

**BEACON
LED BLAST LIGHT
O. M. 27765**

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! WARNING

Do not use this equipment until you have READ this MANUAL and YOU UNDERSTAND its contents. *

These WARNINGS are included for the health and safety of the operator and those in the immediate vicinity.

***If you are using a Clemco Distributor Maintenance and Parts Guide, refer to the orange warnings insert preceding the Index before continuing with the enclosed instructions.**

Electronic files include a Preface containing the same important information as the orange cover.

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1.0 INTRODUCTION

1.1 Scope of manual

1.1.1 This manual covers the setup, operation, maintenance, and replacement parts of the Clemco Beacon blast light.

1.1.2 These instructions contain important safety information. All operators and personnel involved with the abrasive blast process must read and understand the contents of these instructions, including the orange cover. It is equally important that the operator is trained and qualified to safely operate the blast machine and remote controls, and all other equipment used with the blast machine.

1.1.3 All personnel involved with the abrasive blasting process must be made aware of the hazards associated with abrasive blasting. The Clemco booklet "Abrasive Blasting Safety Practices" is included with every blast machine, and contains important safety information about abrasive blasting that may not be included in equipment operation manuals. To order additional copies, visit www.clemcoindustries.com or email info@clemcoindustries.com.

1.2 Safety Alerts

1.2.1 Clemco uses safety alert signal words, based on ANSI Z535.4-2011, to alert the user of a potentially hazardous situation that may be encountered while operating this equipment. ANSI's definitions of the signal words are as follows:



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

NOTICE

Notice indicates information that is considered important, but not hazard-related, if not avoided, could result in property damage.

CAUTION

Caution indicates a hazardous situation that, if not avoided, could result in minor or moderate injury.

WARNING

Warning indicates a hazardous situation that, if not avoided, could result in death or serious injury.

DANGER

Danger indicates a hazardous situation that, if not avoided, will result in death or serious injury.

1.3 General Description

1.3.1 The Beacon is available in six models:

Three 120-volt AC models: Available with 10-foot, 50-foot, or 100-foot power supply cables with u-ground plug, which plug into any 120-VAC power source.

120-VAC models include an integral 12-VDC power supply that converts 120-VAC to 12-VDC; all models provide 12-Volt DC power to the light.

Three 12-volt DC models: Available with 10-foot, 50-foot, or 100-foot power supply cables and color coded spring clamps, to connect to a battery or other 12-VDC power source.

The Beacon is a high-intensity LED light, which attaches to a convenient location on the blast hose, nozzle holder, or nozzle, for lighting the blasting surface. The Beacon is ideally suited for lighting the blast surface in dimly lit areas. It can also be attached to scaffolding, bracing, or other surfaces as needed to provide additional lighting in low-light blasting spaces.

1.4 Components

1.4.1 The components of the Beacon blast light are shown in Figure 1, and include.

One of the following light assemblies:

- 12-volt DC assembly with 10-ft. supply cable
- 12-volt DC assembly with 50-ft. supply cable
- 12-volt DC assembly with 100-ft. supply cable
- 120-volt AC assembly with 10-ft. supply cable
- 120-volt AC assembly with 50-ft. supply cable
- 120-volt AC assembly with 100-ft. supply cable

