

Live working — Terminology for tools, equipment and devices

ICS 13.260; 01.040.13

National foreword

This British Standard is the UK implementation of EN 60743:2001+A1:2008. It is identical to IEC 60743:2001, incorporating amendment 1:2008. It supersedes BS EN 60743:2001 which is withdrawn.

The start and finish of text introduced or altered by amendment is indicated in the text by tags. Tags indicating changes to IEC text carry the number of the IEC amendment. For example, text altered by IEC amendment 1 is indicated by **A1** **A1**.

The UK participation in its preparation was entrusted by Technical Committee PEL/78, Tools for live working.

A list of organizations represented on this committee can be obtained on request to its secretary.

This publication does not purport to include all the necessary provisions of a contract. Users are responsible for its correct application.

Compliance with a British Standard cannot confer immunity from legal obligations.

Amendments/corrigenda issued since publication

Date	Comments
31 December 2009	Implementation of IEC amendment 1:2008 with CENELEC endorsement A1:2008

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English version

**Live working -
Terminology for tools, equipment and devices
(IEC 60743:2001)**

Travaux sous tension -
Terminologie pour l'outillage, le matériel et
les dispositifs
(CEI 60743:2001)

Arbeiten unter Spannung -
Terminologie für Werkzeuge,
Ausrüstungen und Geräte
(IEC 60743:2001)

This European Standard was approved by CENELEC on 2001-12-01. CENELEC members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for giving this European Standard the status of a national standard without any alteration.

Up-to-date lists and bibliographical references concerning such national standards may be obtained on application to the Central Secretariat or to any CENELEC member.

This European Standard exists in three official versions (English, French, German). A version in any other language made by translation under the responsibility of a CENELEC member into its own language and notified to the Central Secretariat has the same status as the official versions.

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CENELEC

European Committee for Electrotechnical Standardization
Comité Européen de Normalisation Electrotechnique
Europäisches Komitee für Elektrotechnische Normung

Central Secretariat: rue de Stassart 35, B - 1050 Brussels

Foreword

The text of document 78/393/FDIS, future edition 2 of IEC 60743, prepared by IEC TC 78, Live working, was submitted to the IEC-CENELEC parallel vote and was approved by CENELEC as EN 60743 on 2001-12-01.

This European Standard supersedes EN 60743:1996.

The following dates were fixed:

- latest date by which the EN has to be implemented
at national level by publication of an identical
national standard or by endorsement (dop) 2002-09-01
- latest date by which the national standards conflicting
with the EN have to be withdrawn (dow) 2004-12-01

Annexes designated "normative" are part of the body of the standard.
In this standard, annex ZA is normative.
Annex ZA has been added by CENELEC.

Endorsement notice

The text of the International Standard IEC 60743:2001 was approved by CENELEC as a European Standard without any modification.

Foreword to amendment A1

The text of document 78/695/CDV, future amendment 1 to IEC 60743:2001, prepared by IEC TC 78, Live working, was submitted to the IEC-CENELEC Parallel Unique Acceptance Procedure and was approved by CENELEC as amendment A1 to EN 60743:2001 on 2008-05-01.

The following dates were fixed:

- latest date by which the amendment has to be
implemented at national level by publication of
an identical national standard or by endorsement (dop) 2009-02-01
- latest date by which the national standards conflicting
with the amendment have to be withdrawn (dow) 2011-05-01

Endorsement notice

The text of amendment 1:2008 to the International Standard IEC 60743:2001 was approved by CENELEC as an amendment to the European Standard without any modification.

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LIVE WORKING – TERMINOLOGY FOR TOOLS, EQUIPMENT AND DEVICES

1 General

1.1 Scope

This International Standard applies to the terminology used to describe tools, equipment, devices and methods used in live working.

IEC 60050(651) gives the definitions of all terms used in live working. The present standard permits identification of the tools, equipment and devices and standardizes their names.

1.2 Normative references

The following normative documents contain provisions which, through reference in this text, constitute provisions of this International Standard. For dated references, subsequent amendments to, or revisions of, any of these publications do not apply. However, parties to agreements based on this International Standard are encouraged to investigate the possibility of applying the most recent editions of the normative documents indicated below. For undated references, the latest edition of the normative document referred to applies. Members of IEC and ISO maintain registers of currently valid International Standards.

IEC 60050(195):1998, *International Electrotechnical Vocabulary – Chapter 195: Earthing and protection against electric shock*

IEC 60050(651):1999, *International Electrotechnical Vocabulary – Chapter 651: Live working*

Guide ISO-IEC 51 :1990, *Guidelines for the inclusion of safety aspects in standards*

ISO 472:1999, *Plastics - Vocabulary*

2 General terms

2.1 Live working and methods

2.1.1

live working (live work)

activity in which a worker makes contact with energized or charged live parts or penetrates inside a live working zone with either parts of his or her body or with tools, equipment or devices being handled

NOTE 1 Examples of live working include maintenance, connection and disconnection operations.

NOTE 2 Live working is performed using specific methods: hot stick working, insulating glove working and bare hand working.

[IEV 651-01-01 modified]

2.1.2

live part

conductor or conductive part intended to be energized in normal operation, including a neutral conductor, but by convention not a PEN conductor [IEV 195-02-12] or PEM conductor [IEV 195-02-13] or PEL conductor [IEV 195-02-14]

NOTE This concept does not necessarily imply a risk of shock.

[IEV 651-01-03 modified]

2.1.3

live working zone

space around live parts where prevention of electrical hazard is assured by suitable means such as limiting access to skilled persons, maintaining the appropriate air distances and using tools for live working

NOTE 1 The limits of a live working zone are equal to or greater than the minimum working distance.

NOTE 2 The live working zone and the specific precautions that apply are generally defined by national or company regulations.

NOTE 3 In some countries the terms "danger zone" or "guard zone" are used instead of live working zone.

