

# Egg Harbor Fire Department and First Responders Standard Operating Guidelines

**SUBJECT: WINDSHIELD CUTTER OPERATION  
AND MAINTENANCE (RHYNO TOOL)**

**SOG 326**

**PURPOSE:** The purpose of this S.O.G. is to establish a guideline for the operation and maintenance of the Rhino windshield glass cutter.

**SCOPE:** This policy shall apply to all members of the Egg Harbor Fire Department.

## **SAFETY RULES FOR SHEARS**

- A. Tool use can generate and disburse particles and dust which project outward from the cutting blades that may impact the face, eyes, hands or other body parts. **ALWAYS** use ANSI Z87.1 or equivalent safety certified eye protection during operation. Everyday eyeglasses are NOT safety glasses.
- B. Tool use can generate and disburse particles and dust which may cause serious and permanent respiratory or other injury. **ALWAYS** use NIOSH/OSHA safety certified respiratory protection during operation.
- C. Exposed and cut glass along with pieces and particles can cut your skin. **ALWAYS** wear cut-resistant gloves constructed of leather, canvas or equivalent during operation.
- D. Do not expose tool and accessories to water or wet conditions. Water entering a power tool will increase the risk of electric shock.
- E. Depending on duration and conditions of use, this tool may generate noise which may contribute to hearing loss. **ALWAYS** use ANSI S12.6 or equivalent safety certified hearing protection during operation.
- F. Tool use may generate particles, dust, or vapor which contains chemicals known to cause cancer, birth defects or other reproductive harm. Some examples of these chemicals include:
  - Copper and plastic from wiringYour 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 safety certified dust masks which are specially designed to filter out microscopic particles. Avoid prolonged contact with dust by allowing particles or dust to enter the mouth, eyes or lay on the skin which can promote absorption of harmful chemicals.
- G. **Hold power tool by insulated gripping surfaces when performing an operation where the cutter blades may contact hidden wiring.** Cutting blades contacting “live” wires may make exposed metal parts of the power tools “live” and could give the operator an electric shock.

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- H. Air vents on tool cover moving parts and should be avoided. Loose clothes, jewelry or long hair can be caught in moving parts.

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- I. Do not use this tool if you are extremely tired, cannot maintain adequate attention or are under the influence of drugs, alcohol or medication. A moment of inattention while operating power tools may result in serious injury.
- J. Do not use this tool in explosive atmospheres, such as in the presence of flammable liquids, gases or dust. Power tools create sparks which may ignite the gas or fumes.

## **SAFETY INSTRUCTIONS FOR BATTERY PACKS**

### **A. Maintenance and Storage**

- a. Do not charge or use battery in explosive atmospheres, such as in the presence of flammable liquids, gases or dust. Inserting or removing the battery from the charger may ignite the dust or fumes.
- b. NEVER force battery pack into charger. DO NOT modify battery pack in any way to fit into a non-compatible charger as battery pack may rupture causing serious personal injury.
- c. Charge the battery packs only in charger provided with this tool.
- d. DO NOT splash or immerse in water or other liquids.
- e. Do not store or use the tool and battery pack in locations where the temperature may reach or exceed 120°F (50°C) (such as outside sheds or metal buildings in summer).
- f. WARNING: Fire Hazard. Never attempt to open the battery pack for any reason. If battery pack case is cracked or damaged, do not insert into charger. Do not crush, drop or damage battery pack. Do not use a battery pack or charger that has received a sharp blow, been dropped, run over or damaged in any way (i.e. pierced with a nail, hit with a hammer, stepped on).
- g. WARNING: Fire hazard. Do not store or carry battery so that metal objects can contact exposed battery terminals. For example, do not place battery in aprons, pockets, tool boxes, product kit boxes.
- h. Exposed battery terminals may cause fire if the terminals inadvertently come in contact with conductive materials such as keys, coins, hand tools and the like. The US Department of Transportation Hazardous Material Regulations (HMR) actually prohibit transporting batteries in commerce or on airplanes (i.e. packed in suitcases and carry-on luggage) UNLESS they are properly protected from short circuits. So when transporting individual batteries, make sure that the battery terminals are protected and well insulated from materials that could contact them and cause a short circuit.

