



# Datasheet



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## CABLE SPIKER KIT

The Bowthorpe Cable Spiker is only intended for use by competent personnel fully trained in the use of high voltage electrical test and safety equipment. These instructions are not meant as a replacement for the necessary correct training or site Health and Safety code.

The Bowthorpe Cable Spiker is intended to prove that a selected cable, previously disconnected, is in fact dead before site work commences. The unit which has been in world wide use for over 25 years is silent in operation and of a robust and rigid construction.

The kit comprises a hand operated hydraulic pump connected by a fully insulated hose (normally 5.5 m although longer lengths can be supplied on request) to a hydraulic ram which carries the diamond shaped chisel cable spike. The ram is mounted on a shaped tubular steel body which is located and held around a cable, up to 102mm dia., by the 2 threaded steel rods connected to the lower tubular steel base with its cable locating tray.

An independent earth cable 6m x 50mm<sup>2</sup> with suitable connecting lugs is also supplied.

All component parts are supplied in a stout wooden carrying case.



Cable Spiker Kit :- F-CSTE

## OPERATING INSTRUCTIONS

- 1 Locate cable to be spiked and ensure its positive disconnection from electrical system.
- 2 Remove spiker assembly from the wooden carrying case and separate the body, with its hydraulic ram, from base by loosening the 2 knurled/wing nuts on the 2 tensioning rods and swinging them sideways (Fig 1).
- 3 Locate the cable in the "V" shaped tray on the base with the 2 tensioning rods either side.
- 4 Check that the spike is correctly located in the body and that the ram is fully retracted. The ram is fully retracted when the point of the spike is level with or above the point of the "V" shaped locating cut-out (Fig 2). The spike is retained by a sprung loaded ball in a groove in the carrier and a pin in the carrier locates in a groove in the spike to ensure correct orientation.
- 5 Locate the body over the cable and between the 2 tensioning rods. Swing the rods in and locate them in the bottom brackets and the slots in the top plate of the tubular body. Tighten nuts evenly until the assembly is rigid.
- 6 Remove hand pump with its hose from the case and connect the free end with its quick connect coupling to the ram on the spiker body. Hand tighten only.
- 7 Connect earth cable to the copper bracket on the back of the spiker body using fixings provided (Fig 3).

**WARNING:** This spiker must not be used without an earth cable connected and properly earthed as failure to do so could have serious consequences for the operator in the event of a live cable being pierced.



Fig 1



Fig 2



Fig 3

- 8 Terminate the other end of the earth cable to a suitable earth. It is not necessary to extend the earth cable fully if a convenient earth point is adjacent to the tool however it must be terminated at a position at least 6m from the operator's position.
- 9 Extend the hydraulic hose with the pump away from the connected spiker. To comply with site safety precautions the full length of the hose should be used to allow the greatest distance between the cable being spiked and the operator who should be wearing eye and other relevant protective equipment.
- 10 Turn the pump oil filler cap to "VENT". Hand tighten the winged screw on the pump and operate the handle which will extend the ram and start the spike moving downwards into the cable. The travel of the spike can be monitored by the pointer, attached to the ram carrier, moving down the diagonally bisected gauge plate attached to the spiker body (Fig 4). When the ram is fully extended pressure will build up in the system and a relief valve will operate in the pump.
- 11 When the spike has completed its travel release the winged screw on the pump allowing the ram to retract but leaving the spike in the cable.
- 12 Disconnect the hydraulic hose from the spiker ram cylinder wiping away any oil that may be present.
- 13 Disconnect the earth lead from both the spiker body bracket and the earthing point.
- 14 Unscrew the 2 knurled/winged nuts on the tension rods and swing the rods outwards to free and remove the spiker body leaving the spike embedded in the cable.  
**NOTE ;** Leave the spike firmly embedded in the cable as permanent evidence of spiking until the site work commences and the cable is fully opened by the jointer. The spike can eventually be removed by tapping it from side to side until it can be withdrawn.
- 15 Remove the base from around the cable.
- 16 Ensure all the components of the spiker are clean and free from damage before repacking in the carrying case.