Two nylon cable ties

2-ft. Adhesive-backed gasket

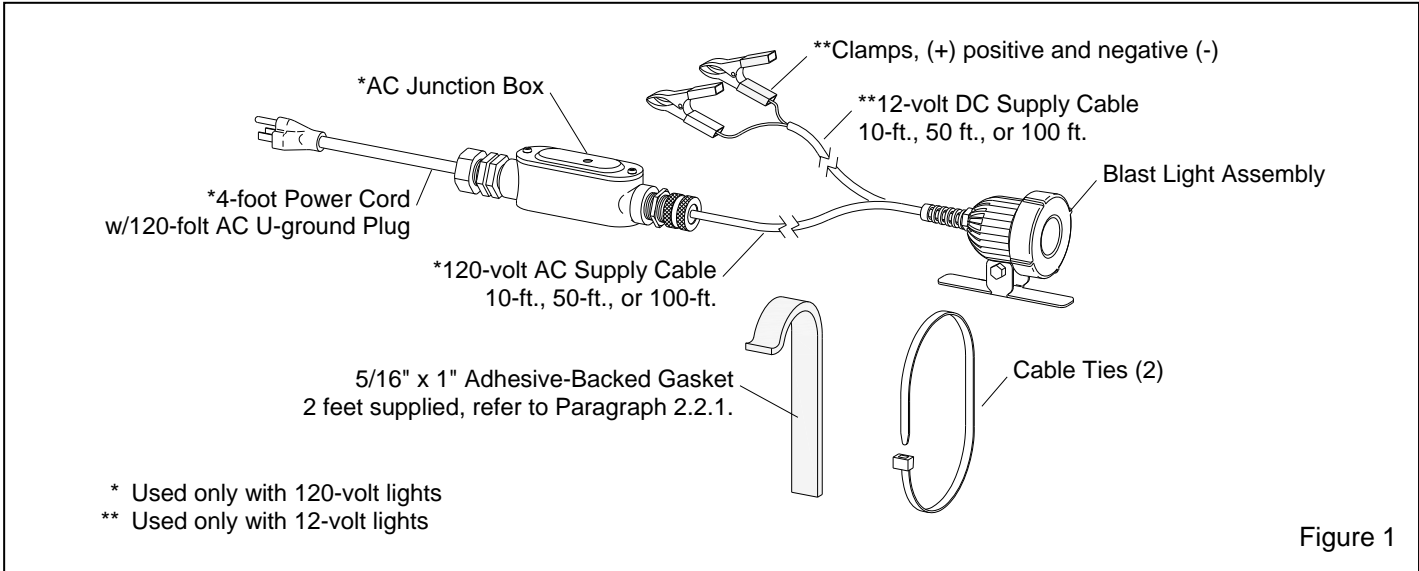


Figure 1

2.0 SET-UP

**2.1 Assemble Mount to Light Assembly
Refer to Figure 2**

2.1.1 Slide the light mount into the slot on the light assembly; the mount is tapered and inserts in only one direction into the slot. Secure with the socket head screw provided.

2.1.2 Use the cap screw provided to attach the mounting bracket to the light mount. Secure with the lock nut provided.

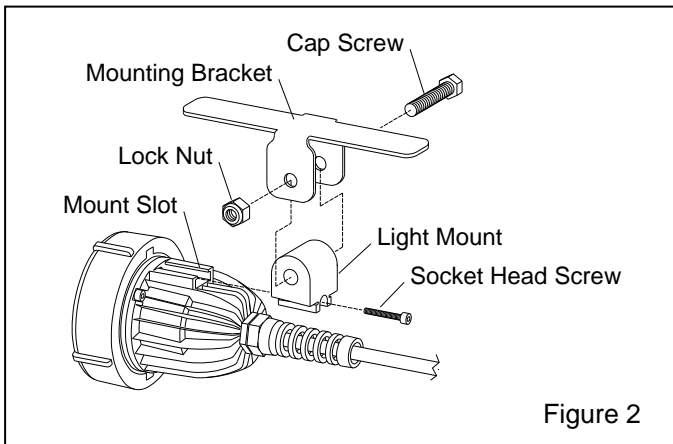


Figure 2

**2.2 Assemble Light to Blast Hose
Refer to Figure 3**

2.2.1 Use cable ties provided or user-supplied worm clamps or tape to attach the light to the blast hose, nozzle holder or nozzle, as shown in Figure 3. When attaching the light to a slick surface, such as a nozzle or nozzle holder, use adhesive-backed gasket to prevent

the light from slipping. To apply, cut two lengths of gasket long enough to wrap around the holder; remove the backing and apply the gasket around the holder, spaced so one length of gasket is under each end of the mounting bracket, as shown. Shorter couplings may require the gasket strips be placed closer together.

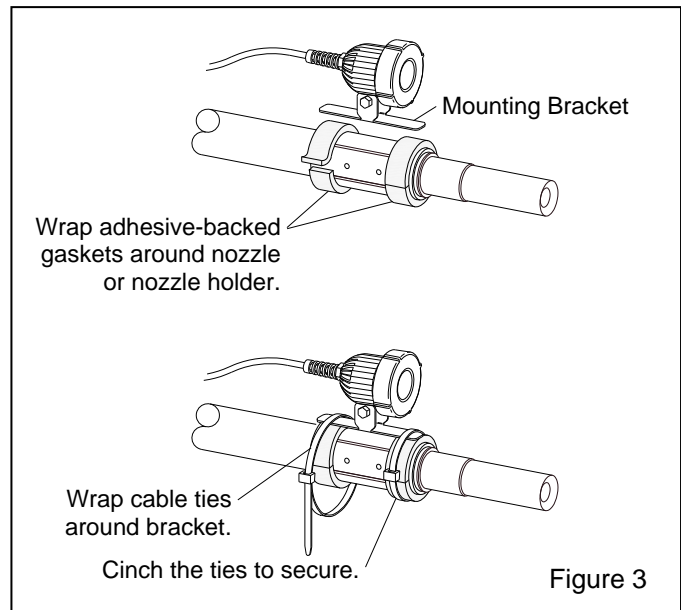


Figure 3

2.2.2 Wrap the cable ties around each end of the mounting bracket, as shown in Figure 3, and loosely but secure enough to barely hold the light in position.

