

KLUTCH™

80A Hand Held Stick Welder

Owner's Manual



! **WARNING:** Read carefully and understand all ASSEMBLY AND OPERATION INSTRUCTIONS before operating. Failure to follow the safety rules and other basic safety precautions may result in serious personal injury.

Item #6440146

Thank you very much for choosing a Klutch product!

For future reference, please complete the owner's record below:

Serial Number/Lot Date Code (if applicable): _____

Purchase Date: _____

Save the receipt, warranty, and this manual. It is important that you read the entire manual to become familiar with this product before you begin using it.

This product is designed for certain applications only. Northern Tool & Equipment is not responsible for issues arising from modification or improper use of this product such as an application for which it was not designed. We strongly recommend that this product not be modified and/or used for any application other than that for which it was designed.

For technical questions, please call **1-800-222-5381**.

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Intended Use

VENDOR: Describe how the product can be used, its functions, benefits, and examples.

Packaging Contents

- Copper 10mm² x 6.5ft ground clamp (1)
- Voltage adaptor (1)
- E6013 2.5mm electrode rod (2)
- EVA bag (1)

Technical Specifications

Property	Specification
Power Supply	120V,50/60Hz, Single Phase
Output Range	15A ~ 80A
Duty Circle	15%
Electrode Type	E6013, E7018
Max. Electrode Dia.	1/8 in

Important Safety Information

WARNING

- Read and understand all instructions. Failure to follow all instructions may result in serious injury or property damage.
- The warnings, cautions, and instructions in this manual cannot cover all possible conditions or situations that could occur. Exercise common sense and caution when using this tool. Always be aware of the environment and ensure that the tool is used in a safe and responsible manner.
- Do not allow persons to operate or assemble the product until they have read this manual and have developed a thorough understanding of how it works.
- Do not modify this product in any way. Unauthorized modification may impair the function and/or safety and could affect the life of the product. There are specific applications for which the product was designed.
- Use the right tool for the job. DO NOT attempt to force small equipment to do the work of larger industrial equipment. There are certain applications for which this equipment was designed. It will be a safer experience and do the job better at the capacity for which it was intended. DO NOT use this equipment for a purpose for which it was not intended.
- Industrial or commercial applications must follow OSHA requirements.

WARNING

PROP 65

- This product can expose you to chemicals including lead, which is known to the State of California to cause cancer. For more information, go to www.p65warnings.ca.gov.
- Some dust created by power sanding, sawing, grinding, drilling, and other construction activities contains chemicals known to the state of California to cause cancer, birth defects, or other reproductive harm. Some examples of these chemicals are:
 - - lead from lead-based paints,

- - crystalline silica from bricks and cement and other masonry products, and
- - arsenic and chromium from chemically-treated lumber.
- Your risk from these exposures varies depending on how often you do this type of work. To reduce your exposure to these chemicals, work in a well-ventilated area, and work with approved safety equipment, such as dust masks that are specially designed to filter out microscopic particles.
- Handling power cords on corded products may expose you to lead, a chemical known to the state of California to cause cancer and birth defects or other reproductive harm. Wash your hands after handling.

⚠WARNING

WORK AREA SAFETY

- Inspect the work area before each use. Keep work area clean, dry, free of clutter, and well-lit. Cluttered, wet, or dark work areas can result in injury. Using the product in confined work areas may put you dangerously close to cutting tools and rotating parts.
- Do not use the product where there is a risk of causing a fire or an explosion; e.g., in the presence of flammable liquids, gases, or dust. The product can create sparks, which may ignite the flammable liquids, gases, or dust.
- Do not allow the product to come into contact with an electrical source. The tool is not insulated and contact will cause electrical shock.
- Keep children and bystanders away from the work area while operating the tool. Do not allow children to handle the product.
- Be aware of all power lines, electrical circuits, water pipes, and other mechanical hazards in your work area. Some of these hazards may be hidden from your view and may cause personal injury and/or property damage if contacted.