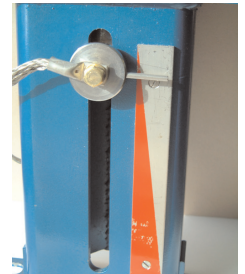


Fig 4

**For further information contact [hvsurgearresters@tycoelectronics.com](mailto:hvsurgearresters@tycoelectronics.com)**

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## Lee-Vaughan Cable Identifier Mk IV

**Cable identifier for use by Electricity Distribution Engineers as an essential part of their equipment when reliable high voltage cable identification is required.**



The Lee-Vaughan Cable Identifier is a well proven and reliable instrument for the positive identification of high voltage power cables prior to spiking or commencing work. The Lee Vaughan is particularly beneficial in situations where one of several cables in a location requires identification.

### Features

- DEVELOPED FOR USE BY ELECTRICITY DISTRIBUTION SYSTEM ENGINEERS
- COMPLIES WITH RELEVANT CE REQUIREMENTS
- VISUAL AND AUDIBLE IDENTIFICATION FROM RISE AND FALL OF INDUCED SIGNAL DUE TO CABLE 'LAY'.
- CONVENIENTLY HOUSED IN FITTED CARRY CASE
- TRANSMITTER & RECEIVER EACH POWERED BY READILY AVAILABLE 4 X AA SIZE CELLS
- NEAT COMPACT DESIGN

### Description

It consists of a sturdy plastic carrying case foam-fitted to house the transmitter, receiver, and headset.

The transmitter is in a strong plastic case with spring loaded output connection terminals. Power for several hours use is by 4 AA cells (HP7) that are readily available and easily fitted. The transmitter emits an interrupted signal that when fed into the cable can be picked up by the receiver at the identification point. When the unit is in operation a red LED flashes at the interrupt frequency.

The receiver is housed in a similar case to the transmitter and requires the same type of battery. It contains a coil for signal pickup and an amplifier with gain control for the meter and headset. To help to conserve battery life an interlock is arranged to disconnect the battery when the headset plug is removed from its socket.

### Operation

The cable to be identified must be discharged to earth and 'dead' before using the identifier.

To use the Identifier, a short circuit is placed across two healthy cores at the far end of the cable to be identified. The transmitter should be connected to the same two cores at the near end. The

transmitter should be switched on and the LED observed to flash. After switching on the receiver and plugging-in the headset, the transmitter's 'bleep bleep' will be heard. Observing the meter should show a varying deflection in sympathy with the 'bleeps'. Leave the transmitter switched on but switch off the receiver.

At the site where the cable is to be identified the headset should be plugged into the receiver again and switching on should produce some background hiss in the headset. As the correct cable is approached by the receiver the distinctive 'bleep bleep' will be heard in the headset and an accompanying deflection seen on the meter.

It is important to understand that 'identification' by this technique is made by detection of the magnetic field from the current loop formed by the shorted cable cores. Due to capacity effects some signal might sometimes be heard from cables other than the correct one. To avoid this 'false identification' always run the receiver probe along the axis of the cable and ensure that the 'lay' of the cable (twist of the cores) gives rise to a clearly defined rise and fall of the received signal. It is this rise and fall characteristic in the loudness of the 'bleeps' that gives this method of identification its effectiveness.

## **Caution**

The Electricity Supply Safety Rules should be observed when using this instrument.

## **Specification**

Transmitter Signal 1 .6KHz interrupted Power output minimised to avoid adjacent cable pickup.

Battery Power: - 4 x AA per unit.

Dimensions

Transmitter I Receiver 175 x 90 x 45mm

Carrying Case:-360 x 270 x 90mm

Weight including carry case and batteries:-1 .7 Kg

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## LOCATIONS

### LONDON, HEATHROW

#### Sunbelt Rentals UK Test & Monitoring

242-252 London Road, Staines, London TW18 4JQ

0333 122 3126

[www.sunbeltrentals.co.uk/find-a-depot/london-heathrow](http://www.sunbeltrentals.co.uk/find-a-depot/london-heathrow)

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