[IEV 651-01-06 modified]

2.1.4

hot stick working

live working according to a method whereby the worker remains at a specified distance from the live parts and carries out the work by means of insulating sticks

[IEV 651-01-09]

2.1.5

insulating glove working

live working according to a method whereby the worker is electrically protected by insulating gloves and other insulating equipment and carries out the work in direct mechanical contact with live parts

[IEV 651-01-10]

2.1.6

bare hand working

live working according to a method whereby the worker carries out the work in electrical contact with live parts, having the potential of the worker's body raised to the voltage of the live parts by electrical connection, and suitably isolated from the surroundings at a different potential

[IEV 651-01-11]

2.2

tools for live working

tools, devices and equipment specifically designed or adapted, tested and maintained as apparatus for live working

[IEV 651-01-24 modified]

2.3 Difference between insulated and insulating tools

2.3.1

insulated tool

 tool made of conductive material(s), fully or partially covered by insulating material(s)

[IEV 651-01-25 modified] 

2.3.2

insulating tool

A1 tool made essentially or totally from insulating material(s)
[IEV 651-01-26 modified] **A1**

2.4 Components of insulating tools

2.4.1

end fitting

part permanently fitted to the end of the insulating tube or rod
[IEV 651-02-02 modified]

2.4.2

foam (in live working)

insulating material composed of closed cells, generally made of polyurethane, used to prevent the ingress and migration of moisture

NOTE Foam is generally used to fill tubes and similar insulating structures.

[IEV 651-02-03]

2.4.3

elastomer

generic term that includes rubber, latex and elastomeric compounds that may be natural or synthetic or a mixture or a combination of both

2.4.4

plastic

material which contains as an essential ingredient a high polymer and which at some stage in its processing into finished products can be shaped by flow

NOTE 1 Elastomeric materials, which also are shaped by flow, are not considered as plastics.

NOTE 2 In some countries, particularly in the United Kingdom, it is a permitted option to use the term « plastics » as the singular form as well as the plural form.

[ISO 472]

2.4.5

insulating rod (in live working)

long-shaped piece, normally of circular cross section, which is constructed or formed from synthetic insulating and rigid material and which may be reinforced

[IEV 651-02-04 modified]

2.4.6

insulating tube (in live working)

long-shaped hollow piece, normally of circular cross section, which is constructed or formed from synthetic insulating and rigid material and is normally reinforced, the interior of which can be foam-filled

[IEV 651-02-05 modified]

2.5 Insulating sticks, assemblies and tools

2.5.1

insulating stick

insulating tool essentially made of insulating tube and/or rod with end fittings

[IEV 651-02-01]

2.5.2

hand stick

insulating stick manipulated by hand, used to operate on live parts at a distance

[IEV 651-02-07]

2.5.3

attachable universal tool (in live working)

tool designed to be affixed at the end of a universal hand stick

NOTE This tool permits a variety of tasks to be carried out such as:

- to hold various parts: e.g. adjustable insulator fork, screw clamp, pin holder;
- to install or to pull out parts: e.g. split-pin installer, split-pin remover;
- to manipulate binding ties: e.g. rotary blades, rotary prongs.

[IEV 651-03-01]

2.5.4

support stick

insulating stick used to hold or move conductors and other equipment

[IEV 651-12-12]

2.5.5

insulating assemblies

various arrangements of support sticks and accessories for lifting, moving and/or supporting loads such as conductors, insulators, etc.

A1 2.5.6

attachable device (fitting)

device to be affixed at the end of a universal hand stick or at the end of a support stick

2.5.7

splined end device

attachable device to be affixed at the end of a universal hand stick

2.5.8

clevis and tongue stick device

attachable device to be affixed at the end of a support stick

2.5.9

hand tool

insulated or insulating tool manipulated by hand to work at low voltage

NOTE Hand tools are generally tools such as screwdrivers, pliers, wrenches and knives. 

2.6

protective cover

 rigid or flexible cover made of insulating material used to cover energized and/or dead parts and/or adjacent earthed parts in order to prevent inadvertent contact between these parts and a worker

[IEV 651-04-01 modified] 

2.7

working distance

air distance in the work location, determined to sustain the required insulation level for live working, and being ensured either by physical means or by skilled person following instructions and procedures

[IEV 651-01-19 modified]

2.7.1

minimum working distance **minimum approach distance**

minimum distance in air to be maintained between any part of the body of a worker, including any object (except appropriate tools for live working) being directly handled, and any parts at different potentials

NOTE 1 The minimum working distance is the sum of the electrical distance, corresponding to the maximum nominal voltage calculated in accordance with IEC 61472, and the selected ergonomic distance appropriate to the work being undertaken.

NOTE 2 "Appropriate tools" are tools for live working suitable for the maximum nominal voltage of the live parts.

[IEV 651-01-20 modified]

2.7.2

electrical distance

distance in air required to prevent a disruptive discharge between energized parts or between energized parts and earthed parts during live working

NOTE When safety precautions are taken, the probability of a disruptive discharge is negligible. Safety is defined as freedom from unacceptable risk of harm (see Guide ISO-IEC 51:1990).

[IEV 651-01-21 modified]

2.7.3

ergonomic distance

distance in air to take into account inadvertent movement and errors in judgement of distances while performing work

[IEV 651-01-22]

2.7.4

handling zone (in live working)

area marked on the insulated or insulating tool in which it is permissible to handle the tool

NOTE This zone gives the assurance that requirements equivalent to the minimum working distance are fulfilled when the tool is used according to its instructions.

[IEV 651-02-06]

2.7.5

vicinity zone

limited space outside the live working zone where an electrical hazard can exist

[IEV 651-01-07]

2.7.6

working in the vicinity of live parts

activity in which a worker with part of his or her body, with a tool or with any other object enters into the vicinity zone without encroaching into the live working zone

[IEV 651-01-02]

2.7.7

disruptive discharge

passage of an arc following dielectric breakdown

NOTE 1 The term "sparkover" (in French "amorçage") is used when a disruptive discharge occurs in a gaseous or liquid dielectric.

NOTE 2 The term "flashover" (in French "contournement") is used when a disruptive discharge occurs over the surface of a solid dielectric surrounded by a gaseous or liquid medium.

NOTE 3 The term "puncture" (in French "perforation") is used when a disruptive discharge occurs through a solid dielectric.