⚠WARNING

PERSONAL SAFETY

- Stay alert, watch what you are doing, and use common sense when operating the tool. Do not use the tool while you are tired or under the influence of drugs, alcohol, or medication. A moment of inattention while operating the tool may result in serious personal injury.
- Dress properly. Do not wear loose clothing, dangling objects, or jewelry. Keep your hair, clothing and gloves away from moving parts. Loose clothes, jewelry, or long hair can be caught in moving parts. Air vents on the tool often cover moving parts and should be avoided.
- Wear the proper personal protective equipment when necessary. Use ANSI Z87.1 compliant safety goggles (not safety glasses) with side shields, or when needed, a face shield. Use a dust mask in dusty work conditions. Also use non-skid safety shoes, hardhat, gloves, dust collection systems, and hearing protection when appropriate. This applies to all persons in the work area.
- Do not overreach. Keep proper footing and balance at all times.
- Remove keys or wrenches before connecting the tool to an air supply, power supply, or turning on the tool. A wrench or key that is left attached to a rotating part of the tool may cause personal injury.
- Secure the work with clamps or a vise instead of your hand when practical. This safety precaution allows for proper tool operation using both hands.

⚠CAUTION

PRODUCT USE AND CARE

- Do not force the product. Products are safer and do a better job when used in the manner for which they are designed. Plan your work and use the correct product for the job.
- Check for damaged parts before each use. Carefully check that the product will operate properly and perform its intended function. Replace damaged or worn parts immediately. Never operate the product with a damaged part.
- Do not use a product with a malfunctioning switch. Any power tool that cannot be controlled with the power switch is dangerous and must be repaired by an authorized service representative before using.
- Disconnect the power/air supply from the product and place the switch in the locked or off position before making any adjustments, changing accessories, or storing the tool. Such preventive safety measures reduce the risk of starting the tool accidentally.
- Store the product when it is not in use. Store it in a dry, secure place out of the reach of children. Inspect the tool for good working condition prior to storage and before re-use.
- Use only accessories that are recommended by the manufacturer for use with your product. Accessories that may be suitable for one product may create a risk of injury when used with another tool. Never use an accessory that has a lower operating speed or operating pressure than the tool itself.
- Keep guards in place and in working order. Never operate the product without the guards in place.
- Do not leave the tool running unattended.

Specific Operation Warnings

⚠WARNING



Electrical Shock

Electric arc welders can produce a shock that can cause injury or death. Touching electrically live parts can cause fatal shocks and severe burns. While welding, all metal components connected to the wire are electrically hot. Poor ground connections are a hazard, so secure the ground lead before welding.

- Wear dry protective apparel: coat, shirt, gloves and insulated footwear.
- Insulate yourself from the work piece. Avoid contacting the work piece or ground.

Do not attempt to repair or maintain the welder while the power is on.

- Inspect all cables and cords for any exposed wire and replace immediately if found.
- Use only recommended replacement cables and cords.
- Always attach ground clamp to the work piece or work table as close to the weld area as possible.
- Do not touch the welding wire and the ground or grounded work piece at the same time.
- Do not use a welder to thaw frozen pipes.



Fumes and Gases

- Fumes emitted from the welding process displace clean air and can result in injury or death.
- Do not breathe in fumes emitted by the welding process. Make sure your breathing air is clean and safe.
- Work only in a well-ventilated area or use a ventilation device to remove welding fumes from the environment where you will be working.
- Do not weld on coated materials (galvanized, cadmium plated or containing zinc, mercury or barium). They will emit harmful fumes that are dangerous to breathe. If necessary use a ventilator, respirator with air supply or remove the coating from the material in the weld area.
- The fumes emitted from some metals when heated are extremely toxic. Refer to the material safety data sheet for the manufacturer's instructions.
- -Do not weld near materials that will emit toxic fumes when heated. Vapors from cleaners, sprays and degreasers can be highly toxic when heated.



