

RAUCKMAN™

Utility Products

Live-Line Tool Hotstick Owner / Operator Manual



WARNING

Carefully read, understand and follow the warnings & instructions provided in this manual, and keep it in a safe place for future reference. Failure to do so can result in an accident, severe personal injury or death.

I. Preliminary



1. Before using this tool for the first time, confirm that it has been certified for use and complies with all applicable federal, state or local standards, specifications, regulations or other requirements (collectively referred to herein as "Regulations"). Check with local authorities for all applicable standards. Some standards to reference include, but may not be limited to:
 - a. Institute of Electrical and Electronic Engineers (IEEE) Guide for Maintenance Methods of Energized Power Lines, IEEE standard 516-2009 and its subparts;
 - b. Occupational Safety and Health Administration (OSHA) Standard OSHA 1910, 1926 and their subparts;
 - c. American Society of Testing and Materials standard (ASTM) F3121, F711 and their subparts; and
 - d. IEC 60832, 60855 and 62193 and their subparts.
2. The safety of the tool and of the work site are the responsibility of the worker and his supervisors, who are the only individuals who can evaluate whether it is safe to work.
3. Any moisture penetration into the tool, even slight, reduces the insulating properties of these tools and increases the risk of electrocution. Care must be taken to insure that nothing on the tool, even small scratches or nicks, can accumulate moisture.

II. General Instructions

1. All workers are required to wear proper Personal Protective Equipment (PPE), to be identified and provided by the Employer or otherwise mandated by applicable Regulations.

2. PPE shall be used at all times, without exception.
3. All workers must be trained on the use of the tools, on accident risks, safety devices, accident prevention procedures and applicable Regulations.
4. Never allow bystanders near the work area.
5. Always maintain safety decals and other warnings on the tool in good condition. If the decals are missing, damaged or unreadable, obtain and install replacement decals immediately.
6. Immediately alert your supervisor of any hazardous conditions or irregularities which could result in an accident, even if the chance of an accident is slim.
7. In the event of any unforeseen, unanticipated or unexpected situation or occurrence of any type during work, immediately stop work and evacuate the area. Notify appropriate supervising personnel.
8. Electrical shock can result if the user fails to maintain a safe and proper Minimum Approach Distance (MAD) as mandated by OSHA, local regulators, or employer work rules, whichever is greatest. Insulating measuring tools should be used for verifying the insulating distance.
9. Tools should not be laid on the ground because of possible moisture contamination or wetting. They should be placed on clean, dry tarpaulins, on moisture-proof blankets, in tool racks, or leaned against dry supports.
10. Should a tool be dropped, it should be withdrawn from service, and its integrity should be verified before future use.
11. Energized-line maintenance should not be started when lightning is visible or thunder is audible at the work site. Lightning-to-ground radar detection equipment can be used to aid in making decisions.
12. Care should be taken to verify that tools properly engage conductors or hardware, or both, before transferring a mechanical load to the tool. Tools should not be mechanically overloaded.

III. Before Each Use

1. If any defect, contamination, or other issue is noted which could possibly adversely affect the insulating qualities or mechanical integrity of the tool, DO NOT USE THE TOOL. Test the tool (see section VII, "Field Testing") or remove the tool from service and have it examined and tested to be sure it is safe before it is returned to service. In case of any doubt whatsoever, no matter how slight, see your supervisor.
2. Each tool shall be wiped clean before use each day. See Section VI, "Cleaning and Waxing".
3. Tools should be visually inspected before use each day to confirm that they may have not been mechanically overstressed. For example, tools

that exhibit conditions such as:

- a. Damaged, bent, worn or cracked components
- b. Light spots
- c. Separation of layers
- d. Surface roughness
- e. Feathered, elongated or deformed rivet ends
- f. Accumulated contamination
- g. Surface blisters (de-lamination)
- h. Excessive abrasions, nicks or deep scratches

must be immediately removed from service and evaluated for repair. This over-stress will compromise the safety of the tool. Follow the repair procedure set forth in Section IV, "Maintenance and Repairs".

