2562020A
REV. A 105
Printed in U.S.A.

FEDERAL SIGNAL CORPORATION
Emergency Products

INSTALLATION AND MAINTENANCE INSTRUCTIONS FOR JET™ JLX SERIES LED LIGHT BARS

SAFETY MESSAGE TO INSTALLERS OF FEDERAL SIGNAL LIGHT SYSTEMS

⚠ WARNING

People's lives depend on your safe installation of our products. It is important to read, understand and follow all instructions shipped with the products. In addition, listed below are some other important safety instructions and precautions you should follow:

- **To properly install a light assembly: you must have a good understanding of automotive electrical procedures and systems, along with proficiency in the installation and use of safety warning equipment.**
- **When drilling into a vehicle structure, be sure that both sides of the surface are clear of anything that could be damaged.**
- **A light system is a high current device. In order for it to function properly, a separate ground connection must be made. If practical, it should be connected to the negative battery terminal. At a minimum, it may be attached to a solid metal body or chassis part that will provide an effective ground path as long as the light system is to be used.**
- **Locate light system controls so the VEHICLE and CONTROLS can be operated safely under all driving conditions.**
- **This product contains high intensity LED devices. To prevent permanent eye damage, DO NOT stare into the light beam at close range.**
- **You should frequently inspect the light system to ensure that it is operating properly and that it is securely attached to the vehicle.**
- **File these instructions in a safe place and refer to them when maintaining and/or re-installing the product.**

Failure to follow all safety precautions and instructions may result in property damage, serious injury, or death to you or others.

I. UNPACKING.

After unpacking the light bar, inspect it for damage that may have occurred in transit. If the unit has been damaged, file a claim immediately with the carrier, stating the extent of damage. Carefully check all envelopes, shipping labels and tags before removing or destroying them.

II. INSTALLATION.

The basic light bar is completely wired at the factory and does not require any additional internal wiring. All the conductors necessary for control of any and all basic and optional functions are contained in the cable. Installation of options will require additional wiring in the light bar.

The basic light functions of the unit must be controlled by a user supplied control head.

Before proceeding, ensure that the light bar has been installed on the vehicle roof in accordance with the instructions packed with the mounting kit. Route the light bar cable as described below.

⚠ WARNING

Light system controls must be located so that VEHICLE and CONTROLS can be operated safely under all driving conditions.

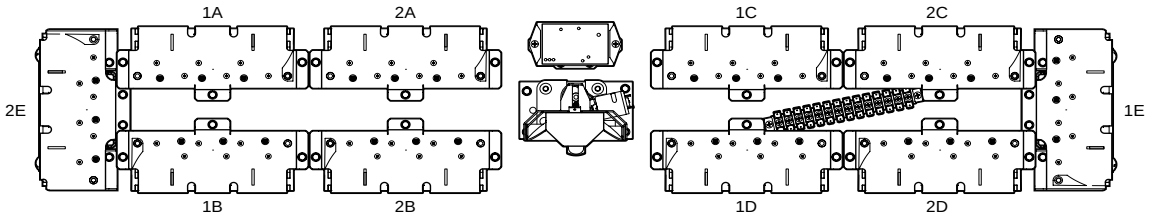
⚠ WARNING

When installing equipment inside air bag equipped vehicles, the installer MUST ensure that the equipment is installed ONLY in areas recommended by the vehicle manufacturer.

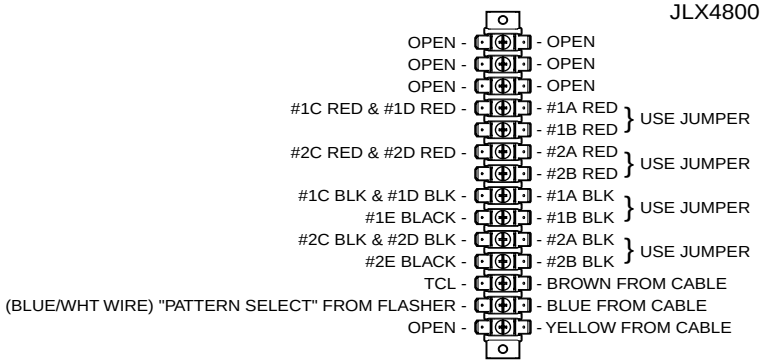
Failure to observe this warning will reduce the effectiveness of the air bag, damage the air bag, or potentially damage or dislodge the equipment, causing serious injury or death to you or others.