UV and IR Arc Rays

- The welding arc produces ultraviolet (UV) and infrared (IR) rays that can cause injury to your eyes and skin. Do not look at the welding arc without proper eye protection.

- . -Always use a helmet that covers your full face from the neck to top of head and to the back of each ear.
- -Use a lens that meets ANSI standards and safety glasses. For welders under 160 Amps output, use a shade 10 lens; for above 160 Amps, use a shade 12. Refer to the ANSI standard Z87.1 for more information.
- -Cover all bare skin areas exposed to the arc with protective clothing and shoes. Flame-retardant cloth or leather shirts, coats, pants or coveralls are available for protection.
- -Use screens or other barriers to protect other people from the arc rays emitted from your welding.
- -Warn people in your welding area when you are going to strike an arc so they can protect themselves.



Fire Hazards

- Do not weld on containers or pipes that contain or have had flammable, gaseous or liquid combustibles in them. Welding creates sparks and heat that can ignite flammable and explosive materials.
- Do not operate any electric arc welder in areas where flammable or explosive materials are present.
- Remove all flammable materials within 35 feet of the welding arc. If removal is not possible, tightly cover them with fireproof covers.
- Take precautions to ensure that flying sparks do not cause fires or explosions in hidden areas, cracks or areas you cannot see.
- Keep a fire extinguisher close in the case of fire.
- Wear garments that are oil-free with no pockets or cuffs that will collect sparks.
- Do not have on your person any items that are combustible, such as lighters or matches.
- Keep work lead connected as close to the weld area as possible to prevent any unknown, unintended paths of electrical current from causing electrical shock and fire hazards.
- To prevent any unintended arcs, cut wire back to ¼" stick out after welding.



Hot Materials

- Welded materials are hot and can cause severe burns if handled improperly.
- Do not touch welded materials with bare hands.
- Do not touch MIG gun nozzle after welding until it has had time to cool down.



Sparks/Flying Debris

- Welding creates hot sparks that can cause injury. Chipping slag off welds creates flying debris.
- Wear protective apparel at all times: ANSI-approved safety glasses or shield, welder's hat and ear plugs to keep sparks out of ears and hair.



Electromagnetic Field

- Electromagnetic fields can interfere with various electrical and electronic devices such as pacemakers.
- Consult your doctor before using any electric arc welder or cutting device
- Keep people with pacemakers away from your welding area when welding.
- Do not wrap cable around your body while welding.
- Wrap MIG gun and ground cable together whenever possible.
- Keep MIG gun and ground cables on the same side of your body.

Grounding

⚠WARNING

- This machine must be grounded while in use to protect the operator from electrical shock. This unit is equipped with an electrical cord that has an equipment grounding conductor and a grounding plug. The plug **MUST** be plugged into a matching receptacle that is properly installed and grounded in accordance with ALL local codes and ordinances.
- **DO NOT MODIFY THE PROVIDED PLUG.** If it will not fit the receptacle, have the proper receptacle installed by a qualified electrician.
- **CHECK** with a qualified electrician or service person if you do not completely understand the grounding instructions, or if you are not sure the tool is properly grounded.

Grounded Tools: Tools with 3-Prong Plugs

Tools marked with **Grounding Required** have a 3-wire cord and 3-prong grounding plug. The plug must be connected to a properly grounded outlet. If the tool should electrically malfunction or break down, grounding provides a low resistance path to carry electricity away from the user, reducing the risk of electric shock. (See Figure A.)

The grounding prong in the plug is connected through the green wire inside the cord to the grounding system in the tool. The green wire in the cord must be the only wire connected to the tool's grounding system and must never be attached to an electrically live terminal.

Your tool must be plugged into an appropriate outlet, properly installed and grounded in accordance with all codes and ordinances. The plug and outlet should look like those in the following illustration.