2.2.3 Make sure the light is aligned with the nozzle; the pivot adjustment will be done later. If the light is attached to the hose, and it is too far from the nozzle, bends in the hose will direct the light beam away from the blast stream.

2.2.4 Make sure the light and cable are placed so they do not interfere with the operation of the control handle or operator's grip on the blast hose.

WARNING

When attaching the light to the blast hose, make sure it does not restrict operation of the control handle or reduce the grip on the blast hose. Any interference with the operation of the control handle or grip on the blast hose may cause a condition that could result in injury from the blast stream.

2.2.5 Cinch the cable ties to securely affix the light. Once the light is firmly attached, clip the tie ends so they will not interfere with the operators grip or operation of the control handle.

2.2.6 Loosely wrap the power supply cable around the end of the blast hose and attach cable ties or tape. The cable needs to be attached with enough slack to prevent the cable from being stretched taut when the blast hose is moved or pulled.

NOTICE

Make sure there is enough slack in the cable to prevent the cable from being stretched taut when the blast hose is moved or pulled. Damage could occur at the wire connections if the cable is stretched taut.

2.2.7 When used in permanent blast installations, it may be helpful to strap the cable to the blast hose every three or four feet. When used in portable applications, the cable may be kept loose and always detachable from the blast hose to prevent damage to the light when coiling the hose and moving to another worksite.

2.3 Connect Cable to Power Supply

2.3.1 Connect the cable to a suitable 120-VAC or 12-VDC power supply. The light is ON as soon as it is connected to a power source. NOTE for 12-VDC units only: The red (+) cable clamp must connect to the positive (+) terminal; if reversed, the light will not work.

2.4 Extension Cord

2.4.1 A 16-gauge or larger extension cord may be used, but not to exceed a total length of 300 feet from the power supply to the lamp.

3.0 ADJUSTMENTS

WARNING

Reposition the light and power cable as needed to avoid entanglement or other interference with the operation of the control handle or grip on the blast hose that may result in a condition causing injury from the blast stream.

3.1 Light Position on Hose

NOTE: If the light is used to illuminate parts that require frequent repositioning of the light, use reusable worm clamps to secure the light instead of cable ties.

3.1.1 Loosen clamps and rotate the light on the hose to provide the best lighting to the blast surface without interfering with the operation of the control handle or the grip on the blast hose.

3.2 Light Angle

3.2.1 Loosen the nut on the mounting bracket bolt and tilt the light as required to direct the light beam to provide best lighting to the blast area. Tighten the nut to maintain the setting.

4.0 OPERATION

WARNING

Use of this light in a combustible environment could result in an explosion causing serious injury or death.

NOTE: The light illuminates as soon as the power cable is connected to a power supply; there is no ON/OFF switch.

4.1 Blasting Angle

4.1.1 Whenever possible, avoid blasting 90 degrees to the surface, as rebounding abrasive could rapidly etch the glass outer lens. Blast at 85 degrees or less.

5.0 MAINTENANCE

NOTICE

If the outer glass protective lens breaks, stop blasting immediately and replace it. Delaying replacement of a broken lens will quickly frost the inner poly lens. Continued usage with a broken outer lens could contaminate internal parts and require extensive cleaning and service. Prolonged use of the light with a broken outer lens could permanently damage internal parts of the light.

5.1 Cleaning and Replacing the Outer Protective Glass Lens, refer to Figure 4

5.1.1 The lens retainer attaches to the light assembly with a bayonet-style connection. Lens replacement is easier when the retainer is facing up. To remove the retainer from the light, twist it counterclockwise as viewed from the retainer end. If the retainer cannot be turned by hand, refer to Paragraph 5.1.2.

The lens and O-ring are loose; do not drop or misplace them. Both are included in the outer lens service kit.

