

**CHICAGO** **welding**  
**ELECTRIC** **systems**

# STITCH WELDER

**Model 98753**

## SET UP AND OPERATING INSTRUCTIONS



Distributed exclusively by Harbor Freight Tools®.

3491 Mission Oaks Blvd., Camarillo, CA 93011

Visit our website at: <http://www.harborfreight.com>



**Read this material before using this product.  
Failure to do so can result in serious injury.  
SAVE THIS MANUAL.**

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**For technical questions or replacement parts, please call 1-800-444-3353.**

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## SAVE THIS MANUAL

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Keep this manual for the safety warnings and precautions, assembly, operating, inspection, maintenance and cleaning procedures. Write the product's serial number in the back of the manual near the assembly diagram (or month and year of purchase if product has no number). Keep this manual and the receipt in a safe and dry place for future reference.

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## IMPORTANT SAFETY INFORMATION

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In this manual, on the labeling, and all other information provided with this product:



This is the safety alert symbol. It is used to alert you to potential personal injury hazards. Obey all safety messages that follow this symbol to avoid possible injury or death.

### **DANGER**

**DANGER** indicates a hazardous

situation which, if not avoided, will result in death or serious injury.

### **WARNING**

**WARNING** indicates a

hazardous situation which, if not avoided, could result in death or serious injury.

### **CAUTION**

**CAUTION**, used with the safety

alert symbol, indicates a hazardous situation which, if not avoided, could result in minor or moderate injury.

### **NOTICE**

**NOTICE** is used to address practices not related to personal injury.

### **CAUTION**

**CAUTION**, without the safety alert symbol, is used to address practices not related to personal injury.

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## General Welder Safety Warnings

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**WARNING** Read all safety warnings and instructions. Failure to follow the warnings and instructions may result in electric shock, fire and/or serious injury. Save all warnings and instructions for future reference.

1. **Work area safety**
  - a. **Keep work area clean and well lit.** Cluttered or dark areas invite accidents.
  - b. **Do not operate welders in explosive atmospheres, such as in the presence of flammable liquids, gases or dust.** Welders create sparks which may ignite the dust or fumes.
  - c. **Keep children and bystanders away while operating a welder.** Distractions can cause you to lose control.
2. **Electrical safety**
  - a. **Avoid body contact with grounded surfaces such as pipes, radiators, ranges and refrigerators.** There is an increased risk of electric shock if your body is grounded.
  - b. **Do not expose welders to rain or wet conditions.** Water entering a welder will increase the risk of electric shock.

- c. **Do not abuse the cord. Never use the cord for carrying, pulling or unplugging the welder. Keep cord away from heat, oil, sharp edges or moving parts.** *Damaged or entangled cords increase the risk of electric shock.*
  - d. **When operating a welder outdoors, use an extension cord suitable for outdoor use.** *Use of a cord suitable for outdoor use reduces the risk of electric shock.*
  - e. **If operating a welder in a damp location is unavoidable, use a Ground Fault Circuit Interrupter (GFCI) protected supply.** *Use of a GFCI reduces the risk of electric shock.*
3. **Personal safety**
- a. **Stay alert, watch what you are doing and use common sense when operating a welder. Do not use a welder while you are tired or under the influence of drugs, alcohol or medication.** *A moment of inattention while operating welders may result in serious personal injury.*
  - b. **Use personal protective equipment. Always wear eye protection.** *Safety equipment such as welding mask, non-skid safety shoes, and welding apron used for appropriate conditions will reduce personal injuries.*
  - c. **Prevent unintentional starting. Ensure the switch of the stick welder is in the off-position before connecting to power source, picking up or carrying the tool.**
  - d. **Do not overreach. Keep proper footing and balance at all times.** *This enables better control of the welder in unexpected situations.*
4. **Welder use and care**
- a. **Do not force the welder. Use the correct welder for your application.** *The correct welder will do the job better and safer at the rate for which it was designed.*
  - b. **Store idle welders out of the reach of children and do not allow persons unfamiliar with the welder or these instructions to operate the welder.** *Welders are dangerous in the hands of untrained users.*
  - c. **Maintain welders. Check for misalignment or binding of moving parts, breakage of parts and any other condition that may affect the welder's operation. If damaged, have the welder repaired before use.** *Many accidents are caused by poorly maintained welders.*
  - d. **Use the welder, accessories and tool bits etc. in accordance with these instructions, taking into account the working conditions and the work to be performed.** *Use of*