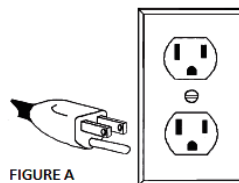


FIGURE A

READ & SAVE THESE INSTRUCTIONS

Double Insulated Tools: Tools with Two-Prong Plugs

Tools marked **Double Insulated** do not require grounding. They have a special double insulation system which satisfies OSHA requirements and complies with the applicable standards of Underwriters Laboratories, Inc., the Canadian Standard Association, and the National Electrical Code. (See Figure B.)

Double insulated tools may be used in either of the 120 volt outlets shown in the following illustration.

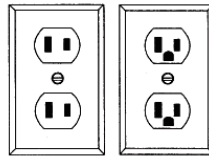


FIGURE B

Extension Cords

⚠ WARNING

- **USE A PROPER EXTENSION CORD.** Make sure your extension cord is in good condition. When using an extension cord, be sure to use one heavy enough to carry the current your product will draw. An undersized cord will cause a drop in line voltage, resulting in loss of power and cause overheating.
- Be sure your extension cord is properly wired and in good condition. Always replace a damaged extension cord or have it repaired by a qualified person before using it. Protect your extension cords from sharp objects, excessive heat and damp or wet areas.

- Grounded tools require a 3-wire extension cord. Double Insulated tools can use either a 2- or 3-wire extension cord.
- As the distance from the supply outlet increases, you must use a heavier gauge extension cord. Using extension cords with inadequately sized wire causes a serious drop in voltage, resulting in loss of power and possible tool damage.
- The smaller the wire's gauge number, the greater the capacity of the cord. For example, a 14-gauge cord can carry a higher current than a 16-gauge cord. Minimum extension cord wire size is shown in the following table:

Minimum Wire Size Of Extension Cords				
Nameplate AMPS	Cord Length			
	25'	50'	100'	150'
0-6	18 AWG	16 AWG	16 AWG	14 AWG
6-10	18 AWG	16 AWG	14 AWG	12 AWG
10-12	16 AWG	16 AWG	14 AWG	12 AWG
12-16	14 AWG	12 AWG	NOT RECOMMENDED	

- When using more than one extension cord to make up the total length, make sure each cord contains at least the minimum wire size required.
- If you are using one extension cord for more than one tool, add the nameplate amperes and use the sum to determine the required minimum cord size.
- If you are using an extension cord outdoors, make sure it is marked with the suffix **W-A** (**W** in Canada) to indicate it is acceptable for outdoor use.
- Make sure your extension cord is properly wired and in good electrical condition. Always replace a damaged extension cord or have it repaired by a qualified electrician before using it.

- Protect your extension cords from sharp objects, excessive heat, and damp or wet areas.

Main Parts of 80A Hand Held Stick Welder

Reference	Subassembly
1	Electrode input
2	Fastening Knob
3	Handle
4	Current reduction button
5	Open / stop button
6	Current increase button
7	Digital display
8	Ground clamp cable socket
9	Power cord
10	Ground clamp
11	Belt clip
12	Adaptor
13	E6013 2.5mm electrode rod
14	EVA bag

Assembly Instructions

⚠WARNING

Before making any electrical connection, make sure that the switch is off.
 Correctly grounded in accordance with national and local regulation.



Before Each Use

WARNING



Read the entire Important Safety Information section at the beginning of this manual including all text under subheadings therein before set up or use of this product.

WARNING

To prevent serious injury from accidental operation:

Turn the Power Switch of the machine to its "OFF" position and unplug it from its electrical outlet before assembling or making any adjustments to the machine.

BEFORE EACH USE, inspect the general condition of the Machine. Check for

- loose hardware,
- damaged cord/electrical wiring,
- cooling fan operation,
- cracked or broken parts
- any other condition that may affect the safe operation.

IMPORTANT: The duty cycle defines the number of minutes, within a 10 minute period, during which a given Machine can safely produce a particular current.

