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Diamondback™

LED PERIMETER WARNING LIGHT

Installation Instructions

IMPORTANT! Read this document completely before installing your Diamondback perimeter warning lamp. Store this document in a safe place for future reference.

For Safe Installation and Operation

To properly and safely install this lighting device you must have a good understanding of vehicle electrical systems and the procedures necessary to service them. There are several safety standards available on type of vehicle. Please reference these standards whenever applicable.

If installation requires drilling into the mounting surface, first check that both sides of the drill location are clear of any obstruction, such as wire harness or other devices.

All wire exit areas must be free of burrs and sharp edges to prevent wire damage.

DO NOT install this lamp or any device or wire in the deployment zone of the vehicle airbag(s). Refer to vehicle documentation for locations of all airbags.

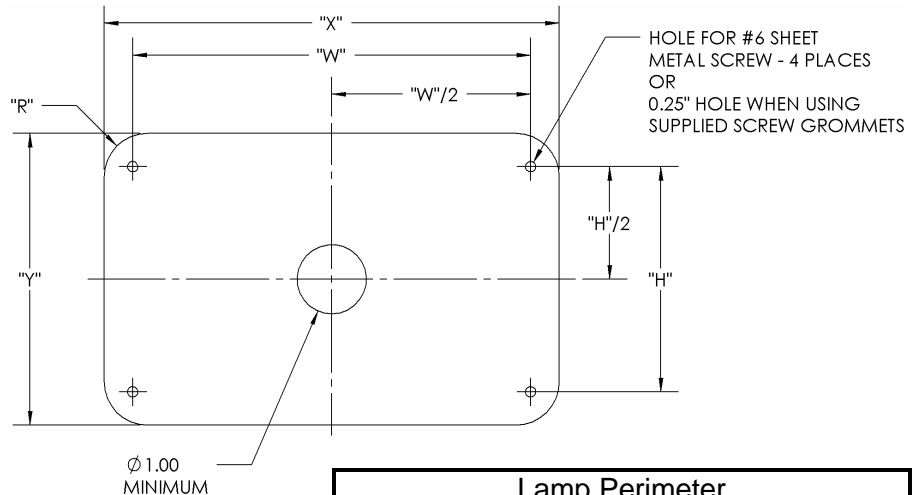
This lamp uses high intensity Light Emitting Diodes (LEDs). Do not stare directly into the lamp from close range. Permanent eye damage or blindness may occur.

FAILURE TO FOLLOW THESE SAFETY INSTRUCTIONS COULD RESULT IN DAMAGE TO THE VEHICLE AND INJURY OR DEATH TO VEHICLE OCCUPANTS!

VEHICLE BODY PREPARATION:

1. When determining the location of the lamp, make certain that the lamp will not interfere with any existing components on the vehicle. Take note of any moving parts in the mounting area.
2. The light output from the lamp must not be obstructed. Angular output from the lamp is 50° left to 50° right, 10° up to 10° down.
3. The lamp requires a smooth even surface for mounting. Do not mount the lamp directly to treadplate or onto a curved surface. For installation onto these surfaces, use optional bezel trim kit.
4. Lamp mounting orientation is with the Akron Brass logo located in the TOP position. If the lamp is mounted in any other orientation, the photometric requirements of the applicable standard may not be met.

- Locate, mark and drill four mounting holes. The use of a template is recommended.
- If using the supplied screw grommets, the hole size is to be 1/4". Panel thickness range is 0.02" to 0.25".
- If screwing directly into the mounting surface, drill the hole size that is applicable for a #6 sheet metal screw for the mounting surface material.
- Install a rubber grommet (not supplied) of proper size into the wire exit hole to prevent damage to the wires.



MODEL	Lamp Perimeter							
	"W"	"H"	w/o Bezel			w/ Bezel		
	"W"	"H"	"X"	"Y"	"R"	"X"	"Y"	"R"
V34	4.20	2.38	4.88	3.07	0.30	5.89	3.60	0.56
V37	6.56	2.38	7.28	3.07	0.33	8.29	3.60	0.60
V46	5.75	3.25	6.57	4.21	0.63	7.58	4.72	0.89
V79	7.25	5.25	9.13	7.13	0.98	10.14	7.85	1.35

ELECTRICAL CONNECTIONS:

COLOR	FUNCTION	DESCRIPTION
Red	+VBatt	+9 to +36 VDC
White	Ground	
Green	Secondary	Provides event-enabled flash pattern. Activated by ground or power signal as defined by user.
Blue	Sync	Enables synchronization between all Diamondback lamps. Connect blue wires of all lamps together to form the synchronization network.

