SAFE SYSTEMS, INC.
18420 68th Ave. S., #202 Kent, WA 98032
Phone: 425-251-8662 Fax: 425-251-8683

SAFE SYSTEMS BLAST LIGHT

The SAFE Systems blast light was developed for the blasting and coating industries and has proven itself over many years of field and shop use. The aluminum housing is designed to disperse the heat generated by the bulb so the light stays cool to the touch. The halogen bulb (part #2903 4280) was specially chosen because it is sealed and has an integral 6° reflector which directs the light onto the workpiece. The lens (part #3400 1250) is abrasion resistant to minimize the need for replacement.

Below are some **tips for proper usage** of the light, which may help avoid problems during operation.

1. **Proper power source:** Do not operate the light on any power source other than a SAFE Systems, Inc. power source or 12 Volt battery (Note: Battery clamps with 10' cord are available from SAFE Systems, part # 6912 2010). Other power sources may not put out the correct voltage or be able to handle the load requirements. Over-voltage or under-voltage will drastically affect bulb and socket life.

2. **Designed to operate at 12 volts** AC or DC: If the light is to be used with the SAFE Systems, Inc. power supply (transformer), it is very important to have 100' to 125' of 16-2 SO cord between the blast light and the power supply. The power supply puts out 14 volts and the cord length of 100' to 125' will cause a voltage drop of approximately 2 volts. A cord length less than 100' will shorten the life of the bulb and the socket.

3. **Power supply is plugged into a generator:** Make sure the generator is putting out a true 115 volts. Power supply should NOT be plugged in when starting or shutting down the generator. Power surges and/or low voltage will drastically affect bulb and socket life and possibly damage the power supply.

4. **Attaching the light to the blast hose:** Attach the blast light housing using worm clamps or heavy duty cable ties. Leave some slack between the light and the first attachment point of the cord to allow bending of the hose without pulling the cord out of the light housing. Do not use this slack cord as a handle.

Before servicing blast light, disconnect from power source.

5. **Replacing lens:** *Waterproof style light*: Use an allen wrench to remove the three socket head screws which hold the lens cap in place. *Snap Ring style light:* Use needlenose pliers or a flat head screwdriver to remove the retaining rings which hold the lens in place. Note the order of the retaining rings, the larger (flat) one will be replaced last when reassembling. It is important to use both retaining rings as the first one acts as a tensioner and shock absorber and the second one holds the assembly in place.

6. **Replacing bulbs:** Remove the lens as instructed in #5 above. Inspect the bottom of the old bulb for indications of problems. If the solder contacts on the bottom of the bulb are melted away or deformed, this could indicate a problem with the power source, the length of the cord or the power supply (transformer) (see #1, 2, & 3 above). Be sure to clean all contaminants from the interior of the lamp housing prior to reassembly. Grit or dust inside the socket can result in socket or bulb failure.

7. **Rebuilding a blast light:**

- Remove the lens and bulb as instructed above.
- Unscrew the strain relief and remove it. (Cut the cord, if necessary.)
- Remove the old socket. This may require needlenose pliers as the socket is glued in.
- Remove the old adhesive from inside the housing. A screwdriver or chisel may help.
- Clean the inside of the housing with acetone or solvent so the new adhesive will adhere.
- Loosely install the new strain relief in housing.
- Run the cord through the new strain relief and the blast light housing.
- Strip approximately ½" of the outer covering off of the new cord.
- Strip approximately ¼" of the wire coating off of each wire.
- Tin the stripped wire ends of the new cord with flux core tinning solder.
- Install a new socket on the end of the cord and tighten the screw connections securely into the tinned wires.
- Apply a heat-resistant adhesive, designed for use with metals, to the sides of the socket. Carefully pull the cord and socket back into the housing, insuring that it is deep enough into the housing to allow the bulb to be installed without lens interference.
- Tighten the strain relief and allow the adhesive to harden according to directions.
- Install the new bulb and test the function of the light with a 12 volt power source.
- Install lens and retainers or lens cap.

8. **Troubleshooting:**

- Bulb burns out quickly –
  - Check voltage at the light to ensure it is 12 Volts. See 1, 2 & 3 above for ways to correct it.
  - Remind users not to DROP their hose when the light is attached.
- Bulb base appears melted –
  - Check voltage at the light to ensure it is 12 Volts. See 1, 2 & 3 above for ways to correct it.
  - Check for debris in the light that may cause short circuiting.
- Socket appears melted –
  - Check voltage at the light to ensure it is 12 Volts. See 1, 2 & 3 above for ways to correct it.
  - Check for debris in the light that may cause short circuiting.
- Light appears to be dim -
  - Check the lens for "frosting". Replace if needed (part #3400 1250).
  - Check voltage at the light to ensure it is 12 Volts.
  - Ensure you are using the correct 12 Volt halogen bulb with 6 degree reflector, SAFE part #2903 4280.
- Bulb will not light –
  - Check bulb
  - Check fuses in power supply
  - Check connection to battery
  - Rebuild the blast light as instructed above to ensure all connections are good

Following these tips should ensure a long, trouble-free life for your SAFE Systems blast light. If you should have any questions, please feel free to call us at 1-425-251-8662.