Operating Instructions

⚠ WARNING

Protective gear must be worn when using the machine. Arc shaded eye protection, a full face shield, heavy-duty welding gloves, a welding apron, respirator, and heavy-duty welding clothes without pockets should be worn when using this product. Do not look at the ignited arc without eye protection. Light from the arc can cause permanent damage to the eyes. Light from the arc can burn the skin. Do not breathe arc fumes.

Work Piece and Work Area Setting Up

WARNING! Prevent eye injury and burns. Wearing personal protective equipment to reduce the risk of injury.

- Designate a work area that is clean and well-lit. The work area must not allow access by children or pets to prevent injury and distraction.
- Route the Power Cord along a safe route to reach the work area without creating a tripping hazard or exposing the Power Cord to possible damage. The Power Cord must reach the work area with enough extra length to allow free movement while working.
- There must not be hazardous objects, such as utility lines or foreign objects, nearby that will present a hazard while working. A barrier, such as a welding curtain or welding shroud should be put up to protect others in the work area and limit the spray of sparks.

General Operating Instructions

- Clean the weld surfaces thoroughly with a wire brush or angle grinder; there must be no rust, paint, oil, or other materials on the weld surfaces, only bare metal.
- Use clamps (not included) to hold the workpieces in position so that you can concentrate on proper welding technique. The distance (if any) between the two workpieces must be controlled properly to allow the weld to hold both sides securely while allowing the weld to penetrate fully into the joint. The edges of thicker workpieces may need to be chamfered (or beveled) to allow proper weld penetration.
- Clamp Ground Cable to bare metal on the workpiece near the weld area, or to metal work bench where the workpiece is clamped.
- Turn the Power Switch to the OFF position, then plug the Power Cord into a properly grounded, GFCI protected 240 VAC (120VAC with power cord adaptor) receptacle that matches the plug.
- Turn on the machine.
- Trigger the torch and start to weld. The end of the Spool Gun should be tilted so that wire is angled anywhere in-between straight on and 15° in the direction you are welding.

WARNING! TO PREVENT SERIOUS INJURY, point torch away from your body when triggering the torch.

Note: If the Machine working time reaches to the maximum working time according to the duty cycle, the thermal protector will activate and the "Overload Indicator" will illuminate. The Machine will automatically shut down until it cools, then you may resume welding again.

When welding is complete, set the Spool Gun down on a heat-proof, electrically nonconductive surface.

A weld from flux-cored wire will be covered by slag. Use a chipping hammer to knock this off. Be careful not to damage the weld or base material.

Turn the Power Switch OFF after fan stops rotating. Allow Welder to cool down, then unplug the Power Cord.

Remove Ground Clamp from workpiece or table.

Respool wire by clipping wire, removing gas nozzle/contact tip on spool gun and rotating the Wire Spool counterclockwise. Be sure to securely hold wire as it is being respooled because the end of wire has a tendency to quickly unravel once it clears the wire feeder.

Clean the machine and then store the unit indoors out of children's reach.

After Each Use

WARNING



Procedures not specifically explained in this manual must be performed only by a qualified technician.

To prevent serious injury from accidental operation:

Turn the Power Switch of the Machine to its "OFF" position and unplug the machine from its electrical outlet before performing any inspection, maintenance, or cleaning procedures.

To prevent serious injury from machine failure:

Do not use damaged equipment. If abnormal noise or vibration occurs, have the problem corrected before further use.

Maintenance

WARNING

If any part of this Machine is damaged, it must be replaced only by a qualified service technician. A Parts list and assembly diagram are provided as following just for reference. Contact the distributor or the seller to get the spare parts for maintenance and have the damaged parts be replaced by a qualified technician only.

