Betelgeuse – A Programmable LED Brake Lamp
By Lakeside Electronics, LLC
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Warnings and Cautions

Please read and understand the following section before continuing. There are several important points to note.

- Please check your local laws regarding the installation of your Betelgeuse Programmable Brake Lamp before installation on any vehicle that will be operated on public roadways.
- The Betelgeuse Programmable Brake Lamp is intended to be installed only in 12 Volt DC, negative ground systems.
- Install the Betelgeuse Programmable Brake Lamp brake light housings that are not damaged and are sealed to prevent ingress of rain or snow. Your brake lamp may become damaged if it comes in direct contact with water.
- Do not look directly at the Betelgeuse Programmable Brake Lamp without your tail light lens installed. It's high brightness Cree X-Lamp LED's are intended to be viewed thru an appropriate tail light lens.
- As with any brake lamp, failure can occur. Always check your Betelgeuse Programmable Brake Lamp for correct operation before operating your vehicle.

Installing your Brake Lamp

1. Position your vehicle in a safe location to begin work and turn the ignition key to the " off " position.
2. Remove your tail light lens to expose your existing brake light bulb.
3. Remove your existing 1157 or 3157 type brake light bulb. If you encounter any trouble stop and do not force your lamp as damage or injury could occur.
4. Install the Betelgeuse Programmable Brake Lamp by inserting into your brake lamp socket.
5. Reinstall your tail light cover.
6. Ensure that the Betelgeuse Programmable Brake Lamp is operating as intended.
7. (Optional) Select a new flash pattern using the instructions in the section " Programming your Brake Lamp ".

Programming Your Brake Lamp

Selecting a Predefined Flash Pattern

There are 8 unique flash patterns permanently installed in your Betelgeuse Programmable Brake Lamp. By following the instructions below, you will learn how to enter " Flash Pattern Selection Mode " and set your default flash pattern. You can only select one pattern at a time, but you can set a new pattern in the Betelgeuse Programmable Brake Lamp many times over.

Please read the section titled " Flash Pattern Descriptions " for suggestions on which pattern to select before continuing.

After installing the Betelgeuse Programmable Brake Lamp you will notice it is set to operate with the default flash pattern. If you wish to change the flash pattern perform the following actions.

1. Turn your ignition key to the on position to provide power to the brake light circuit.
2. Within 10 seconds of turning your ignition to the on position, tap your brake lever a minimum of 10 times.
3. You will see a series of rapid flashes indicating that you have successfully entered Flash Pattern Selection Mode. If you do not enter this mode, turn your ignition key off and go back to step 1 to try again.
4. While in Flash Pattern Selection Mode you will see the brake light demonstrating each of its patterns. In this mode, all of the patterns repeat so you can better make your selection, however in practice not all of the modes repeat. More information on which patterns repeat and which do not can be found in section titled " Flash Pattern Descriptions ".
5. To move to the next pattern, tap your brake lever and you will then see a demonstration of the pattern. When you cycle thru all 8 flash patterns, you are taken back to the beginning to optionally go thru them again. When cycling thru the patterns, be sure to cycle thru them in 30 seconds or less; check out step 6 to see why.
6. After you decide which pattern you want to save, stop cycling thru the flash patterns. After 30 seconds from the last brake press has elapsed, whichever mode is currently displayed will be saved as your new default flash pattern. If you turn your key off before the 30 second window expires, no changes will be made and your previous flash pattern will remain as the default.
7. After saving your new flash pattern selection, Betelgeuse automatically exits Flash Pattern Selection Mode and returns to normal brake light operation. Go ahead and hit your brakes, you should see your new flash pattern displayed. You can key off and on again and this new pattern will be remembered... until you select a new pattern by starting back at step 1 again!

Recording a Custom Flash Pattern

The Betelgeuse Programmable Brake Lamp is capable of recording and playing back a flash pattern that you set by tapping out blinks with your brake lever. If you can tap it, Betelgeuse will record and play it back every time you hit the brakes. You can record and re-record new patterns many times over. To set your own custom flash pattern, follow the directions below.

1. Turn your ignition key to the on position to provide power to the brake light circuit.
2. Within 10 seconds of turning your ignition to the on position, tap your brake lever a minimum of 10 times.
3. You will see a series of rapid flashes indicating that you have successfully entered Flash Pattern Selection Mode. If you do not enter this mode, turn your ignition key off and go back to step 1 to try again.
4. Now, press and hold your brake lever until you see Betelgeuse emit a series of rapid flashes, then let go. This should take about 5 seconds.
5. Betelgeuse will record the next 10 seconds of your brake flash pattern starting as soon as you tap the brake lever.
6. Keep tapping out your flash pattern for the full 10 seconds. You will know when the recording is complete by a series of rapid flashes.