[IEV 651-01-18]

2.7.8

skilled person (electrically)

person with relevant education and experience to enable him or her to analyse risks and to avoid hazards which electricity can create

[IEV 651-01-33 modified]

2.8

washing zone

zone within the range of sprayed water

[IEV 651-15-03]

2.8.1

full jet

jet of water which is closed on issuing from a nozzle and which disperses into individual drops at a certain distance from the nozzle

NOTE A jet can be regarded as closed when it is as transparent as a glass rod when it issues from the nozzle.

[IEV 651-15-04]

2.8.2

spray jet

jet of water which, on issuing from a nozzle is formed from a close sequence of individual drops of water making no contact with one another

[IEV 651-15-05]

3 Perches isolantes

3 Insulating sticks

3.1 Perches à main

3.1 Hand sticks

3.1.1

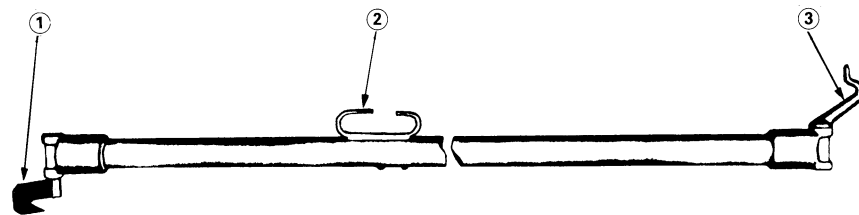
perche à attaches

perche à main aux extrémités de laquelle peuvent être fixés des outils pour faire ou défaire l'attache d'un conducteur sur un isolateur

3.1.1

tie stick

hand stick to the ends of which tools can be attached to bind or unbind a conductor to or from an insulator



- ① lame tournante
- ② Crochet double
- ③ Crochet tournant

- ① Rotary blade
- ② Combination hanger-hook
- ③ Rotary tie-wire (binder) pick/prong

3.1.2

perche à crochet rétractable

perche à main utilisée pour installer, enlever, visser ou dévisser à distance tout dispositif comportant un anneau [VEI 651-02-09 modifiée]

3.1.2

hook stick

hand stick used to install, remove or handle clamps and various accessories equipped with an eye [IEV 651-02-09 modified]



- ① Crochet
- ② Tige de commande
- ③ Manchon de positionnement de la main
- ④ Manchon de commande

- ① Hook
- ② Operating rod
- ③ Hand position sleeve
- ④ Sliding hand grip

3.1.3

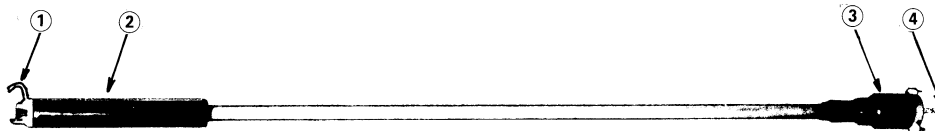
rallonge pour perche à crochet

perche isolante adaptable à une perche à crochet pour l'allonger

3.1.3

hook stick extension

insulating stick attached to the hook stick to provide a longer reach



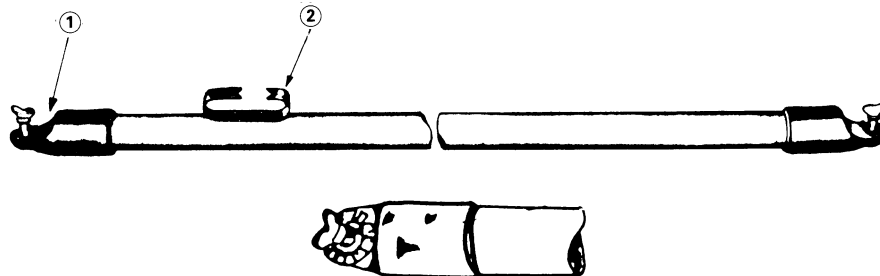
- ① Crochet
- ② Fourreau
- ③ Douille de la rallonge
- ④ Anneau de la rallonge

- ① Engaging hook
- ② Protective sleeve
- ③ Socket
- ④ Eye

3.1.4

perche à embouts universels

perche à main aux extrémités de laquelle peuvent être fixés des outils
 [VEI 651-02-10]



- ① Embout cranté
- ② Crochet double

3.1.4

universal hand stick

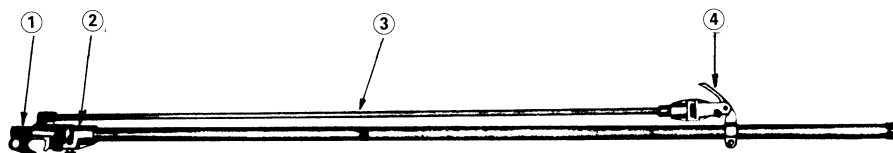
hand stick designed to accept universal tools
 [IEV 651-02-10]

- ① Splined end-fitting
- ② Combination hanger-hook

3.1.5

perche à étai

perche à main utilisée pour maintenir les conducteurs durant un travail



- ① Mâchoire mobile
- ② Mâchoire fixe orientable
- ③ Tige de commande
- ④ Levier de commande

3.1.5

wire holding stick

hand stick used to hold conductors or wires during operations

- ① Adjustable jaw
- ② Adjustable tilting head
- ③ Operating rod
- ④ Operating lever

3.1.6

perche à pince

perche à main utilisée pour saisir, immobiliser ou enlever des pièces de petites dimensions



- ① Mâchoire
- ② Crochet de suspension
- ③ Perche porteuse
- ④ Perche de commande

3.1.6

pliers stick

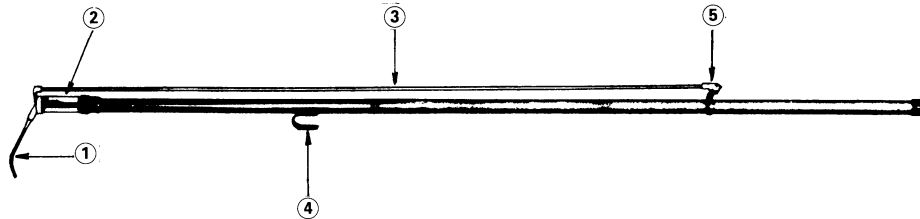
hand stick used to grip, hold in place or remove various small pieces