*the welder for operations different from those intended could result in a hazardous situation.*

## 5. Service


- a. **Have your welder serviced by a qualified repair person using only identical replacement parts.** *This will ensure that the safety of the welder is maintained.*

### **Stitch Welder Safety Warnings**



1. Maintain labels and nameplates on the tool. These carry important safety information. If unreadable or missing, contact Harbor Freight Tools for a replacement.
2. Avoid unintentional starting. Prepare to begin work before turning on the tool.
3. Rest the tool and connection to the electrode holder on a properly insulated surface.
4. Do not leave the tool unattended when it is plugged into an electrical outlet. Turn off the tool, and unplug it from the welder before leaving.
5. This product is not a toy. Keep it out of reach of children.
6. People with pacemakers should consult their physician(s) before use. Electromagnetic fields in close proximity to heart pacemaker could cause pacemaker interference or pacemaker failure. In addition, people with pacemakers should:
  - Avoid operating alone.
  - Do not use with power switch locked on.
  - Properly maintain and inspect to avoid electrical shock.
7. **WARNING:** The brass components of this product contain lead, a chemical known to the State of California to cause birth defects (or other reproductive harm). (California Health & Safety code § 25249.5, *et seq.*)
  - Any power cord must be properly grounded. Ground Fault Circuit Interrupter (GFCI) should also be implemented – it prevents sustained electrical shock.
8. 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 or other masonry products
  - Arsenic and chromium from chemically treated lumberYour 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 those dust masks that are specially designed to filter out microscopic particles. (California Health & Safety Code § 25249.5, *et seq.*)
9. **WARNING:** Handling the cord on this product will expose you to lead, a chemical known to the State of California to cause cancer, and birth defects or other reproductive harm. Wash hands after handling. (California Health & Safety Code § 25249.5, *et seq.*)

10. Do not exceed input amperage of 50 Amps.
11. The warnings, precautions, and instructions discussed in this instruction manual cannot cover all possible conditions and situations that may occur. It must be understood by the operator that common sense and caution are factors which cannot be built into this product, but must be supplied by the operator.

### Electrical Safety

1. Avoid electrical shock. Do not permit electrically live parts, cables, or electrodes to contact skin, clothing, or gloves. Wear ANSI-approved protective clothing. This unit draws enough current to cause serious injury or death. Before turning the welder on, check the electrode holder to be sure that there are no protruding screws, and that all insulation is secure. Do not weld unless you are insulated from ground and the work piece.
2. Avoid eye and body damage. Arc rays and infrared radiation can injure eyes and burn skin. Wear ANSI approved eye and body protection. Do not allow viewing by visitors without proper eye and body protection. Use a welding helmet with #11 lens and arc shaded filter plate.
3.  Prevent accidental fires. Remove any combustible material from the work area. Move flammable and explosive material at least 35 feet from the welding arc to prevent welding sparks or molten metal from starting a fire. Keep a type ABC fire extinguisher within easy

reach. Thoroughly clean the object being welded of any paint, grease, or other foreign material.

4. If working on a wall or ceiling prevent ignition of combustibles on the other side by moving them to a safe location.
5. Industrial applications must follow OSHA guidelines. Follow OSHA guidelines for Permissible Exposure Limits (PEL's) for various fumes and gases.
6.   Prevent eye injury and burns. Wearing and using ANSI-approved personal safety clothing and safety devices reduce the risk for injury.
7. Leather leggings, fire resistant shoes or boots should be worn when using this product. Do not wear pants with cuffs, shirts with open pockets, or any clothing that can catch and hold molten metal or sparks.
8. Keep clothing and work surfaces free of grease, oil, solvents, or any flammable substances. Wear dry, insulating gloves and protective clothing.
9. Wear an approved head covering to protect the head and neck. Use aprons, cape, sleeves, shoulder covers, and bibs designed and approved for welding and cutting procedures.
10. When welding/cutting overhead or in confined spaces, wear flame resistant ear plugs or ear muffs to keep sparks out of ears.
11. Do not use near degreasing or painting operations.