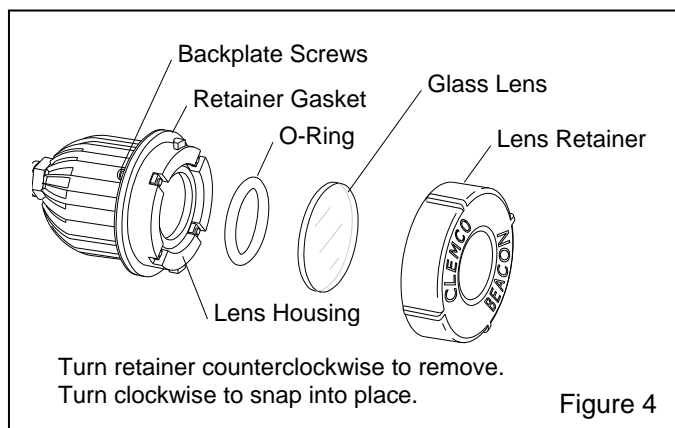


Figure 4

5.1.2 If the retainer cannot be turned, loosen the four backplate screws several turns to remove compression from the retainer gasket, then remove retainer. **NOTE:** when the gasket is compressed as described in Paragraph 5.1.6, friction against the gasket may prevent the retainer from turning; loosening the backplate screws decompresses the gasket.

5.1.3 Clean the inner surface of the retainer, inner lens, and lens housing.

5.1.4 Discard the frosted lens and inspect the O-ring. Replace the O-ring if it is compressed or damaged.

5.1.5 Inspect the inner poly lens; if replacement is required, proceed to Section 5.2. If no other service is needed, reassemble as follows.

5.1.6 Place the O-ring in the recess on the lens housing and center a new lens on the O-ring. Reattach the retainer by aligning the grooves in the retainer with the tabs on the lens housing, turn the retainer clockwise to snap it in place.

5.1.7 Tighten the four backplate screws enough to compress the retainer gasket against the retainer, but not so tight as to prevent retainer removal by hand. **NOTE:** Compressing the gasket assures a dust-tight seal between the retainer and light assembly.

5.2 Removing and Servicing the Inner Poly Lens and Lens Housing, refer to Figure 5

NOTE: The lens housing must be removed to access any serviceable items within the light assembly. Service is easier if the light assembly is removed from the blast hose, one method is to remove the cap screw and lock nut from the mounting bracket as shown in Figure 2.

NOTE: The inner lens service kit include all items shown with an asterisk in Figure 5. The following instructions assume all the service kit items will be replaced.

5.2.1 Remove the lens retainer and glass outer lens, per Section 5.1.

5.2.2 Remove the four backplate screws, backplates, retainer gasket, and nuts.

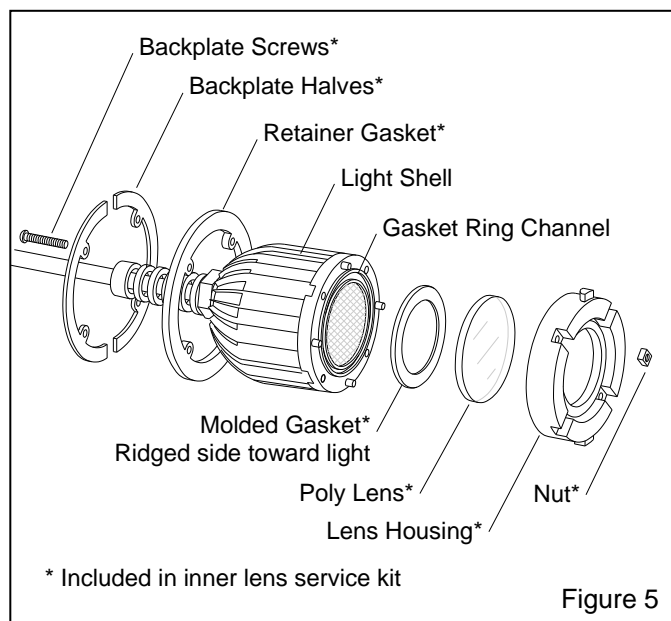


Figure 5

5.2.3 Remove the lens housing from the light assembly. NOTE: The lens housing is held to the light shell by friction. Pull the housing to remove it from the shell; cup the housing when removing it to catch the inner lens, it is loose within the housing.