- ① Jaw
- ② Hanger hook
- ③ Support handle
- ④ Operating handle

3.1.7

perche-burette

perche à main utilisée pour appliquer un lubrifiant ou un dégrissant



- ① Bec
- ② Réservoir à huile
- ③ Tige de commande
- ④ Crochet de suspension
- ⑤ Levier de la tige de commande

3.1.7

insulating oiler stick

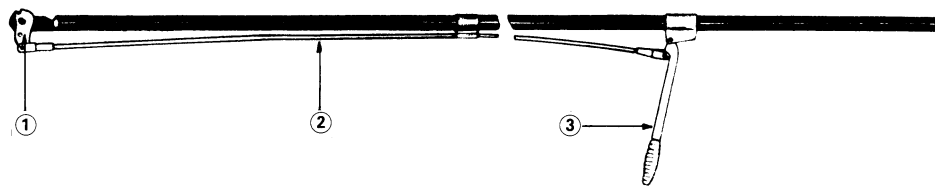
hand stick used to apply a lubricant or rust penetrant

- ① Spout
- ② Oil reservoir
- ③ Operating rod (A1)
- ④ Hanger hook
- ⑤ Operating lever

3.1.8

perche-cisaille

perche à main utilisée pour couper des conducteurs ou fils d'attache



- ① Tête de coupe
- ② Tige de commande
- ③ Levier de commande

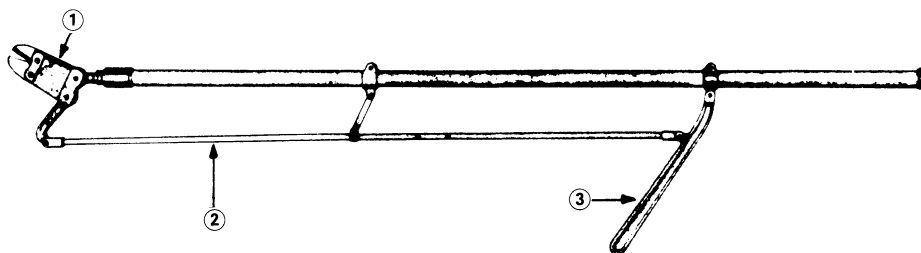
3.1.8

wire cutter stick

hand stick used to cut conductors or binding wires

- ① Cutting head
- ② Operating rod (A1)
- ③ Operating lever

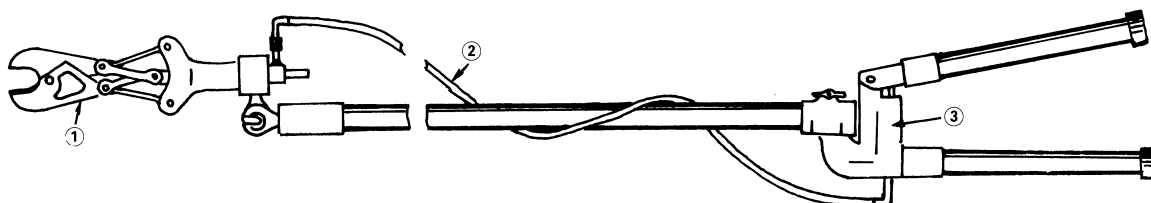
Manuelle (pour faibles sections) — Lever-type (light duty)



- ① Tête de coupe
- ② Tige de commande
- ③ Levier de commande

- ① Cutting head
- ② Operating rod (A1)
- ③ Operating lever

Manuelle (pour sections moyennes) — Lever-type (medium duty)



- ① Tête de coupe
- ② Conduit flexible
- ③ Pompe hydraulique

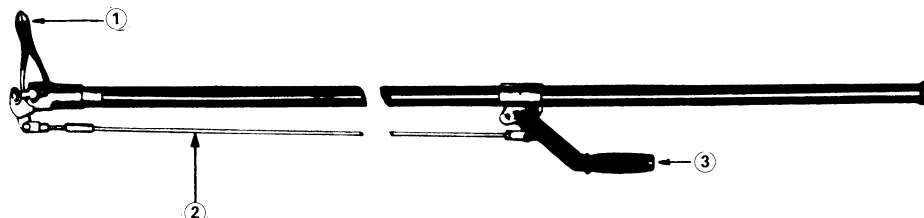
- ① Cutting head
- ② Flexible hose
- ③ Hydraulic pump

Hydraulique — Hydraulic

3.1.9

perche-cisaille «coupe-attache»

perche à main utilisée pour couper un fil d'attache



- ① Pince coupante
- ② Tige de commande
- ③ Levier de commande

3.1.9

binding-wire cutter stick (tie wire cutter)

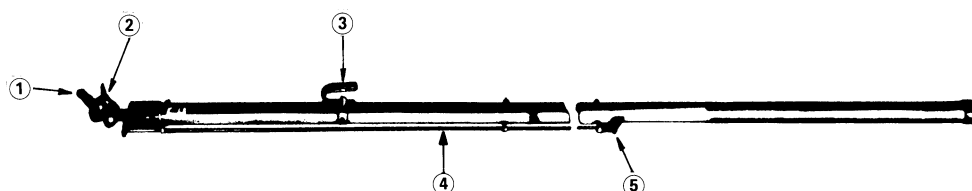
hand stick used to cut binding wires (tie wires)

- ① Cutting pliers
- ② Operating rod
- ③ Operating lever

3.1.10

perche porte-douille à angle variable

perche à main utilisée pour mettre ou enlever des vis et écrous au moyen de douilles amovibles; la tête de l'outil peut être positionnée sous différents angles



- ① Porte douille
- ② Engrenage
- ③ Crochet de suspension
- ④ Tige de commande
- ⑤ Levier de la tige de commande

3.1.10

all-angle cog spanner stick (all-angle cog wrench)

hand stick used with removable sockets to install and remove bolts and nuts; the head of the stick can be positioned at any angle