A. Route the control cable into the vehicle and under the dash, near the eventual location of the user-supplied control head.

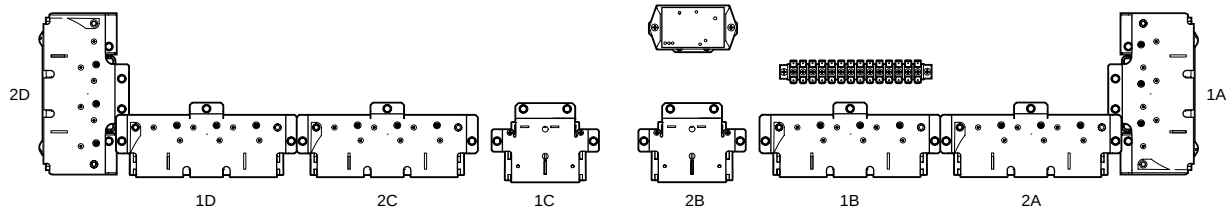
B. For proper light operation, the control cable must be properly terminated inside the user-supplied control head. Using figures 1 and 2 as a guide, select the appropriate wiring diagram for your model and complete the applicable electrical connections for the



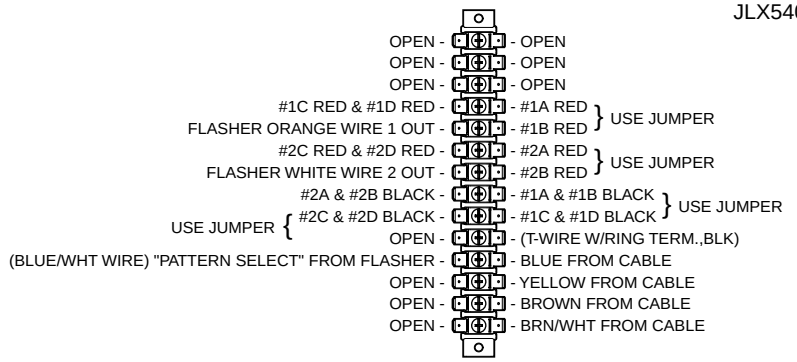
JLX4800 SERIES



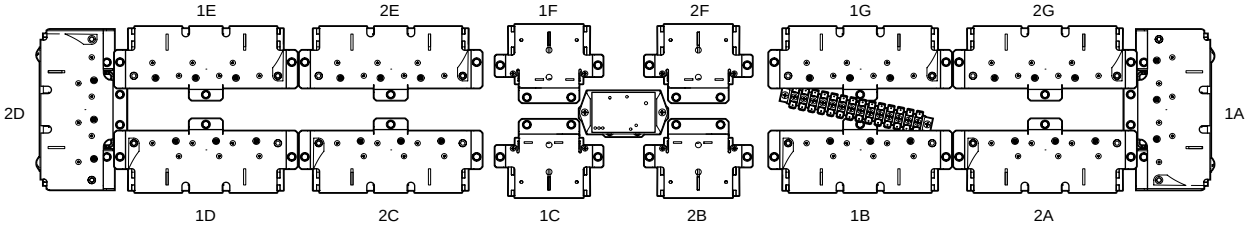
290A5123



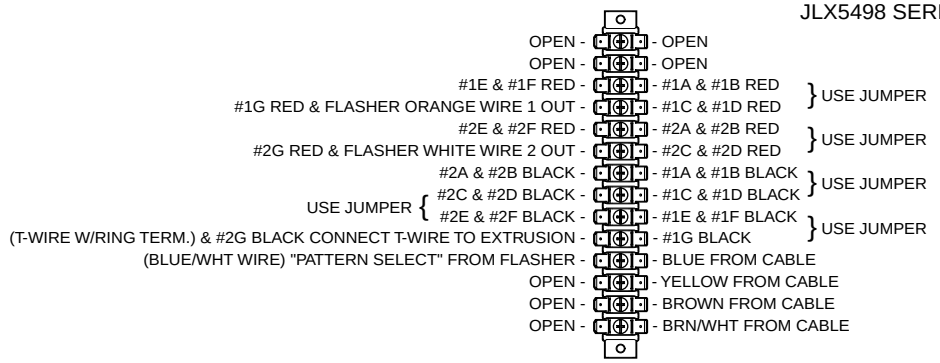
JLX5400 SERIES



290A5124



JLX5498 SERIES



290A5125

Figure 1.