5.2.4 Remove the gasket.

5.2.5 Clean all parts to be reused.

5.3 Reassemble Inner Lens and Housing to Light Assembly

5.3.1 Place the ridged side of the molded gasket into the channel on the light shell.

5.3.2 Make sure the nut cutouts in the lens housing are facing away from the light shell, and then set the poly lens into the housing recess.

5.3.3 Align the screw holes in the light shell with the cutouts in the housing. The locating nubs on the light shell align with the mating holes on the lens housing. Press the housing onto the shell to hold in place.

5.3.4 Insert the four backplate screws through the two backplate halves, gasket, light shell, and lens housing.

5.3.5 Place a square nut into the cutouts on the housing and tighten each backplate screw enough to engage the nuts. NOTE: A lip on the cutouts aligns the nut with the screw hole.

5.3.6 Place the O-ring in the recess on the lens housing and center a new lens on the O-ring. Reattach the retainer by aligning the grooves in the retainer with the tabs on the lens housing; turn the retainer clockwise to snap it in place.

5.3.7 Tighten the four backplate screws enough to compress the retainer gasket against the retainer, but not so tight as to prevent retainer removal by hand. NOTE: Compressing the gasket ensures a dust tight seal between the retainer and light assembly.

5.4 12-volt Clamp Replacement

5.4.1 If clamps are removed for replacement or if the cable is connected to the power source by another method, make sure the white wire goes to positive (+) and the black wire goes to negative (-). The light will not operate if reversed.

5.5 Periodic Inspections

5.5.1 Weekly

5.5.1.1 Check compression on the outer lens retainer gasket. Tighten the screws or replace the gasket as necessary to maintain a tight seal.

5.5.1.2 Inspect the inner lens; if it is dirty or otherwise needs service, refer to Section 5.2.

6.0 TROUBLESHOOTING

6.1 LED fails to illuminate when attached to power supply

6.1.1 Check power supply with voltmeter to verify power.

6.1.2 Inspect cable; look for a cut, break, or other damage.

6.1.3 12-volt operation

- Make sure red clamp is connected to the positive (+) terminal and the black clamp is connected to the negative (-) terminal.
- Inspect clamps and cable for corrosion.
- Make sure clamps firmly clamp to battery or power source.
- If certain the power supply is good and the clamps are making good contact, the cable or light assembly is faulty. The light assembly with cable is not serviceable, replace it.

6.1.4 120-volt operation

- Inspect plug for damage.
- Remove conduit cover and apply power. Use a voltmeter to make sure power is on the AC side of the LED driver. If no power, the 4-ft. supply cord is damaged, replace it.
- Use a voltmeter to check power on the DC side of the LED driver.
 - If there is no power, the driver is faulty; replace it.
 - If there is power, the cable or light assembly is faulty. The light assembly with cable is not serviceable; replace it.

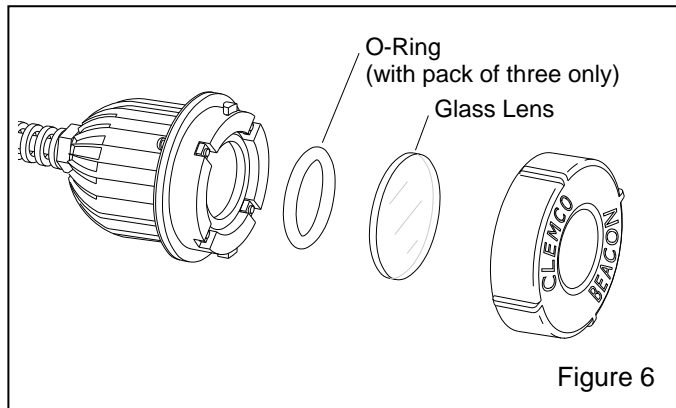
7.0 REPLACEMENT PARTS

7.1 Beacon Blast Light Assemblies

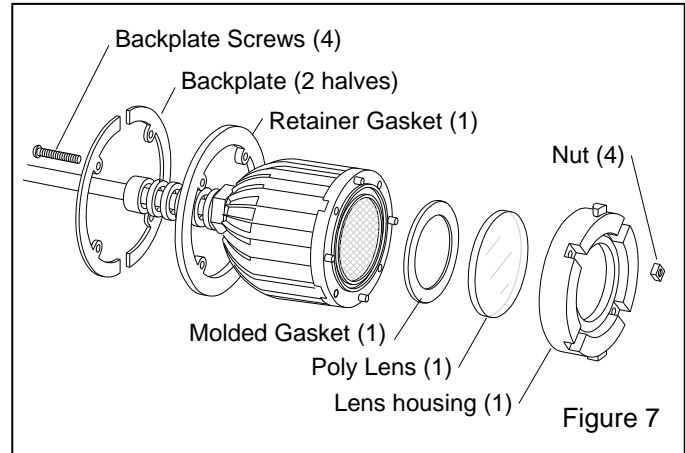
Description	Stock No.
12-VDC blast light with 10-ft cable	28438
12-VDC blast light with 50-ft cable	27740
12-VDC blast light with 100-ft cable	27741
120-VAC blast light with 10-ft cable	28439
120-VAC blast light with 50-ft cable	27742
120-VAC blast light with 100-ft cable	27743