Maintain the product by adopting a program of conscientious repair and maintenance in accordance with the following recommended procedures. It is recommended that the general condition of any tool be examined before it is used. Keep your tool in good repair. Keep all cutting tools sharp and clean. Properly maintained cutting tools with sharp cutting edges are less likely to bind and are easier to control. Keep handles dry, clean, and free from oil and grease. Also refer to the engine manufacturer's instruction manual for additional information about engine maintenance. The following chart is based on a normal operation schedule.

Maintenance Interval	Maintenance Point
Daily before operating	Inspect the general condition of the Machine. Check for loose screws, cracked or broken parts, damaged electrical wiring, and any other condition that may affect its safe operation
After Use	Clean external surfaces of the machine with clean cloth
Periodically	Use compressed air, blow out all dust and debris from the interior

Troubleshooting

⚠️WARNING

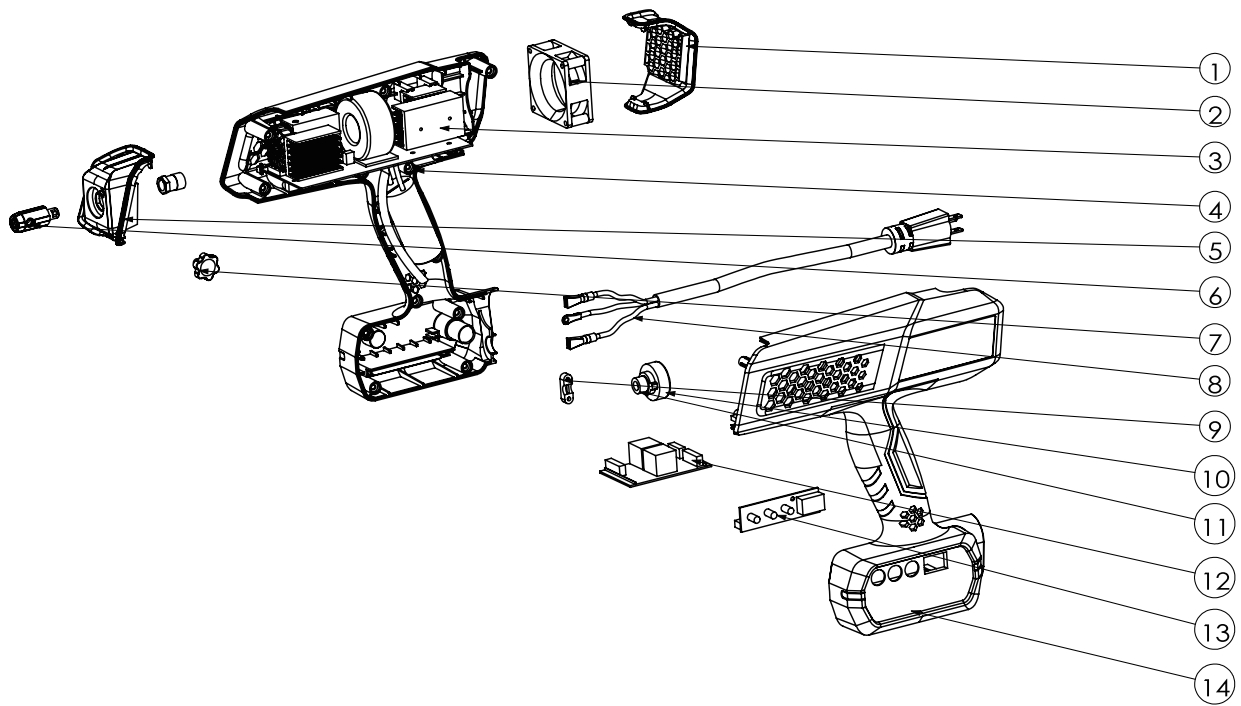
Procedures not specifically explained in this manual must be performed only by a qualified technician.

To Prevent serious injury: Shut off the welding machine, disconnect it from power, and discharge the torch to ground before adjusting, cleaning, or repairing the unit.