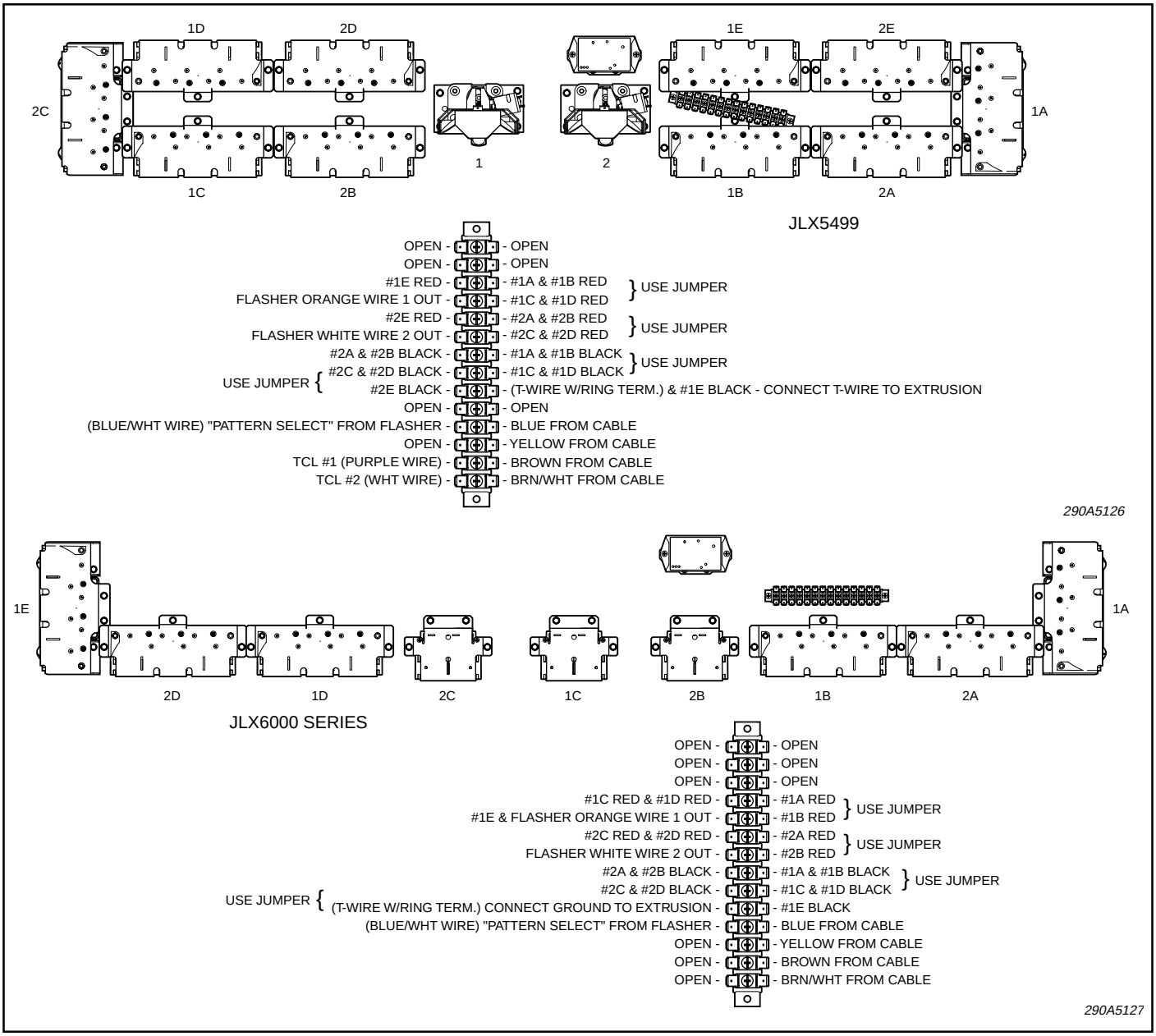

1D
2D
1E
2E
2C
1A
1
2
1C
2B
1B
2A
JLX5499
OPEN - - OPEN
OPEN - - OPEN
#1E RED - - #1A & #1B RED } USE JUMPER
FLASHER ORANGE WIRE 1 OUT - - #1C & #1D RED
#2E RED - - #2A & #2B RED } USE JUMPER
FLASHER WHITE WIRE 2 OUT - - #2C & #2D RED
#2A & #2B BLACK - - #1A & #1B BLACK } USE JUMPER
USE JUMPER { #2C & #2D BLACK - - #1C & #1D BLACK
#2E BLACK - - (T-WIRE W/RING TERM.) & #1E BLACK - CONNECT T-WIRE TO EXTRUSION
OPEN - - OPEN
(BLUE/WHT WIRE) "PATTERN SELECT" FROM FLASHER - - BLUE FROM CABLE
OPEN - - YELLOW FROM CABLE
TCL #1 (PURPLE WIRE) - - BROWN FROM CABLE
TCL #2 (WHT WIRE) - - BRN/WHT FROM CABLE
290A5126
1E
1A
2D
1D
2C
1C
2B
1B
2A
JLX6000 SERIES
OPEN - - OPEN
OPEN - - OPEN
OPEN - - OPEN
#1C RED & #1D RED - - #1A RED } USE JUMPER
#1E & FLASHER ORANGE WIRE 1 OUT - - #1B RED
#2C RED & #2D RED - - #2A RED } USE JUMPER
FLASHER WHITE WIRE 2 OUT - - #2B RED
#2A & #2B BLACK - - #1A & #1B BLACK } USE JUMPER
#2C & #2D BLACK - - #1C & #1D BLACK
USE JUMPER { (T-WIRE W/RING TERM.) CONNECT GROUND TO EXTRUSION - - #1E BLACK
(BLUE/WHT WIRE) "PATTERN SELECT" FROM FLASHER - - BLUE FROM CABLE
OPEN - - YELLOW FROM CABLE
OPEN - - BROWN FROM CABLE
OPEN - - BRN/WHT FROM CABLE
290A5127

Figure 2.

functions installed in your light bar. Switch current capacities should be at least 15 amps.

NOTE

Any of the light bar functions can be activated by applying 12VDC to the appropriate control line. The heavy black lead (-) must be connected to vehicle ground, to perform a function check.

C. Connect the black lead to chassis ground.

⚠ WARNING

If wires are shorted to the vehicle frame or each other, high current conductors can cause hazardous sparks resulting in electrical fires and molten metal.