4. Tools should be visually inspected before use each day to confirm that they have not been electrically overstressed. For example, tools that exhibit conditions such as:
 - a. Electrical tracking
 - b. Burn marks
 - c. Blisters (de-lamination) caused from heat

must be immediately removed from service and evaluated for repair. This over-stress will compromise the safety of the tool. Follow the repair procedure set forth in Section IV, "Maintenance and Repairs".

5. The surface of each tool must be inspected before and after each use for contamination such as dirt, creosote, grease, or any other foreign material. If any contaminants exist, the tool must be removed from service, and the surface should be cleaned. See Section VI, "Cleaning and Waxing".
6. The following field observations, if present, require the immediate removal of tools from service and their return to the laboratory or shop for repair and electrical testing:
 - a. A tingling or fuzzy sensation when the tool is in contact with energized conductor or hardware.
 - b. Failure to pass the electronic test or the moisture-meter test.
 - c. Deep cuts, scratches, nicks, gouges, dents, or delamination in the stick surface.
 - d. A loss or deterioration of the glossy surface.
 - e. A pole inadvertently cleaned with a soap cleaner (See Section VI, "Cleaning").

- f. Improper storage or improper exposure to weather (See Section V, "Storage").
7. Jackscrews should be examined for excessive looseness (indicative of worn threads) and freedom from binding. Worn elements should be replaced. Bolt and nut threads should be free of burrs, roughness, or other damage that can seriously erode mating threads, and all threads should be lubricated only with "dry" lubricants.

IV. Maintenance and Repair

1. OSHA and ASTM require that tools must be removed from service a minimum of every two (2) years for examination, cleaning, testing and repair.
2. Any tool that cannot be cleaned or repaired to fully restore its insulating qualities or mechanical integrity shall be taken out of service and destroyed. If no defect or contamination is identified, the tool shall be cleaned and waxed before being returned to service.
3. Tools should be repaired only by trained and competent personnel. In view of various available repair or refinishing processes, the decision is left to the user about the adequacy of the repair process and the quality of workmanship.
4. All repairs and refinishing should be followed by a high-potential dielectric leakage or ac power loss test. An insulating live-line tool should not be used unless it is tested.
5. Hardware, bolts and pins should be replaced only with high-strength material, the same as the original part or Grade 5.
6. Nondestructive testing should be performed on the mechanical end fittings and saddle clamps after a tool has been subjected to possible over-stressing or vibrating loads for any extended periods of time. Magnetic particle inspection, dye penetrant inspection, ultrasound, and x-ray may be used for checking ferrous and nonferrous parts.
7. Repair to insulating tool fittings by welding or reshaping should not be done because damage by impact or over-stressing may have weakened the member elsewhere. Welding may also damage heat treatment of the part.

V. Storage and Transportation

1. When not in use, tools must be stored where they will remain dry and clean and are not subjected to abuse or direct sunlight.
2. Tools should not be laid on the ground because of possible moisture contamination or wetting. They should be placed on clean, dry tarpaulins, on moisture-proof blankets, in tool racks, or leaned against dry supports.
3. When transporting tools, ventilated containers should be provided

to prevent damage to the surfaces of the individual tools, or the tools should be mounted on racks in trucks or trailers. These racks should be well padded and so constructed that the tools are held firmly in place to prevent abrasive or bumping action against any surface that would damage the glossy surface of the tools.

4. When storing tools where heat sources are present, care should be taken to avoid damage to the tool from excessive heat. Fiberglass portions can be damaged if the resin is exposed to temperatures of 80°C (176°F) or more.

