

! CAUTION

- All wiring should be done by a licensed electrician in accordance with state codes, local codes, National Electrical Code (NEC) standards and International Electrotechnical Commission (IEC) standards.
- Improper installation may result in serious injury and void warranty.
- Contains parts and assemblies susceptible to damage by electrostatic discharge (ESD).
- Surge protective devices should be utilized for fixtures installed in environments subject to power surges outside the specified operating parameters.
- The Danger Light® is designed and intended to provide visual indication of potentially unsafe locations for equipment, personnel or assets near or around earth moving equipment. By itself, the Danger Light does not provide any physical or locational collision avoidance. The Danger Light should be used in conjunction with other established safety protocols to avoid collision. Proper installation, aiming and maintenance of the Danger Light is critical to its effectiveness as an indicator of potentially unsafe areas. Phoenix and its distributors are not liable for collisions caused by improper installation.

Wiring

The standard fixture is supplied with wire leads and connectors. Connectors accept up to 12 AWG wire.

UNIV (120-277V) - Green is ground (PE), black is line and white is neutral.

DC (12-24V) - Black is negative (-), and white is positive (+).

Cord Grip/Plug - Incoming power cable diameter should be 0.25 to 0.375 inches for use with supplied cord grips. Ensure cord grip and/or plug is installed past the inner surface of the housing cover. Thread sealing tape or paste is required.

Harp Mount

1. Attach harp to fixture using four (4) 5/16 inch or M8 bolts (provided).
2. Attach fixture with harp to structure using a minimum of two (2) M12 bolts (not provided).

Installation

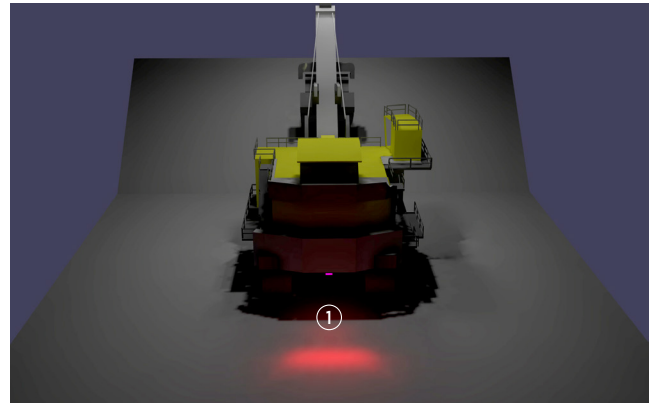
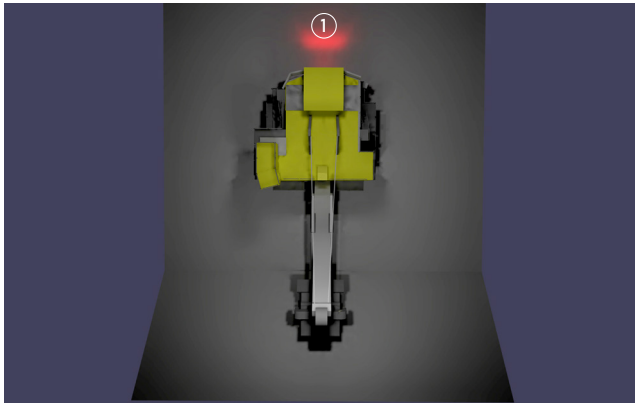
1. Visually identify the potential installation locations where the fixtures will be installed (i.e. under the machinery house). Some installation locations may require welding for bracket installation. Consider using welded L-shaped bracket plates if installing directly on the counterweight.
2. Install the first Danger Light (Fixture 1) on the back (center) of the equipment as indicated in Image 1.

Note: The light beam should be located at least one (1) meter from the furthest point on the back of the equipment (Image 1). The mine sites may adjust this distance per their specific safety and/or operation requirements. Future adjustments to this distance can always be made by modifying the installation inclination of the fixture.

Important: Maximum distance of the red perimeter line should be greater than the furthest point on the body of the shovel (i.e. the counter weight) but less than the distance to the wheels of the loading haul truck. For example, if the distance from the center pin of the shovel to the counter weight is 10 meters and the distance from the center point to the haul truck wheel base loading position is 14 meters, the red line could be positioned 11 to 12 meters from the center pin. The extra 1-2 meters will provide an additional safety margin. In this regard, red line calibrations to each shovel are important for proper operation. Failure to do this correctly could lead to serious injury or death.



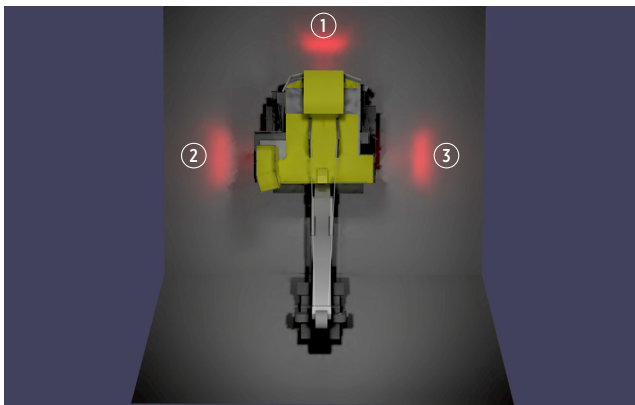
Image 1: Installation of Fixture 1



3. Identify the location of the light beam of Fixture 1 on the ground. Spray paint or marking flags can be used for marking beam locations. Installation on cloudy days or at night is recommended in order to see the beam line. Keep note of the distance recommendations made above from the center pin.
4. Install the two lateral Danger Lights (Fixtures 2 and 3) near the shovel front.