- ① Head
- ② Gear
- ③ Hanger hook
- ④ Operating rod
- ⑤ Operating lever

3.1.11

perche porte-douille à cardan

perche à main utilisée pour immobiliser, visser ou dévisser, au moyen de douilles amovibles des vis et des écrous



- ① Cardan
- ② Embout cranté

3.1.11

flexible insulated spanner stick (flexible insulated wrench)

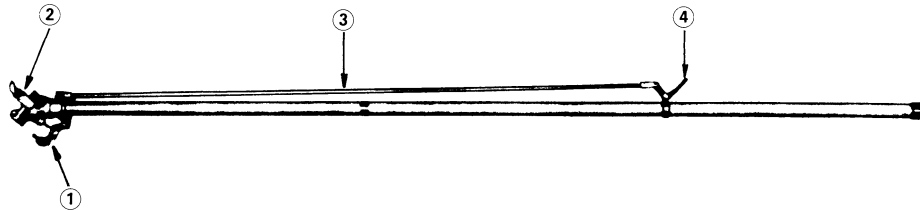
hand stick used with removable sockets to hold, install and remove bolts and nuts

- ① Flexible socket wrench head
- ② Universal splined end-fitting

3.1.12

perche porte-pince ampèremétrique

perche à main utilisée pour fixer une pince ampèremétrique



- ① Doigt de commande
- ② Taquet de fixation de la pince
- ③ Tige de commande
- ④ Levier de commande

3.1.12

clip-on ammeter stick

hand stick to which a clip-on ammeter can be attached

- ① Operating pin
- ② Ammeter clamp
- ③ Operating rod
- ④ Operating lever

3.1.13

perche rallongeable

perche à main composée de plusieurs sections; les sections sont susceptibles d'être assemblées de façon sûre

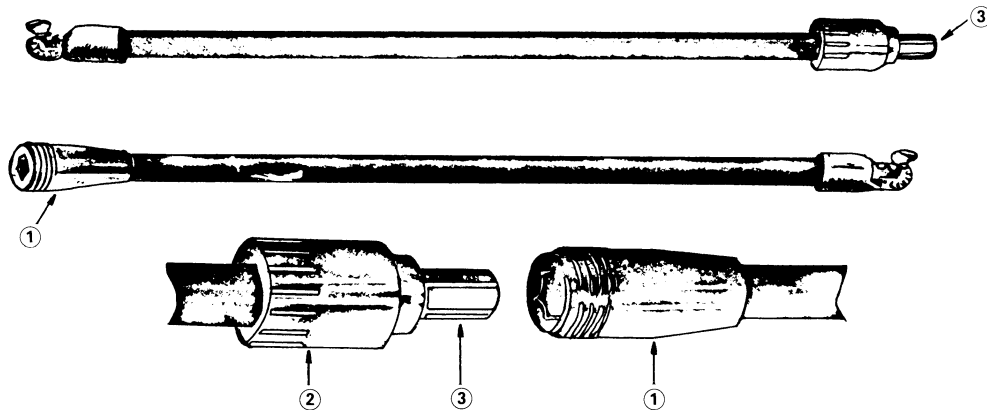
NOTE La méthode d'assemblage variera selon la conception et la fabrication.

3.1.13

extensible universal hand stick

hand stick consisting of more than one element; the elements are capable of being connected together in a secure manner

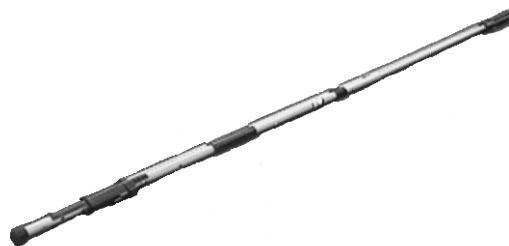
NOTE The method of connection will vary depending on design and manufacture.



- ① Embout femelle
- ② Embout mâle
- ③ Tenon

- ① Female splice
- ② Male splice
- ③ Tenon (tongue)

Perche rallongeable à presse bouton - Extensible push button hand stick



A1 3.1.14

perche à main télescopique

perche à main composée d'un nombre de sections isolantes, lesquelles sont rétractables

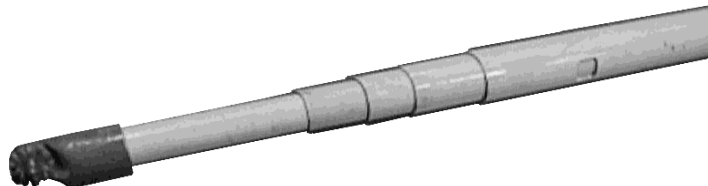
NOTE Au moins une des sections d'une perche à main télescopique est une tige isolante ou un tube rempli de mousse et l'élément le plus haut est muni d'un embout cranté ou d'un autre embout.

3.1.14

telescopic hand stick

hand stick comprised of a number of insulating elements, which are retractable

NOTE At least one of the elements of a telescopic hand stick is either an insulating rod or a foam filled tube and the uppermost element is fitted with a universal splined end-fitting or other fitting. **A1**



A1 Text deleted **A1**

3.2 Perches de maintien

3.2.1

perche à conducteur

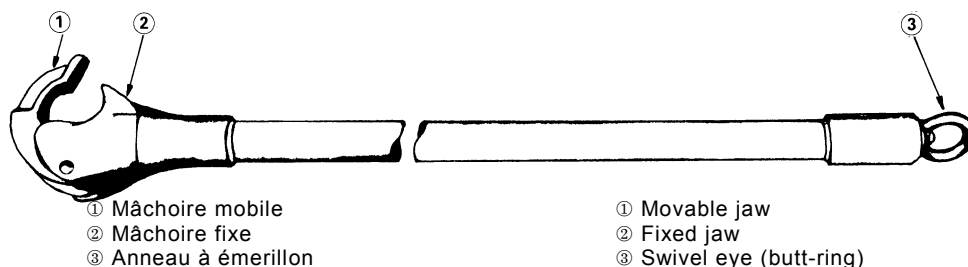
perche de maintien utilisée pour positionner ou déplacer un conducteur