12. Enclose the work area with portable fire resistant screens. Protect combustible walls, ceilings, floors, etc., from sparks and heat with fire resistant covers.
13. Use a non-conductive safety mat on the work surface to insulate the operator from the work surface.
14. Read the manual for the ARC welder that the Stitch Welder will be connected to.
3. Wear suitable gloves to reduce the vibration effects on the user.
4. Use tools with the lowest vibration when there is a choice between different processes.
5. Include vibration-free periods each day of work.
6. Grip tool as lightly as possible (while still keeping safe control of it). Let the tool do the work.
7. To reduce vibration, maintain the tool as explained in this manual. If any abnormal vibration occurs, stop use immediately.

### **Vibration Safety**

This tool vibrates during use. Repeated or long-term exposure to vibration may cause temporary or permanent physical injury, particularly to the hands, arms and shoulders. To reduce the risk of vibration-related injury:

1. Anyone using vibrating tools regularly or for an extended period should first be examined by a doctor and then have regular medical check-ups to ensure medical problems are not being caused or worsened from use. Pregnant women or people who have impaired blood circulation to the hand, past hand injuries, nervous system disorders, diabetes, or Raynaud's Disease should not use this tool. If you feel any medical or physical symptoms related to vibration (such as tingling, numbness, and white or blue fingers), seek medical advice as soon as possible.
2. Do not smoke during use. Nicotine reduces the blood supply to the hands and fingers, increasing the risk of vibration-related injury.



**SAVE THESE INSTRUCTIONS.**



## SPECIFICATIONS

Maximum Amperage	55 A
Material Range	18 to 22 Gauge Sheet Metal
Welding Rods	1/16" Diameter, 6013 & 6014 (not included)

## UNPACKING

When unpacking, check to make sure that the item is intact and undamaged. If any parts are missing or broken, please call Harbor Freight Tools at the number shown on the cover of this manual as soon as possible.

## OPERATING INSTRUCTIONS



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.

### Tool Set Up



#### **TO PREVENT SERIOUS INJURY**

#### **FROM ACCIDENTAL OPERATION:**

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

### Work Piece and Work Area Set Up

1. 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.

2. 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.
3. Secure loose work pieces using a vise or clamps (not included) to prevent movement while working.
4. There must not be hazardous objects, such as utility lines or foreign objects, nearby that will present a hazard while working.

### General Operating Instructions



#### **DANGER**

#### **TO PREVENT DEATH OR**

#### **SERIOUS INJURY:**

**Do not touch any metal part of the Stitch welder when it is in use.**

1. Read the manual for the ARC (stick) welder being used with the Stitch Welder.
2. If welding on a vehicle; disconnect the negative terminal of the vehicle's battery.
3. Clean the work area thoroughly before beginning operation. Remove all grease, paint, or oil from the work-piece.
4. Wear protective gear whenever welding.
5. Loosen the Rod Holder (15) and insert a 1/16" diameter 6013 or 6014

- welding rod into the tip of the Stitch Welder. Secure the Rod Holder.
6. Clamp the electrode holder of the ARC welder onto the Connection (11) of the Stitch Welder.
  7. Adjust the output to no greater than 50 Amps.
  8. **⚠ DANGER! To prevent serious injury and death. If the operator is not holding the Stitch Welder, it must be sitting on a nonconductive, nonflammable surface. The Stitch Welder will immediately turn on when the power button is turned on. The connection between the Stitch Welder and the electrode clamp of the ARC welder must also be sitting on a nonconductive, nonflammable surface.**
  9. Turn on the ARC welder.
  10. When turned on the Stitch Welder will vibrate lightly; this is normal.
  11. Using “tack welds” to secure two metal sheets together will help ensure a better final product. Tack welds are short welds intended to secure the two workpieces together before starting a longer final weld. Tack welds should begin in the center of the sheeting and work outward alternately until the edges are reached. All tack welds should be properly cleaned up before continuing to the final weld.
  12. Apply the Stitch Welder to the sheeting being welded; the arc will ignite. Slowly draw the arc along the seam.
  13. When finished welding; lift the electrode from the workpiece, discharge the electrode to ground and turn the Welder off.
  14. Place the Stitch Welder down on a nonflammable, nonconductive surface to cool.
  15. Read the included Weld Diagnosis pamphlet for directions and welding guidelines.
  16. To prevent accidents, disconnect the Stitch Welder from the ARC welder after use. Clean, then store the tool indoors out of children’s reach.