### **B. LITHIUM-ION BATTERIES**

- a. Do not incinerate the battery pack even if it is severely damaged or is completely worn out. The battery pack can explode in a fire. Toxic

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fumes, and materials are created when lithium ion battery packs are burned.

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b. If battery contents come into contact with the skin, immediately wash the area with mild soap and water. If battery liquid gets into the eye, rinse water over the open eye for 15 minutes or until irritation ceases. If medical attention is needed, the battery electrolyte is composed of a mixture of liquid organic carbonates and lithium salts.

c. Contents of opened battery cells may cause respiratory irritation. Provide fresh air. If symptoms persist, seek medical attention.

#### C. INSTRUCTIONS FOR BATTERY CHARGERS

a. Use Rhyno Windshield Cutter™ 14.4V Lithium-ion batteries only on 14.4V Lithium-ion tool and 14.4V Lithium-ion charger. Use with other tools and batteries may result in increased risk of fire, electric shock or personal injury.

b. Avoid dangerous environments. Do not charge battery pack in rain, snow, damp or wet locations. Do not use battery pack or charger in the presence of explosive atmospheres (gaseous fumes, dust or flammable materials) because sparks may be generated when inserting or removing battery pack, possibly causing fire.

c. Charge in a well-ventilated area. Do not block charger vents. Keep them clear to allow proper ventilation. Do not allow smoking or open flames near a charging battery pack. Vented gases may explode.

d. Maintain charger cord. When unplugging charger, pull plug rather than cord to reduce the risk of damage to the electrical plug and cord. Never carry charger by its cord. Keep cord from heat, oil and sharp edges. Make sure cord will not be stepped on, tripped over or subjected to damage or stress. Do not use charger with damaged cord or plug. Have a damaged cord replaced immediately with identical replacement parts.

e. Do not use an extension cord unless it is absolutely necessary. Using the wrong, damaged or improperly wired extension cord could result in the risk of fire and electrical shock. If an extension cord must be used, plug the charger into a properly wired 16 gage or larger extension cord with pins that are the same number, size and shape as the pins on the charger. Make sure that the extension cord is in good electrical condition.

f. Charger RWC-15 is rated for 120V AC only. Charger must be plugged into an appropriate receptacle with a matching rating.

g. Use only recommended attachments. Use of an attachment not recommended or sold by the battery pack or battery charger manufacturer may result in an increased risk of fire, electric shock or personal injury.

h. Unplug charger when not in use. Remove battery pack from unplugged chargers. Do not disassemble charger. Incorrect reassembly may result in an increased risk of fire, electric shock, electrocution or exposure to

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battery chemicals. If the charger is damaged, take it to a certified RHYNO Windshield Cutter™ service facility.

i. Do not operate charger if it has received a sharp blow, been dropped,

or otherwise damaged in any way. Contact the manufacturer for further instructions.

- j. Do not short circuit. A battery pack will short circuit if a metal object makes a connection between the positive and negative contacts on the battery pack. Do not place a battery pack near anything that may cause a short circuit, such as coins, keys or nails in your pocket. A short-circuited battery pack may cause fire and personal injury.
- k. Store your battery packs and charger in a cool, dry place. Do not store battery pack where temperatures may exceed 120°F (50°C) such as in direct sunlight, a vehicle or metal building during the summer.

#### D. WHEN TO CHARGE BATTERY PACK

- a. The fuel gage on the left side of the motor indicates the current battery capacity. The fuel gage has 3 levels:
  - 3 bars ~ >80% capacity
  - 2 bars ~ 50-80%
  - 1 bar ~ 20-50%
  - 0 bars ~ <20%
- b. Remove the battery pack from the tool for charging when needed. RHYNO Windshield Cutter™ Lithium-ion battery packs do not develop “memory” when charged after only a partial discharge. It is not necessary to run down the battery pack before placing it on the charger.
- c. You can “top off” each battery pack at any time or at any level of battery charge as needed.
- d. The only time that it is necessary to charge a battery pack is if it has reached the end of its charge. To signal the end of its charge, power to the tool will stop. No-load run time is about 45 minutes, 30-40 windshields can be cut out with a single charge, depending on air temperature.

#### E. CHARGING A BATTERY PACK

- a. Align the battery pack with the bay and slide the battery pack into the charger as far as possible. The red LED will indicate charging is ongoing.
- b. The battery charger LED light will indicate ready when blinking GREEN.
- c. After inserting the battery pack fully into the charger slot, the LED will indicate RED while charging.
- d. When charging is complete, the LED will indicate GREEN. If the battery pack or charger is out of the normal temperature range of 32°F-113°F (0°-45°C) the LED will indicate RED & GREEN.