3.2 Support sticks

3.2.1

conductor support stick

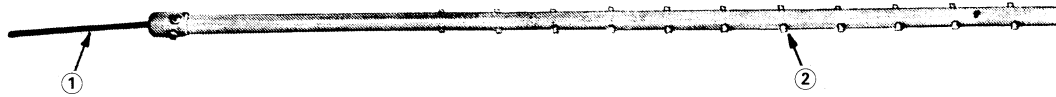
support stick used to position or move a conductor



3.2.2

tirant à broches

perche de maintien utilisée avec divers accessoires pour soulever ou tirer des conducteurs



- ① Tige filetée
- ② Broche métallique

3.2.2

adjustable tension stick

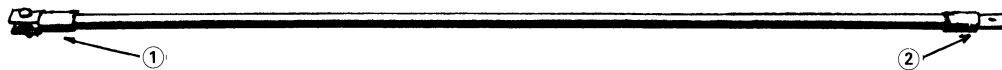
support stick which with various accessories can be used to lift or pull conductors (wires)

- ① Screw
- ② Metal adjustment-pin

3.2.3

tirant à chape et tenon

perche de maintien utilisée en association avec des outils appropriés pour réaliser des opérations diverses



- ① Chape
- ② Tenon

3.2.3

clevis/tongue stick

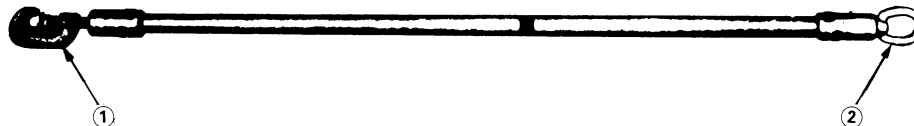
support stick used with appropriate attachments and/or adapters to perform various operations

- ① Clevis
- ② Tongue

3.2.4

tirant à étau

perche de maintien utilisée pour transmettre des efforts de traction à une pièce (ou un conducteur)



- ① Étau
- ② Anneau à émerillon

3.2.4

tension link stick

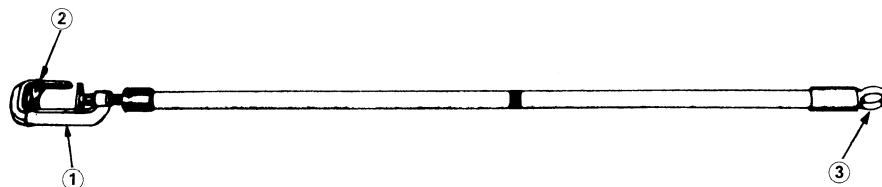
support stick used to apply tension to a component (or conductor)

- ① Jaw
- ② Swivel eye (butt-ring)

3.2.5

tirant à rouleau

tirant à étau équipé d'un rouleau permettant son déplacement le long d'un conducteur



- ① Tête
- ② Rouleau
- ③ Anneau à émerillon

3.2.5

roller link stick

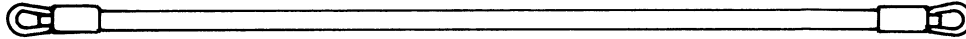
tension link stick equipped with a roller which allows its movement along the conductor

- ① Head
- ② Roller
- ③ Swivel eye (butt-ring)

3.2.6

tirant à émerillon

tirant à étau équipé d'un émerillon à l'une ou aux deux extrémités



3.2.6

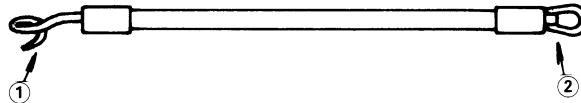
swivel link stick

tension link stick equipped with a swivel eye at one or both ends

3.2.7

tirant à queue de cochon

tirant à étau équipé d'une queue de cochon à une extrémité



- ① Queue de cochon
- ② Anneau à émerillon

3.2.7

spiral link stick

tension link stick equipped with a spiral link at one end

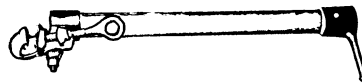
- ① Spiral link
- ② Swivel eye (butt-ring)

3.3 Divers

3.3.1

perchoir isolant

perche ou tige isolante munie d'un connecteur sous tension à une extrémité et d'un support métallique à l'autre, utilisée pour la mise en attente d'une bretelle de raccordement



3.3 Miscellaneous

3.3.1

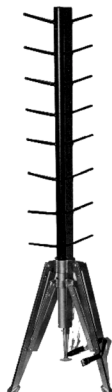
insulating hanger

insulating stick or rod with a live line connector on one end and a metal hanger-bar on the other end, used to support a jumper for a short period of time

3.3.2

râtelier

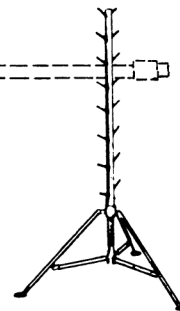
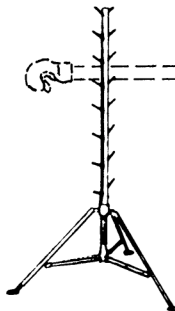
accessoire conçu pour supporter des perches isolantes ou d'autres articles pour travaux sous tension et pour les garder loin du sol



3.3.2

rack

accessory designed to support insulating sticks and other live working items and to keep them clear of the ground



4 Outils adaptables

4.1 Outils à embouts crantés

4.1.1

adapteur pour perche à crochet

outil qui, solidarisé à une perche à crochet, permet de fixer des accessoires adaptables



4.1.2

adapteur universel

outil utilisé pour modifier l'angle de fixation d'une extrémité de perche à embouts universels



4.1.3

anneau pour manchon préformé en hélice

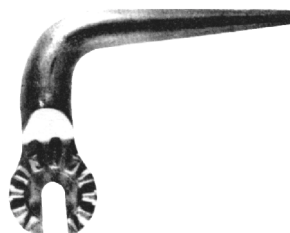
outil utilisé pour mettre en place et enlever des manchons en hélice (tige préformée)



4.1.4

broche coudée

outil utilisé pour aligner les axes des trous ou pour chasser un axe



4 Attachable devices (fittings)

4.1 Splined end devices

4.1.1

hook stick adaptor

device used to adapt a hook stick to permit the attachment of universal accessories