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## MAINTENANCE AND SERVICING

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

### **⚠️ WARNING**

#### **TO PREVENT SERIOUS INJURY**

##### **FROM ACCIDENTAL OPERATION:**

Turn the Power Switch of the ARC welder to its “OFF” position and unplug the tool from the electrode clamp before performing any inspection, maintenance, or cleaning procedures.

##### **TO PREVENT SERIOUS INJURY FROM TOOL FAILURE:**

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

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### **Cleaning and Lubrication**

1. **BEFORE EACH USE**, inspect the general condition of the tool. Check for loose screws, misalignment or binding of moving parts, cracked or broken parts, damaged electrical wiring, and any other condition that may affect its safe operation.
2. **AFTER USE**, when cool clean external surfaces of the tool with clean cloth.
3. **⚠️ WARNING!** If the supply cord of this welder is damaged, it must be

replaced only by a qualified service technician.

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### **PLEASE READ THE FOLLOWING CAREFULLY**

THE MANUFACTURER AND/OR DISTRIBUTOR HAS PROVIDED THE PARTS LIST AND ASSEMBLY DIAGRAM IN THIS MANUAL AS A REFERENCE TOOL ONLY. NEITHER THE MANUFACTURER OR DISTRIBUTOR MAKES ANY REPRESENTATION OR WARRANTY OF ANY KIND TO THE BUYER THAT HE OR SHE IS QUALIFIED TO MAKE ANY REPAIRS TO THE PRODUCT, OR THAT HE OR SHE IS QUALIFIED TO REPLACE ANY PARTS OF THE PRODUCT. IN FACT, THE MANUFACTURER AND/OR DISTRIBUTOR EXPRESSLY STATES THAT ALL REPAIRS AND PARTS REPLACEMENTS SHOULD BE UNDERTAKEN BY CERTIFIED AND LICENSED TECHNICIANS, AND NOT BY THE BUYER. THE BUYER ASSUMES ALL RISK AND LIABILITY ARISING OUT OF HIS OR HER REPAIRS TO THE ORIGINAL PRODUCT OR REPLACEMENT PARTS THERETO, OR ARISING OUT OF HIS OR HER INSTALLATION OF REPLACEMENT PARTS THERETO.