VI. Cleaning and Waxing

1. Live-Line hotstick tools should be cleaned only by trained and competent personnel.
2. Before each use, tools should be wiped with a clean, absorbent paper towel or a clean, absorbent cloth and followed by wiping with a silicone-treated cloth. Never use cloths that have been washed in harsh solvents since some residues on the cloth can be deposited on the pole surface, thereby reducing its insulating qualities.
3. If simple wiping does not remove the contaminant, then apply denatured alcohol with a paper towel or clean, absorbent cloth and follow by wiping with a silicone-treated cloth. Only use the solvents and cleaners formulated for use on fiberglass live-line tools such as *Polywater Hot Stick Cleaner & Water-Repellent Wipe*.
4. Never use soap, detergents, liquid or powdered form, such as 409, Fantastic, Comet, ND-150, Bon Ami, Ajax, etc. to clean fiberglass tools under field conditions because of the following risks:
 - a. These cleaning agents will leave a conductive residue on the tool unless rinsed with generous amounts of water (usually not available in the field).
 - b. Abrasive cleaners will destroy the surface gloss on the stick, thereby reducing or eliminating its insulating qualities.

Any fiberglass tools that were exposed to such cleaning agents should be electrically tested under wetting conditions to ensure complete removal of residue from these soap-type cleaners.

5. The surface of the tool must be carefully monitored to insure that it is always sufficiently waxed. Apply wax as needed to maintain a glossy surface that will cause any moisture or water to bead on the surface. The *Polywater Fiberglass Wax and Buff Kit* may be used. Before the tool is re-waxed, to avoid a wax build-up, the pole should always be cleaned with denatured alcohol or cleanser such as *Hastings All Purpose Cleaner*. Waxing not only imparts a glossy finish to the surface of the fiberglass,

but also adds to the electrical integrity of the tool by providing a protective barrier against dirt, creosote, and other contaminants and against moisture.

VII. Field Testing

1. Electrical testing is the responsibility of the user who is responsible for maintaining equipment calibration, application and interpretation and responsible for the safety of the user.
2. Workers should be equipped with a portable tool tester. These portable units provide a means for conveniently testing tools with auxiliary equipment except for a power supply. It is very important to note that some portable units are designed to test the entire insulated tool's cross-sectional area for conductivity. To be certain of the tester's capability, check the applicable literature supplied with the tester or contact the equipment manufacturer. Carefully read, understand and follow all instructions and warnings provided by the equipment manufacturer.

VIII. Inspection and Testing

1. Tools should be shop maintained and tested at an interval dependent on their exposure, manner of use, care they receive, individual company policy and as field inspection dictates, but at least every two (2) years.
2. The following field observations, if present, should warrant the immediate removal of tools from service and their return to the laboratory or shop for repair and electrical testing:
 - a. A tingling or fuzzy sensation when the tool is in contact with energized conductor or hardware.
 - b. Failure to pass the electronic test or the moisture-meter test.
 - c. Deep cuts, scratches, nicks, gouges, dents, or de-lamination in the stick surface.
 - d. A mechanically overstressed tool showing such evidence as damaged, bent, worn, or cracked components.
 - e. A loss or deterioration of the glossy surface.
 - f. A pole inadvertently cleaned with soap cleaner.
 - g. Improper storage or improper exposure to weather.
 - h. An electrically overstressed tool showing evidence of electrical tracking, burn marks or blisters (de-lamination) caused from heat.
3. Nondestructive testing (for example, Magnaflux Zyglo and X-ray) should be performed on the mechanical end fittings after a tool has been subject to possible over-stressing or vibrating loads for any extended period of time.

LIMITED WARRANTY

COVERAGE — RAUCKMAN UTILITY PRODUCTS (“RAUCKMAN”) warrants that each RAUCKMAN product purchased from RAUCKMAN or an authorized RAUCKMAN retailer, when properly used, will be free from defects in material and workmanship for a period of 1 year (12 months) from the date of purchase. The Purchaser’s sole and exclusive remedy under this limited warranty for defects in a RAUCKMAN product shall be the repair or replacement, in RAUCKMAN’s sole discretion, of the defective part or component.

NOT COVERED — This limited warranty does not apply to, and RAUCKMAN shall have no liability or responsibility in respect of, damages or expenses relating to defects caused by the failure to use, maintain or store the RAUCKMAN product as specified in the manuals or other literature supplied with the product.