4.1.2

universal adaptor

device used to change the angle of attachment on a universal hand stick

4.1.3

formed-wire ring

device used to install and remove formed or preformed binding wire (tie wire)

4.1.4

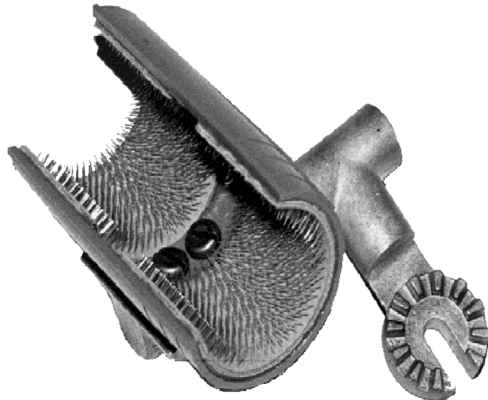
locating drift

device used to align two holes or to push a pin

4.1.5

brosse à conducteur

outil utilisé pour nettoyer des conducteurs



Semi-tubulaire - Semi-tubular

4.1.5

conductor cleaning brush

device used to clean conductors



Brosse en V - V-shaped

4.1.6

burette à pompe

outil utilisé pour appliquer un lubrifiant ou un dégrippant



4.1.6

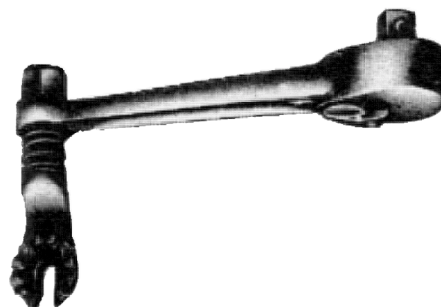
oilcan

device used to apply a lubricant or rust penetrant

4.1.7

clé à rochet

outil utilisé pour visser ou dévisser les vis et écrous au moyen de douilles amovibles



4.1.7

ratchet spanner (ratchet wrench)

tool used with removable sockets to tighten or loosen nuts and bolts

4.1.8

clé pour contre-écrou

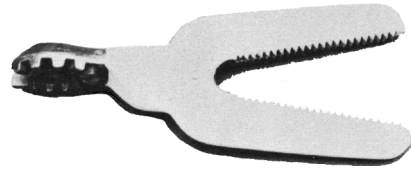
outil utilisé pour serrer et desserrer des vis et écrous



4.1.8

spanner (wrench)

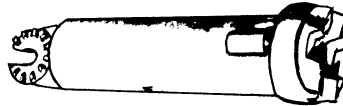
tool used to tighten and loosen nuts and bolts



4.1.9

crochet porte-anneau

outil utilisé pour tenir des pièces munies d'un anneau



4.1.9

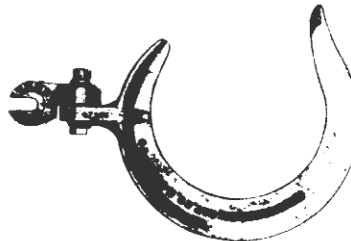
positive grip clamp stick head

device used to hold any component equipped with an eye

4.1.10

croissant

crochet en forme de croissant utilisé pour guider une chaîne d'isolateurs



4.1.10

shepherd's hook

circular shaped device attachment used to guide insulators

4.1.11

dégoupilleur

outil utilisé pour retirer les goupilles de leur logement



Dégoupilleur coudé — Spiral type

4.1.11

retaining pin remover

device used to pull out retaining pins from fittings or hardware



Dégoupilleur pointe fine — Fine-point type



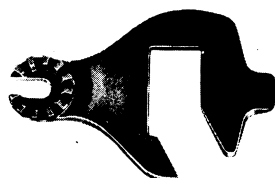
Dégoupilleur à oreilles — Cam type (pry type)



Dégoupilleur à ressort — Snap-out type

4.1.12

fourche à rotule (fourche à ball-socket)
outil utilisé pour immobiliser une rotule (genouillère, ball-socket) pendant son accrochage ou son décrochage



4.1.12

ball socket adjuster
device used to hold a ball socket during connection and disconnection

4.1.13

fourche de maintien
outil utilisé pour maintenir en position un accessoire sur lequel on intervient avec d'autres outils



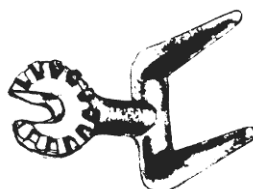
4.1.13

holding fork
device used to hold a component in position when using other tools



4.1.14

fourche à anneau
outil utilisé pour manipuler un fil d'attache ou une pièce

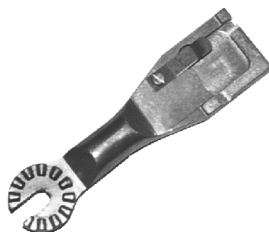


4.1.14

fixed double-prong head
device used to manipulate binding wire (tie wire) or equipment

4.1.15

goupilleur
outil utilisé pour mettre en place des goupilles, etc.



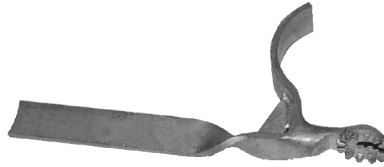
4.1.15

retaining device installer (cotter key installer)
device used to install split pins (cotter keys), « W » clips, etc.

4.1.16

goupilleur-dégoupilleur

outil utilisé pour retirer ou mettre en place des goupilles, etc.



4.1.16

retaining device installer/remover

device used to install or remove split pins (cotter keys), «W» clips, etc.

