

SECTION 1 – SAFETY PRECAUTIONS - READ BEFORE USING

Pwr. Tools 2011–10

 Protect yourself and others from injury — read, follow, and save these important safety precautions and operating instructions.

1-1. Symbol Usage



DANGER! – Indicates a hazardous situation which, if not avoided, will result in death or serious injury. The possible hazards are shown in the adjoining symbols or explained in the text.



Indicates a hazardous situation which, if not avoided, could result in death or serious injury. The possible hazards are shown in the adjoining symbols or explained in the text.

NOTICE – Indicates statements not related to personal injury.

1-2. Hazards



The symbols shown below are used throughout this manual to call attention to and identify possible hazards. When you see the symbol, watch out, and follow the related instructions to avoid the hazard. The safety information given below is only a summary of the more complete safety information found in the Safety Standards listed in Section 1-5. Read and follow all Safety Standards.



Only qualified persons should install, operate, maintain, and repair this unit.



During operation, keep everybody, especially children, away.



ELECTRIC SHOCK can kill.

Touching live electrical parts can cause fatal shocks or severe burns. The input power circuit and machine internal circuits are live when power is on.

- Do not touch live electrical parts.

- Do not use equipment in damp areas, if movement is confined, or if there is a danger of falling.
- Additional safety precautions are required when any of the following electrically hazardous conditions are present: in damp locations or while wearing wet clothing; on metal structures such as floors, gratings, or scaffolds; when in cramped positions such as sitting, kneeling, or lying; or when there is a high risk of unavoidable or accidental contact with the equipment. And, do not work alone!
- Disconnect input power before installing or servicing this equipment.
- Properly install, ground, and operate this equipment according to its Owner's Manual and national, state, and local codes.
- Always verify the supply ground – check and be sure that input power cord ground wire is properly connected to ground terminal in disconnect box or that cord plug is connected to a properly grounded receptacle outlet.
- Do not touch grounded surfaces when using this equipment (metal pipes, enclosures, structures, etc.).
- When making input connections, attach proper grounding conductor first – double-check connections.
- Keep cords dry, free of oil and grease, and protected from hot metal and sparks.
- Frequently inspect input power cord for damage or bare wiring – replace cord immediately if damaged – bare wiring can kill.

 Indicates special instructions.



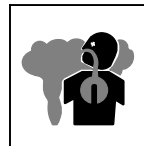
This group of symbols means Warning! Watch Out! ELECTRIC SHOCK, MOVING PARTS, and HOT PARTS hazards. Consult symbols and related instructions below for necessary actions to avoid the hazards.

- Turn off all equipment when not in use. Do not leave equipment until it has completely stopped.
- Use only well-maintained equipment. Repair or replace damaged parts at once. Maintain unit according to manual.
- Keep all panels and covers securely in place.



HOT PARTS can burn.

- Do not touch hot parts bare handed.
- Allow cooling period before working on equipment.
- To handle hot parts, use proper tools and/or wear heavy, insulated welding gloves and clothing to prevent burns.



FUMES, GASES, AND PARTICLES can be hazardous.

Using this equipment with certain materials may produce fumes, gases, and particles. Breathing these fumes, gases, and particles can be hazardous to your health.

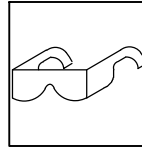
- Keep your head out of the fumes, gases, and particles. Do not breathe the fumes, gases, and particles.
- If inside, ventilate the area and/or use local forced ventilation to remove fumes, gases and particles.
- If ventilation is poor, wear an approved air-supplied respirator.
- Read and understand the Material Safety Data Sheets (MSDSs) and the manufacturer's instructions for metals, consumables, coatings, cleaners, and degreasers.
- Work in a confined space only if it is well ventilated, or while wearing an air-supplied respirator. Always have a trained watch-person nearby. Fumes, gases, and particles can displace air and lower the oxygen level causing injury or death. Be sure the breathing air is safe.
- Do not work in locations near degreasing, cleaning, or spraying operations.
- Do not work on materials that may contain hazardous substances, including masonry, treated lumber, and items with lead-based paint. Do not work on coated metals, such as galvanized, lead, or cadmium plated steel, unless the coating is removed from the work area, the area is well ventilated, and while wearing an air-supplied respirator. Coatings and any materials containing these elements can give off toxic fumes, gases, and particles when worked on.



SPARKS can cause fire or explosion.

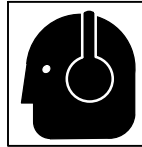
Sparks can fly off from the equipment. The flying sparks, hot workpiece, and hot equipment can cause fires and burns. Accidental contact with metal objects can cause sparks, explosion, overheating, or fire. Check and be sure the area is safe before doing any work.

- Remove all flammables within 35 ft (10.7 m) of the equipment. If this is not possible, tightly cover them with approved covers.
- Do not work on containers that have held combustibles, or on closed containers such as tanks, drums, or pipes unless they are properly prepared according to AWS F4.1 and AWS A6.0 (see Safety Standards).
- Do not work where flying sparks can strike flammable material.
- Protect yourself and others from flying sparks and hot metal.
- Be alert that sparks and hot materials can easily go through small cracks and openings to adjacent areas.
- Watch for fire, and keep a fire extinguisher nearby.
- Do not work where the atmosphere may contain flammable dust, gas, or liquid vapors (such as gasoline).
- Wear oil-free protective garments such as a heavy shirt, cuffless trousers, high shoes, and a cap.
- Remove any combustibles, such as a butane lighter or matches, from your person before doing any work.
- After completion of work, inspect area to ensure it is free of sparks, glowing embers, and flames.
- Use only correct fuses or circuit breakers. Do not oversize or bypass them.
- Follow requirements in OSHA 1910.252 (a) (2) (iv) and NFPA 51B for hot work and have a fire watcher and extinguisher nearby.