Use the table below to troubleshoot problems before contacting service personnel or your local dealer. If the problem continues after troubleshooting, call your local dealer for assistance.

Fault code	Description	Possible Cause	Corrective Action
F01	overheating	The internal temperature of the machine is too high	Stop working for a while until the yellow light goes out
F09	Short-circuit	Short circuit in output	Disconnect the circuit or check the voltage sampling circuit

Parts Diagram



Parts List

Reference	Part Number	Part Description	Quantity
1	30208910	Rear plastic panel	1
2	30712348	DC fan	1
3	SJX02571	Main PCB	1
4	30208912	Left plastic panel	1
5	30208911	Front plastic panel	1
6	S6200065	Copper connector	1
7	20100151	Knob	1
8	12700856	Power cable	1
9	30208916	Wire clip	1
10	20100129	Fixing base	1
11	30703122	Copper connector	2
12	S7001951	Power PCB	1
13	S7001952	Display PCB	1
14	30208913	Right plastic panel	1

Replacement Parts

- For replacement parts and technical questions, please call Customer Service at **1-800-222-5381**.
- Not all product components are available for replacement. The illustrations provided are a convenient reference to the location and position of parts in the assembly sequence.
- When ordering parts, the following information will be required: item description, item model number, item serial number/item lot date code, and the replacement part reference number.
- The distributor reserves the rights to make design changes and improvements to product lines and manuals without notice.

Limited Warranty

Northern Tool and Equipment Company, Inc. ("We" or "Us") warrants to the original purchaser only ("You" or "Your") that the Klutch product purchased will be free from material defects in both materials and workmanship, normal wear and tear excepted, for a period of **one year** from date of purchase. The foregoing warranty is valid only if the installation and use of the product is strictly in accordance with product instructions. There are no other warranties, express or implied, including the warranty of merchantability or fitness for a particular purpose. If the product does not comply with this limited warranty, Your sole and exclusive remedy is that We will, at our sole option and within a commercially reasonable time, either replace the product or product component without charge to You or refund the purchase price (less shipping). This limited warranty is not transferable.

Limitations on the Warranty

This limited warranty does not cover: (a) normal wear and tear; (b) damage through abuse, neglect, misuse, or as a result of any accident or in any other manner; (c) damage from misapplication, overloading, or improper installation; (d) improper maintenance and repair; and (e) product alteration in any manner by anyone other than Us, with the sole exception of alterations made pursuant to product instructions and in a workmanlike manner.

Obligations of Purchaser

You must retain Your product purchase receipt to verify date of purchase and that You are the original purchaser. To make a warranty claim, contact Us at 1-800-222-5381, identify the product by make and model number, and follow the claim instructions that will be provided. The product and the purchase receipt must be provided to Us in order to process Your warranty claim. Any returned product that is replaced or refunded by Us becomes our property. You will be responsible for return shipping costs or costs related to Your return visit to a retail store.

Remedy Limits

Product replacement or a refund of the purchase price is Your sole remedy under this limited warranty or any other warranty related to the product. We shall not be liable for: service or labor charges or damage to Your property incurred in removing or replacing the product; any damages, including, without limitation, damages to tangible personal property or personal injury, related to Your improper use, installation, or maintenance of the product or product component; or any indirect, incidental or consequential damages of any kind for any reason.

Assumption of Risk

You acknowledge and agree that any use of the product for any purpose other than the specified use(s) stated in the product instructions is at Your own risk.

Governing Law

This limited warranty gives You specific legal rights, and You also may have other rights which vary from state to state. Some states do not allow limitations or exclusions on implied warranties or incidental or consequential damages, so the above limitations may not apply to You. This limited warranty is governed by the laws of the State of Minnesota, without regard to rules pertaining to conflicts of law. The state courts located in Dakota County, Minnesota shall have exclusive jurisdiction for any disputes relating to this warranty.

KLUTCH™

Distributed by:

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Made in Vietnam