4.1.17

lame casse-attache

outil utilisé pour écarter ou couper des fils d'attache



4.1.17

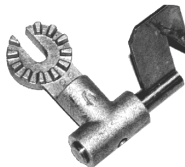
binding wire cutter blade (tie wire cutter)

device used to move or cut binding wires (tie wires)

4.1.18

lame tournante

outil tournant utilisé pour défaire des fils d'attache



4.1.18

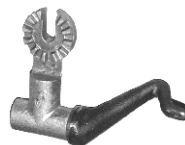
rotary blade

device which rotates and is used to cut binding wires (tie wires)

4.1.19

crochet tournant

outil tournant utilisé pour faire des fils d'attache ou pour mettre en place divers accessoires



4.1.19

rotary prong

device which rotates and is used to manipulate binding wires (tie wires) or various accessories

4.1.20

lame pour rotule

outil utilisé pour engager ou retirer la boule d'une rotule (genouillère, ball-socket)



4.1.20

insulator ball guide

device used to engage or disengage the ball of a ball socket fitting

4.1.21

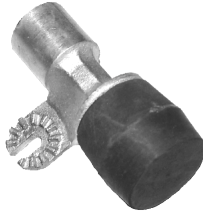
marteau

outil utilisé pour frapper un équipement en cas de besoin

4.1.21

hammer

device used to strike equipment as required



4.1.22

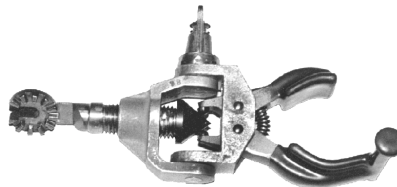
pince arrache-fusible articulée

outil utilisé pour saisir, installer ou déplacer des fusibles

4.1.22

self-aligning fuse puller

device used to grip, remove and install fuses



4.1.23

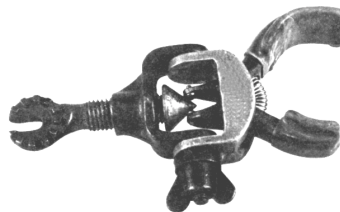
pince à capot

outil à mâchoires réglables utilisé pour saisir et positionner le capot d'un isolateur

4.1.23

screw clamp

device with adjustable jaws used to grip and position an insulator cap



4.1.24

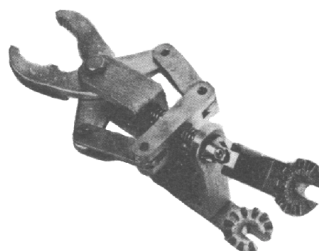
pince à cardan

outil utilisé pour maintenir de petites pièces

4.1.24

adjustable pliers

tool used to hold small parts



4.1.25

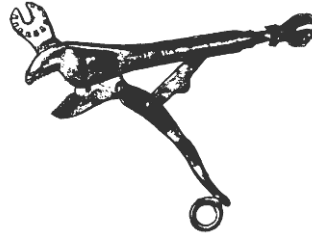
pince à étau

outil utilisé pour saisir des pièces diverses

4.1.25

vice-grip pliers

tool used to grip various parts



4.1.26

pince à isolateur

outil utilisé pour manipuler des isolateurs lors de leur mise en place. Il peut être équipé de mâchoires de tailles différentes

4.1.26

adjustable insulator fork

device used to control insulators during their installation or removal. It may have adjustable jaws



4.1.27

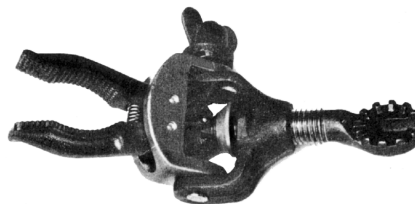
pince universelle

outil utilisé pour maintenir, selon différents angles, des pièces desserrées

4.1.27

all-angle pliers

tool used to hold loose parts at various angles



4.1.28

porte-boulon

outil utilisé pour maintenir un axe ou un boulon

4.1.28

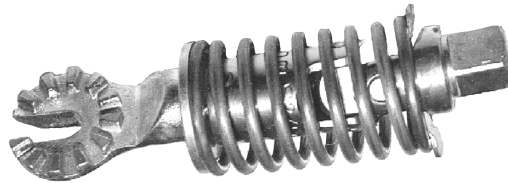
pin holder

device used to hold a pin or a bolt



4.1.29
porte-douille à cardan

outil utilisé pour visser ou dévisser des boulons et écrous, au moyen de douilles amovibles



4.1.29
flexible spanner head (flexible wrench head)

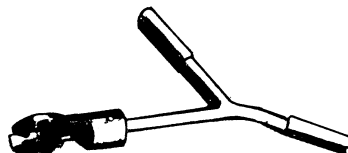
device with removable socket used to tighten or loosen nuts and bolts

4.1.30
porte-pince ampèremétrique
 outil utilisé pour tenir une pince ampèremétrique



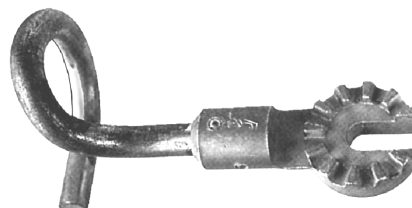
4.1.30
ammeter holder
 device used to hold a clip-on ammeter

4.1.31
porte-tresse antiparasite
 outil utilisé pour mettre en place une tresse antiparasite permettant de shunter les articulations entre un isolateur et sa pince



4.1.31
anti-interference braid applicator
 device used to install anti-interference braids between the pin of the insulator and the conductor clamp

4.1.32
queue de cochon
 outil utilisé pour manipuler des accessoires légers munis d'un anneau



4.1.32
spiral disconnect
 device used to handle various types of equipment fitted with eyes

4.1.33

scie à métaux

outil utilisé pour scier une pièce métallique



4.1.33

hack saw

device used for sawing any metal part



4.1.34

scie d'élagage

outil utilisé pour scier des branches d'arbres



4.1.34

pruning saw

device used to trim tree branches

4.1.35

tournevis

outil utilisé pour visser ou dévisser



4.1.35

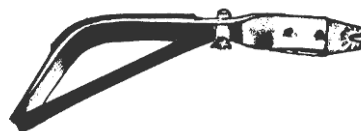
screwdriver

tool used to tighten or loosen screws

4.1.36

polisseur

outil utilisé pour polir la surface d'un conducteur



4.1.36

conductor polisher

device used to polish the conductor surface

4.1.37

miroir

outil utilisé pour l'inspection des parties non directement visibles



4.1.37

mirror

device used to inspect parts which are not directly visible