp tool securely to cable. Tighten clamp bolt nuts (26) evenly so that cable clamp (9, 46 or 95 depending on type) remains parallel to barrel base (7). Cable clamps are reversible to accommodate varying types of cable.
2. Press up breech cap latch (15), unscrew (right-hand thread) and remove breech cap (14).
3. Select correct strength of cartridge and insert in breech block (4) (see under cartridge selection page 7).
4. Screw breech cap (14) back into place seeing breech cap latch (15) trips past the extractor (5) and drops alongside stop screw (33).
5. Lay out lanyard (34) to its full length of 7 metres to give straight pull on hammer release pin (27). In confined spaces a crowbar or other 'corner' around which lanyard is pulled, may be desirable.
6. Pull back hammer (20), insert hammer release pin (27) sufficiently far to retain hammer in cocked position.
7. Ascertain that all personnel are out of the danger area.
8. Operator may then press safety catch (31) button painted RED as far as it will go. Tool is then ready for firing. When fired safety catch automatically returns to safe position.
9. Operator fires tool by sharp pull on lanyard.
10. After observance of any safety regulations in regard to spiking procedure, operator may then unscrew breech cap (14), lift extractor (5) and remove spent cartridge. It is desirable to lift extractor after unscrewing breech cap (14) one turn only thus releasing any trapped gases (which might otherwise forcibly eject the cartridge case into operator's face).
11. Remove cable clamp (9).
12. Remove barrel, barrel base and piston punch (35) as one unit using lever between barrel base and cable to lift if necessary.
13. After day's use strip down for thorough cleaning in readiness for next spiking operations.

**INSTRUCTIONS FOR USE (ALL CABLE SPIKERS)**



Part No.	DESCRIPTION	Off
1	Barrel	1
2	Barrel Base Steel Washer	1
3	Barrel Base Stop Washer	1
4	Breech Block	1
5	Extractor	1
6	Extractor Retaining Screw	1
7	Barrel Base Taper Pin	2
8	Cable Clamp	1
9	Breech Cap Latch	1
14	Breech Cap Latch Spring	1
15	Breech Cap Latch	1
16	Breech Cap Latch Retaining Screw	1
17	Firing Pin	1
18	Firing Pin Bush	1
19	Hammer and 20B	1
20	Hammer Bush	1
21	Hammer Spring	1
22	Hammer Spring Pivot	1
24	Hammer Button	1
25	Stop Pin	1
26	Clamp Bolt Complete	2
27	Hammer Release Pin	2
28	Hammer Safety Cross Pin	1
29	Pin Spring	1
30	Hammer Safety Cross	1
31	Safety Catch	1
32	Safety Catch Spring	1
33	Breech Cap Stop Screw	1
34	Lanyard	1
35	Piston Punch Locating Spring	1
36	Cleaner Complete	1
40	Turnion	1
41	Turnion	2
42	Hammer Button Cross Pin	1
43	Lever	1

**'ACVOKÉ' CABLE SPIKER STANDARD TYPE ACCLES & SHELVOKÉ LTD. WITTON, BIRMINGHAM B6 7UT ENGLAND**

# THE 'ACVOKE' CABLE SPIKER

**⚠ WARNING** DO NOT ATTEMPT TO USE THIS TOOL UNTIL YOU  
HAVE READ AND UNDERSTOOD THESE INSTRUCTIONS

## USE & MAINTENANCE

# ACCLES & SHELVOKE CABLE SPIKER

accles  
& shelvoke



- A high quality, durable safety tool
- Suitable for all cable designs
- Penetrates every form of normally applied cable coverings
- Easy to assemble and simple to operate
- Safest tool available for assured cable de-energization
- Employee safety achieved through positive remote operation
- Provides years of regular trouble-free usage

# ACCLES & SHELVOKES CABLE SPIKER FOR ELECTRIC POWER CABLES

## A LIFE SAVER

### SCOPE

When it is intended to work on any Electrical Power Cable, either for the purpose of carrying out repairs or for tapping or arranging additional feeders, it is vital that special precautions be taken to secure the safety of the employees.

After the cable has been made dead and connected to earth at the point of supply, the cable is cut, usually by means of hacksaw or cutters.

### CRITERIA

It often happens that the cable to be cut is distant from the circuit disconnect, grouped with other cables and sometimes buried in the ground. In order to avoid any possibility of a mistake and a "live" cable being cut, most authorities insist that a sequential rigid four step procedure be followed which requires the disconnection of power at both circuit ends, identification of cable markers, electronic instrumentation signal checks and finally cable mechanical spiking.

The authorities made the final step mandatory which requires that a wide iron spike be driven, either with a hammer or an extended stick into the cable intended to be cut before allowing further work to proceed. If by any mischance a "live" cable is spiked, the resulting high magnitude short circuit current should trip out the feeder circuit breaker.

### SAFETY CONSIDERATIONS

This method was somewhat crude and there is grave danger to the employee carrying out the spiking operation, owing to the sudden thrust of substantial electrical fault energy capable of exploding the cable and creating a high velocity deadly spray of conductor, shield and/or sheath metal fragments. Even the sight of a fault flashover could cause permanent blindness.

### SAFETY FEATURES

In order to enable the spiking operation to be carried out in perfect safety, the Accles & Shelvoke CABLE SPIKER has the great advantage that it can be remotely controlled at the moment of firing by means of a lanyard (rope) release.

The operator can thus stand at a point of safety and if by chance a "live" cable is spiked, the damage will be local to the cable.

As the speed of penetration of the spiking punch is so rapid, it has been found in practice that even if a "live" cable is spiked, usually no damage to the cable spiker results. If however, the fault current happens to be extremely high, it may be that the actual spiking punch itself may suffer, but yet be capable of tripping a normally operating breaker.

This punch, is of course, easily replaceable and a spare can be fitted in a matter of seconds.

An added feature of the CABLE SPIKER is that the wide punch shears the cable partially or totally, depending on the cable size, hence reducing additional cable cutting effort.

### APPLICATIONS

The CABLE SPIKER is suitable for use with all types and voltages of power cable including single and multiple conductor laminated, polymeric, elastomeric, unshielded, shielded, concentric neutral, interlock armoured, steel wire armoured, leaded covered etc., designs in either fixed or portable installations.

### PREVENTS ACCIDENTS

The CABLE SPIKER is a quality durable tool designed to positively electrically ground out any required power cable for definite manpower accident prevention and life saving.

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To differentiate our organisation in order to achieve continuous, sustainable growth, TDC endeavours to fully understand and exceed the expectations of our customers, and to work proactively to deliver **Engineering Excellence.**



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