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- e. A fully discharged battery pack with an internal temperature in the normal range will charge in about 15-20 minutes. Heavily cycled batteries may take longer to completely charged. NOTICE: Hot or cold

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batteries will take longer to charge. NOTICE: Inverters or generators rated to 100 watts or higher can be used to power charger.

#### F. CLEANING

Clean out dust and debris from charger vents and electrical contacts by blowing with compressed air. Use only mild soap and a damp cloth to clean the battery pack and charger, keeping away from the electrical contacts. Certain cleaning agents and solvents are harmful to plastics and other insulated parts. Some of these include gasoline, turpentine, and lacquer thinner, paint thinner, chlorinated cleaning solvents, ammonia and household detergents containing ammonia.

Never use flammable or combustible solvents around batteries, charger or tools.

### INSTRUCTIONS FOR TOOL OPERATION

#### A. INTENDED USE

- a. The RHYNO Windshield Cutter is designed to cut laminated glass or film covered glass like vehicle or building windows with a thickness of up to 0.240 inches (7 mm). **DO NOT** use under wet conditions or in presence of flammable liquids or gases. This glass cutter is a professional power tool. **DO NOT** let children come into contact with the tool. Supervision is required when inexperienced operators use this tool.
- b. To activate the tool, squeeze the trigger switch. To stop the tool, release the trigger switch. Your tool is equipped with a brake. The blades will stop when the trigger switch is fully released.
- c. The variable-speed trigger switch allows you to start cutting at a slow speed. The further you squeeze the trigger, the faster the tool will operate. For maximum tool life, use variable speed during starts, stops and cornering.
- d. Your tool is equipped with a single work light (9). The work light will be activated when the trigger switch is squeezed.
- e. The tool is equipped with a Motor Control switch (10). This switch locks the trigger while in the center position and permits motor drive when to the left.
- f. The tool is equipped with three cutting blades, one dynamic (1) and two stationary or static (2). The middle blade reciprocates up and down between the two static blades to cut the glass.
- g. To remove the battery (7), from the handle (6) of the tool, press both unlocking buttons and firmly pull the battery outward from the handle.
- h. Align the battery pack with the rails of the tool's handle and slide it firmly into the handle until you hear the lock snap into place.

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#### B. CUTTING LAMINATED GLASS

- a. Don personal protective equipment including ANSI approved safety goggles, respirator and cut-resistant gloves.
- b. Place suction lifters on laminated glass to be cut and activate the suction by lifting the movable handle.
- c. Grasp tool handle with the right hand with a pistol grip and place left hand along motor housing.

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- d. Many newer vehicles have glass configurations which increase the energy required to make purchase into the windshield glass. When attempting to make purchase, impact with a halligan.
- e. Make purchase with the halligan bar in the desired location to begin cutting.
- f. Once purchase has been achieved, place dynamic cutting blade inside glass hole and activate the trigger switch to begin cutting.
- g. Ensure tool is positioned with glass parallel to the angle tool on the shear head while cutting. **DO NOT PUSH HARD.** Let the tool do the cutting.
- h. Remove from the glass and begin again in the original location cutting along the bottom to the mid-line.
- i. Gain access at the opposing A-pillar moving along the bottom to meet the opposite cut.
- j. Remove from the glass. While gripping the tool with the opposite hand, gain access using the 2nd plunge point at the A-pillar and cut upward. Grip the windshield with the opposite hand and finish the cut moving inward to meet the opposite cut.
- k. Upon completing the cut, remove the windshield with the opposite hand by lifting and dispose of.

#### C. CUTTER BLADE REPLACEMENT

- a. Remove battery from tool and place to the side.
- b. Remove the cutter blade screws with the allen key provided with your kit and place to the side.
- c. Remove the cutter blade set from the shear head and place to the side.
- d. Remove replacement cutter blade set from its packaging and remove any securements (i.e. wire tie).
- e. As a complete unit, insert cutter blade set as shown back into the shear head taking caution to align the dynamic cutting blade fork in the center of the shear head.
- f. Replace cutter blade screws and tighten about ¼ turn.