7.2 Service Kits

7.2.1 Lens kit, outer glass, Figure 6	
Pack of three with O-ring	28163
Pack of 20 without O-ring.....	28520

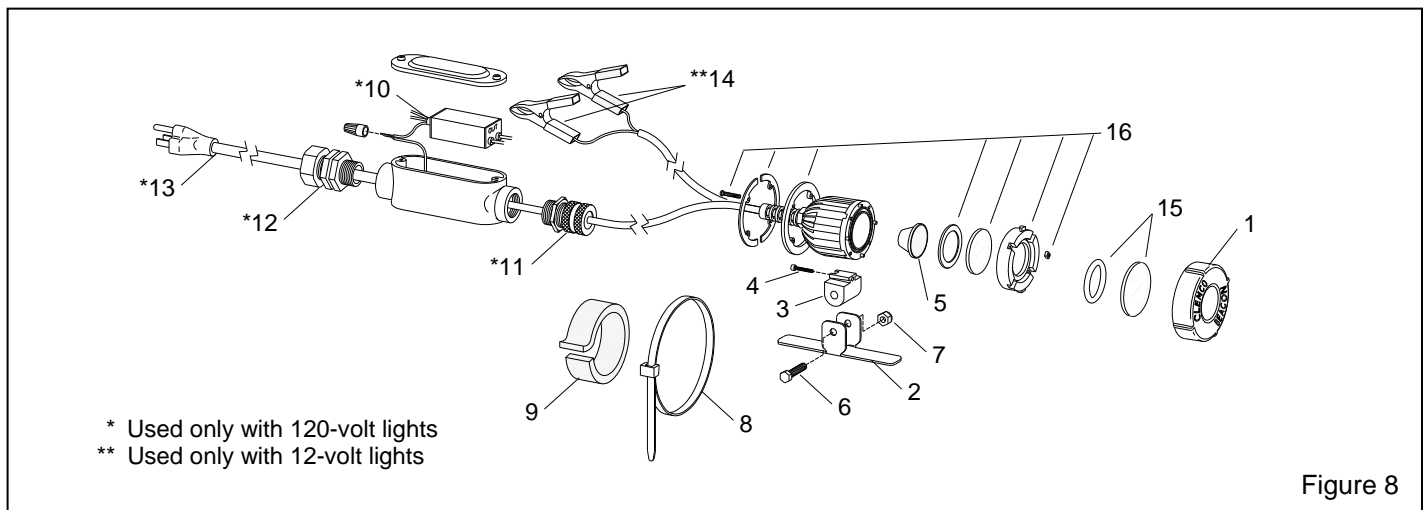


7.2.2 Poly inner lens kit, Figure 7	28164
Quantities shown in parentheses ()	



7.3 Blast Light Replacement Parts, Figure 8

Item	Description	Stock No.
1.	Retainer, outer lens	27748
2.	Bracket, mounting	27751
3.	Mount, light	28161
4.	Screw, light mount	28162
5.	Diffuser	28160
6.	Screw, 1/4-NC x 1.5" hex head cap	03055
7.	Nut, 1/4-NC lock	03112
8.	Tie, 14.5" long nylon	02195
9.	Gasket, 5/16" x 1", two ft. required	00187
10.*	Driver, 120-v to 12-v LED	27758
11.*	Strain relief, 3/4-NPT x 1/4" cable	27756
12.*	Strain relief, 3/4-NPT x 3/8"- 5/8" cable	27757
13.*	Cord, 4-ft 120-v power	27766
14.**	Clamp set, 12-volt battery	27763
15.	Service kit, glass outer, refer to Section 7.2.1	
16.	Service kit, poly inner, refer to Section 7.2.2	



* Used only with 120-volt lights
 ** Used only with 12-volt lights