The Diamondback lamps will operate best when the power and ground paths are free from electrical interference caused by other devices. When wiring the lamps, provide a clean, dedicated power and ground supply to the lamp network.

LAMP FLASH PATTERN PROGRAMMING:

The Diamondback lamp flash pattern can be changed using three methods:

1. Through the use of a Windows Mobile device with an IR port and Diamondback programming software. For a list of Windows Mobile device requirements, refer to the Weldon website.
2. Through the use of the Diamondback IR Programming Device.
3. Through the wire-touch method. No auxiliary device is necessary.

Programming the Diamondback lamp using the wire-touch method

1. **ENTERING WIRE-TOUCH PROGRAMMING MODE.** To enter wire-touch programming mode, hold the green and blue wires together during power-up. The lower left quadrant will blink with a short pulse to indicate the lamp is in wire-touch programming mode. Release the wires to begin setting the lamp parameters.
2. **SET GLOBAL LAMP PARAMETERS.** First, the global lamp parameters will be set – Phase and Secondary Function Polarity. To change the option selected, tap the blue and green wires together momentarily. The lamp appearance will change to indicate the option that is selected. To advance to the next category, hold the blue and green wires together for three seconds and release. A row of LEDs will scroll from left to right to indicate the advance in category.

Global Lamp Parameters

	CATEGORY	INDICATOR	DESCRIPTION
OPTION	Phase	Left Side Flash = Phase "A" Right Side Flash = Phase "B"	Defines how synchronized lamps will behave in relation to each other. Phase "B" lamps will flash alternately of Phase "A" lamps.
	Secondary Function Polarity	Top Half Flash = +VBatt Bottom Half Flash = Ground	Defines signal condition used to activate the secondary flash pattern.

Note, once Phase and Secondary Function Polarity options have been defined, the lamp will advance to the flash pattern builder. To return the lamp to global lamp parameter programming mode, remove power to the lamp and return to wire-touch programming mode as described above.

3. **DEFINE THE FLASH PATTERN.** The Diamondback flash pattern builder is a parametric method used to create your own flash pattern. A set of categories is defined, detailing the aspect of each segment that defines a flash pattern. Cycle through the categories and options as described above to define your flash pattern. To relieve eye strain, the LEDs will operate in a dimmed mode during the flash pattern building process. When the lamp is returned to operating mode, the LEDs brightness will increase to the proper level.
4. **VISUAL FEEDBACK.** The lamp will give visual feedback indicating the pattern (primary or secondary) and category that is being modified. Refer to flash pattern builder table for indicator definition.
5. **PRIMARY AND SECONDARY PATTERN.** To change from primary pattern definition to secondary pattern definition, hold the green wire to ground for three seconds. The lower row of LEDs will scroll from left to right to indicate the change in pattern type. You can move back and forth from primary to secondary pattern selection at any time. The category will not change. When advancing through categories, the LED scroll indicates which pattern is being modified. The upper LEDs will scroll when modifying the primary pattern. The lower LEDs will scroll when modifying the secondary pattern.

Flash Pattern Builder

		CATEGORY			
		PULSE	SPLIT	RATE	BRIGHTNESS
OPTION	Single		Full	75 FPM	Full
	Dual		Left-Right	150 FPM	Dim
	Quad		Top-Bottom	300 FPM	
	QFL		"X"		
			Swirl		
			California		
			Steady Burn*		
	Upper Left		Upper Right	Lower Left	Lower Right
		INDICATOR			

* If Steady Burn split type is selected, the lamp must only be operated momentarily (less than 10 minutes) or flashed with an external flasher. Failure to do so may result in thermal damage to the lamp assembly. Any signs of thermal damage may result in void of warranty.

6. **SECURITY.** For security purposes, once the wire-touch programming is completed, the lamp will switch to a "LOCKED" state. The lamp flash patterns will not be able to be changed using an IR programming device. To allow programming using an IR device, the lamp must be returned to an "UNLOCKED" state. To UNLOCK the lamp, touch the blue wire to ground and send the UNLOCK command using an IR programming device. See Diamondback IR programming device instructions for details.

Note, the flash pattern can always be modified using the wire-touch method – even when the lamp is in a "LOCKED" state.