Note: The light beam should be parallel to the machinery house and the light beam should end close to the machinery house front (see image below). Do not fully tighten these two fixtures as they will need to be calibrated in the next step.

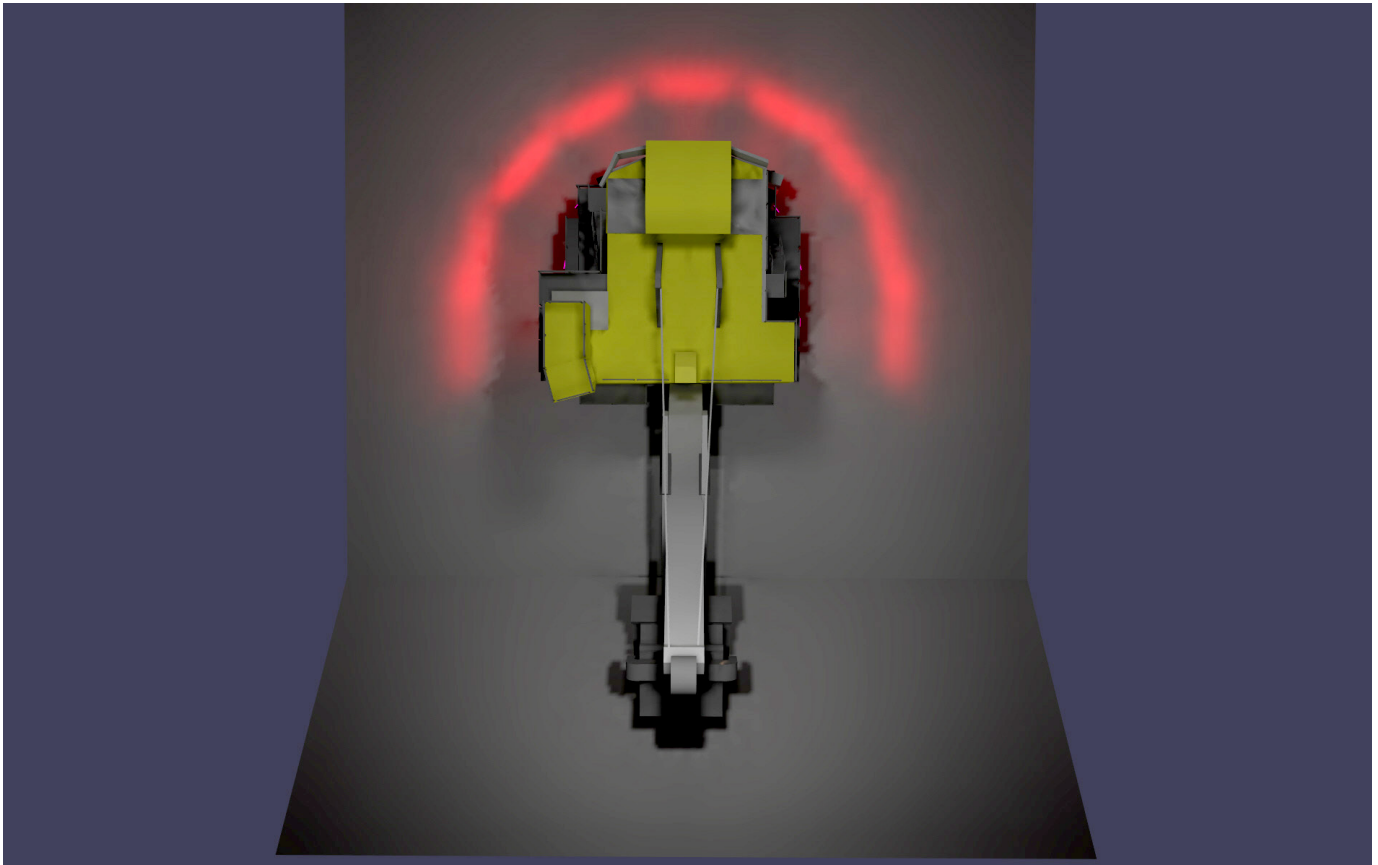
Image 2: Back Fixture (Fixture 1) and Lateral Fixtures (Fixtures 2 and 3)



5. Turn the shovel approximately 90° to the left until the beam from Fixture 3 is in line with the indicator flags/spray paint from Fixture 1. Adjust the inclination of Fixture 3 until it matches the marked area. By ensuring the Danger Light fixtures are positioned properly (same distance from the shovel and same inclination), you will create an even, red semi-circle around the shovel (i.e. a red perimeter line).
6. Rotate shovel back to original position.
7. Repeat the procedure in Step 5 for installation of Fixture 2 but turn the shovel approximately 90° to the right.
8. Install additional Danger Lights (Fixtures 5-9) ensuring that:
 - Their light beams overlap, touch or nearly touch (will vary based on size of equipment)
 - Each light beam is adjusted to ensure that when the shovel rotates, all the Danger Light beams match the location marked from the back fixture (Fixture 1).



Image 3: Equipment with 9 Danger Light Fixtures Installed



Application Photo References



Product design and specifications are subject to change without notice.