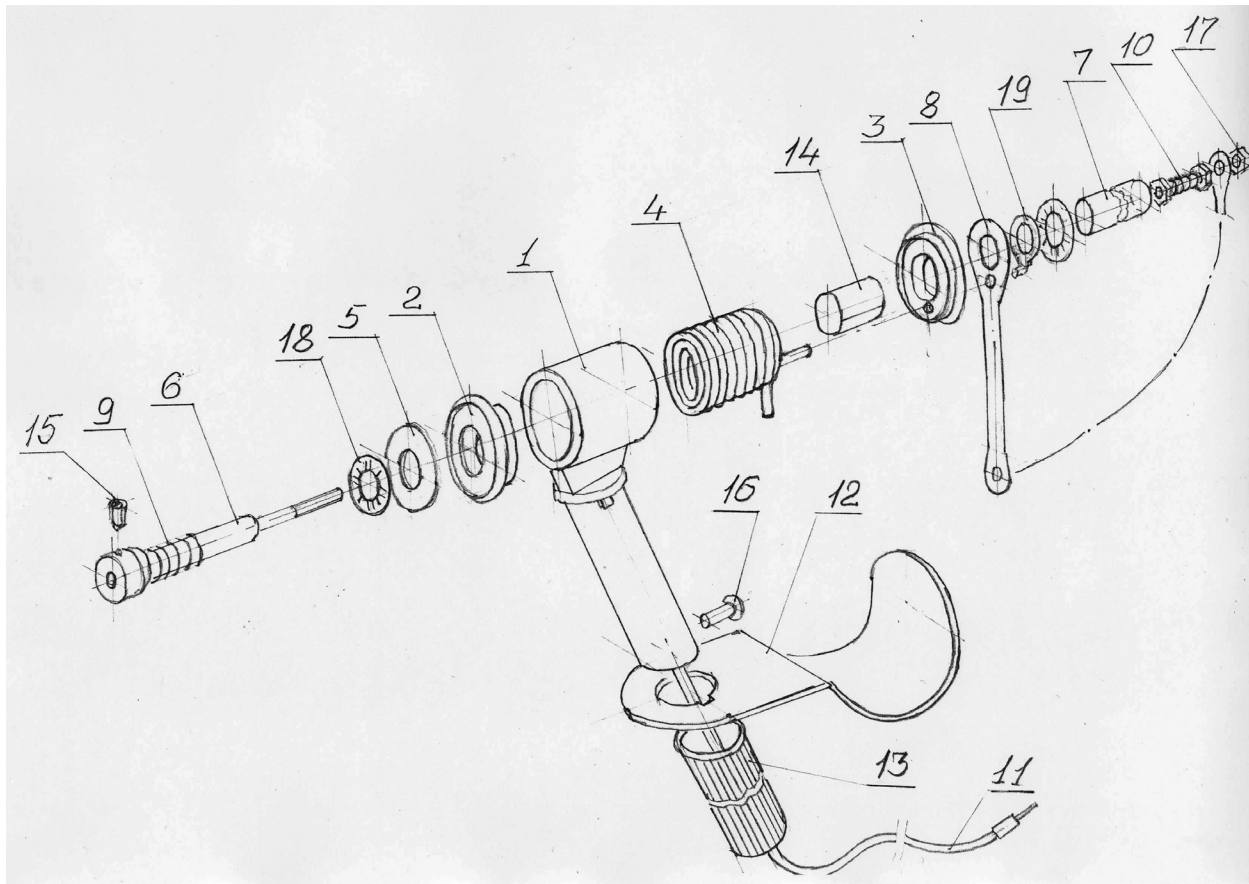
## PARTS LIST

Part	Description	Qty.
1	Frame	1
2	Front Cover	1
3	Back Cover	1
4	Solenoid	1
5	Washer	1
6	Axis Assembly	1
7	Plug Assembly	1
8	Contact	1
9	Front Spring	1
10	Back Spring	1

## PARTS LIST

Part	Description	Qty.
11	Pig Tail	1
12	Guard	1
13	Handle	1
14	Insulator	1
15	Rod Holder	1
16	Screw M4x6	1
17	Nut M4	3
18	Lock Washer	2
19	Contact	1

## DIAGRAM



**Record Product's Serial Number Here:** \_\_\_\_\_

**Note:** If product has no serial number, record month and year of purchase instead.

**Note:** Some parts are listed and shown for illustration purposes only, and are not available individually as replacement parts.

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## LIMITED 90 DAY WARRANTY

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Harbor Freight Tools Co. makes every effort to assure that its products meet high quality and durability standards, and warrants to the original purchaser that this product is free from defects in materials and workmanship for the period of 90 days from the date of purchase. This warranty does not apply to damage due directly or indirectly, to misuse, abuse, negligence or accidents, repairs or alterations outside our facilities, criminal activity, improper installation, normal wear and tear, or to lack of maintenance. We shall in no event be liable for death, injuries to persons or property, or for incidental, contingent, special or consequential damages arising from the use of our product. Some states do not allow the exclusion or limitation of incidental or consequential damages, so the above limitation of exclusion may not apply to you. THIS WARRANTY IS EXPRESSLY IN LIEU OF ALL OTHER WARRANTIES, EXPRESS OR IMPLIED, INCLUDING THE WARRANTIES OF MERCHANTABILITY AND FITNESS.

To take advantage of this warranty, the product or part must be returned to us with transportation charges prepaid. Proof of purchase date and an explanation of the complaint must accompany the merchandise. If our inspection verifies the defect, we will either repair or replace the product at our election or we may elect to refund the purchase price if we cannot readily and quickly provide you with a replacement. We will return repaired products at our expense, but if we determine there is no defect, or that the defect resulted from causes not within the scope of our warranty, then you must bear the cost of returning the product.

This warranty gives you specific legal rights and you may also have other rights which vary from state to state.

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