FLYING METAL or DIRT can injure eyes.

- Welding, chipping, wire brushing, and grinding cause sparks and flying metal. As welds cool, they can throw off slag.
- Wear approved safety glasses with side shields even under your welding helmet.



NOISE can damage hearing.

Noise from some processes or equipment can damage hearing.

- Wear approved ear protection if noise level is high.

1-3. Additional Symbols For Installation, Operation, And Maintenance



FIRE OR EXPLOSION hazard.

- Do not install or place unit on, over, or near combustible surfaces.
- Do not install unit near flammables.
- Do not overload building wiring – be sure power supply system is properly sized, rated, and protected to handle this unit.



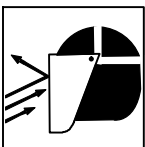
MOVING PARTS can injure.

- Keep away from moving parts.
- Keep all doors, panels, covers, and guards closed and securely in place.
- Have only qualified persons remove doors, panels, covers, or guards for maintenance and troubleshooting as necessary.
- Reinstall doors, panels, covers, or guards when maintenance is finished and before reconnecting input power.
- Do not wear clothing, gloves, or jewelry, or other items that may be caught in moving parts. Wear a hat or other covering to contain long hair.
- Do not make adjustments on moving equipment. Remove adjusting tools (keys, wrenches) before using equipment.
- Verify the switch is in the Off position before plugging in the equipment.
- Use the equipment only for the recommended application and at the specified rate. Do not use the equipment for tasks for which it is not intended.
- Do not hold workpiece in your hand when using equipment. Use a vice or clamp to hold workpiece.



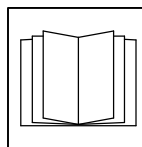
FALLING EQUIPMENT can injure.

- Use equipment of adequate capacity to lift and support unit.
- Keep equipment (cables and cords) away from moving vehicles when working from an aerial location.
- Do not stand on the equipment.
- If applicable, bolt equipment to a smooth surface large and strong enough to safely support it.
- Follow the guidelines in the Applications Manual for the Revised NIOSH Lifting Equation (Publication No. 94-110) when manually lifting heavy parts or equipment.



FLYING SPARKS can injure.


- Wear a face shield to protect eyes and face.
- Operate equipment with proper guards, and in a safe location while wearing proper face, and body protection.
- Sparks can cause fires — keep flammables away.




READ INSTRUCTIONS.

- Read and follow all labels and the Owner's Manual carefully before installing, operating, or servicing unit. Read the safety information at the beginning of the manual and in each section.
- Use only genuine replacement parts from the manufacturer.
- Perform maintenance and service according to the Owner's Manuals, industry standards, and national, state, and local codes.

1-4. California Proposition 65 Warnings

 **Battery posts, terminals and related accessories contain lead and lead compounds, chemicals known to the State of California to cause cancer and birth defects or other reproductive harm. *Wash hands after handling.***

 **This product contains chemicals, including lead, known to the state of California to cause cancer, birth defects, or other reproductive harm. *Wash hands after use.***

1-5. Principal Safety Standards

National Electrical Code, NFPA Standard 70, from National Fire Protection Association, Quincy, MA 02269 (phone: 1-800-344-3555, website: www.nfpa.org and www.sparky.org).

Safe Practices for the Preparation of Containers and Piping for Welding and Cutting, American Welding Society Standard AWS F4.1, from Global Engineering Documents (phone: 1-877-413-5184, website: www.global.ihs.com).

Safe Practices for Welding and Cutting Containers that have Held Combustibles, American Welding Society Standard AWS A6.0, from Global Engineering Documents (phone: 1-877-413-5184, website: www.global.ihs.com).

Safe Practice For Occupational And Educational Eye And Face Protection, ANSI Standard Z87.1, from American National Standards Institute, 25 West 43rd Street, New York, NY 10036 (phone: 212-642-4900, website: www.ansi.org).

OSHA, Occupational Safety and Health Standards for General Industry, Title 29, Code of Federal Regulations (CFR), Part 1910, Subpart Q, and Part 1926, Subpart J, from U.S. Government Printing Office, Superintendent of Documents, P.O. Box 371954, Pittsburgh, PA 15250-7954 (phone: 1-866-512-1800) (there are 10 OSHA Regional Offices—phone for Region 5, Chicago, is 312-353-2220, website: www.osha.gov).

Standard for Fire Prevention During Welding, Cutting, and Other Hot Work, NFPA Standard 51B, from National Fire Protection Association, Quincy, MA 02269 (phone: 1-800-344-3555, website: www.nfpa.org).

Applications Manual for the Revised NIOSH Lifting Equation, The National Institute for Occupational Safety and Health (NIOSH), 1600 Clifton Rd, Atlanta, GA 30333 (phone: 1-800-232-4636, website: www.cdc.gov/NIOSH).