7. Betelgeuse automatically saves your new recording, sets the recording as the default brake flash pattern then exits to resume regular brake function.
8. Go ahead and hit your brakes, you should see your new flash pattern displayed. You can key off and on again and this new pattern will be remembered... until you select a new pattern by starting back at step 1 again!

Flash Pattern Descriptions

There are a total of 8 selectable flash patterns in the Betelgeuse Programmable Brake Lamp. You can select a new pattern by following the directions outlined in the section titled " Selecting a Predefined Flash Pattern ". You are only able to select one pattern at a time but you can reprogram Betelgeuse many times over. There are several points to note before deciding which pattern you will select.

- All of the flash pattern demonstrations repeat while you are in " Flash Pattern Selection Mode " to help you better make a decision if that particular pattern is right for you, however not all modes repeat in actual operation. From the descriptions below you will see that flash patterns 1, 2, 3 & 8 display a flash pattern, then go to a steady on brake light. Flash patterns 4 – 7 will repeat for as long as you have your brakes applied.
- Repeating patterns are not recommended for use in dual lamp installations because there is no method to keep them synchronized long term. For dual lamp installations it is recommended to use non-repeating flash patterns or to set one lamp to pattern 8 (standard brake function) and set the second lamp to a repeating flash pattern of your choice.
- For dual lamp installations it is recommended to select the flash patterns individually. While it is possible to program them in tandem it could become confusing. Start by selecting a flash pattern for one lamp and remove it. Then, install the second lamp to be programmed. You can then reinstall the first lamp. After you gain some experience selecting flash patterns you will learn to program them in tandem.

1. **Original - Fast:**
   Repeat: No
   This mode offers a high frequency strobe for a duration of about 1 second then turns to a steady on brake light. This mode does not repeat, and will only strobe again if you reapply the brakes.

2. **Original – Medium:**
   Repeat: No
   This mode offers a lower frequency strobe than the " Original – Fast " flash pattern for a duration of about 1 second then turns to a steady on brake light. This mode does not repeat, and will only strobe again if you reapply the brakes.

3. **Original – Slow:**
   Repeat: No
   This mode offers a lower frequency strobe than the " Original – Medium " flash pattern for a duration of about 1 second then turns to a steady on brake light. This mode does not repeat, and will only strobe again if you reapply the brakes.

4. **Quattro**
   Repeat: Yes
   This mode flashes 4 bright flashes, pauses with the brake light on, and then repeats for as long as you have your brakes applied.

5. **Fade Away:**
   Repeat: Yes
   This mode flashes 4 rapid flashes before fading down. It pauses for a moment, and then repeats for as long as you have your brakes applied.

6. **Old School:**
   Repeat: Yes
   This mode simulates the look of an old school filament bulb, but allows you to keep your brakes applied while your brake light is ramping up and down in brightness. There are 3 quick ramps followed by slower ramps for as long as you have your brakes applied.

7. **Nav Strobe:**
   Repeat: Yes
   This mode is a steady on brake light that strobes off then back on at about the same frequency as an airplanes navigation strobes. This mode will repeat for as long as you have your brakes applied.

8. **Standard Brake:**
   Repeat: No
   In this mode the Betelgeuse Programmable Brake Lamp operates like a standard brake lamp. Its output is bright when you have your brakes applied and dimmer with just the tail light on. This mode can be used if you travel to an area that does not allow brake light modulators. It can also be useful in dual lamp installations where you want to use a repeating flash pattern.

Warranty

Here is your guarantee. At lakeside Electronics, LLC we want you to have the best brake light available. If your Betelgeuse Programmable LED Brake Lamp fails due to a manufacturing defect of any type, you are entitled to warranty service. Send us your defective unit, postage paid and we will determine if a repair can be made. If no repair can be made you will be given the option of a brand new Betelgeuse Programmable LED Brake Lamp or a refund of your purchase price - your choice. This warranty is non-transferable, expires 5 years after the date of purchase and you must provide your original proof of purchase to qualify. Contact us at www.lakesideelectronics.net for an RMA number if you need to make a warranty claim.

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