This limited warranty also does not apply to, and RAUCKMAN shall have no liability or responsibility in respect of, damages or expenses relating to:

- A product purchased from any party other than RAUCKMAN or an authorized RAUCKMAN reseller;
- A product that has been altered or modified from factory specifications;
- Accidents, abuse or improper use, lack of reasonable or proper maintenance, repairs improperly performed or replacement parts or accessories not conforming to RAUCKMAN’s specifications and/or normal wear or deterioration occasioned by the use of the product;
- A RAUCKMAN product which has been misused, operated in a negligent manner, operated contrary to any instructions furnished by RAUCKMAN or operated in violation of applicable law or regulations; and
- Loss of time, loss of use, inconvenience, substitution costs or compensation for inconvenience or loss of use while the product is being repaired, or other matters not specifically covered hereunder.

PROCEDURE — In the event of a defect covered by this limited warranty, the Purchaser shall contact RAUCKMAN within ten (10) days of discovery of the defect. To obtain warranty service for your RAUCKMAN product, your specific and detailed claim must be reported to and received by RAUCKMAN within the applicable warranty period. The Purchaser is responsible for all expenses associated with transporting the RAUCKMAN product to and from the RAUCKMAN service location.

DAMAGES — Except as expressly provided by this warranty, **RAUCKMAN SHALL NOT BE RESPONSIBLE FOR ANY INCIDENTAL OR CONSEQUENTIAL DAMAGES ASSOCIATED WITH THE USE OF THE RAUCKMAN PRODUCT OR A CLAIM UNDER THIS AGREEMENT, WHETHER THE CLAIM IS BASED ON CONTRACT, TORT OR OTHERWISE.** The foregoing statements of warranty are exclusive and lieu of all other remedies. Some states do not allow the exclusion or limitation of incidental or consequential damages, so this limitation or exclusion may not apply to you.

DISCLAIMER — **ANY IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE AND ALL IMPLIED WARRANTIES ARISING FROM A COURSE OF DEALING, USAGE OF TRADE, BY STATUTE OR OTHERWISE, IS HEREBY STRICTLY LIMITED TO THE TERM OF THIS WRITTEN WARRANTY.** This Agreement shall be the sole and exclusive remedy available to the Purchaser with respect to this purchase. In the event of any alleged breach of any warranty or any legal action brought by the purchaser based on alleged negligence or other tortious conduct by RAUCKMAN, the Purchaser’s sole and exclusive remedy will be repair or replacement of defective materials as stated above. No dealer and no other agent or employee of RAUCKMAN is authorized to modify, extend or enlarge this warranty.

TRANSFER OF LIMITED WARRANTY — This warranty is made by RAUCKMAN with only the original purchaser of the product and does not extend to any third parties. The unexpired portion of this limited warranty may not be transferred to a second purchaser.

APPLICABLE LAW — This warranty is governed by the laws of the State of Illinois. The exclusive jurisdiction and venue for any court action commenced by you under or relating to this limited warranty or any implied warranty(ies) shall be decided in the State Courts of Illinois, County of St. Clair. In the event RAUCKMAN prevails in any court action, you agree to reimburse RAUCKMAN for the expenses, including attorney’s fees and expenses of litigation, reasonably incurred by RAUCKMAN in defending against your claim.

OTHER RIGHTS — **Your acceptance of delivery of the warranted RAUCKMAN product constitutes your acceptance of the terms of this limited warranty.** This warranty gives you specific legal rights, and you may also have other rights which vary from state to state and country to country.

ENTIRE AGREEMENT — This document contains the entire warranty given by RAUCKMAN in respect of your RAUCKMAN product and there are no terms, promises, conditions or warranties regarding your RAUCKMAN product other than those contained herein. RAUCKMAN specifically does not authorize any person to extend the time or scope of this warranty or to create or assume for RAUCKMAN any other obligation or liability with respect to RAUCKMAN products.

33 Empire Drive Belleville, IL 62220	Tel: 618-234-0001 info@rauckmanutility.com	www.rauckmanutility.com
---	---	-------------------------