Verify that no short circuits exist before connecting to the Positive (+) battery terminal.

DO NOT connect this system to the vehicle battery until ALL other electrical connections are made and mounting of all components is complete.

Failure to observe this WARNING will result in fire, burns and blindness.

D. Connect the light bar's red power lead to a fuse or circuit breaker rated at 20 amperes. Connect the other side of the fuse /circuit breaker to the +12VDC supply.

E. *Flasher (see figure 3).*

1. General.

The flasher has two (2) light circuits with a current capacity of up to 10-amperes (maximum) per side, 20-amperes total. The flasher is designed to operate on any 12VDC (negative ground) vehicle electrical system. The flasher operates as a high side switch, switching the +DC supply to the load.

2. Wiring.

CAUTION

The device WILL NOT light up or flash if improperly grounded. Be sure that the device ground is attached to a good vehicle ground. A ground termination at the flasher is provided.

Refer to figure 3 when performing the following procedure.

The flasher has two outputs, Out 1 and Out 2. These outputs switch the +DC source from source to the load.

⚠ WARNING

To provide safe operation, the user supplied power control switch and wiring must be capable of handling the rated current of the fuse at the source.

3. Programming.

The flasher will provide the end user with two preselected flash patterns. The preselected flash patterns are to be chosen from the ten factory programmed patterns provided with each flasher. It is recommended that the preselected flash patterns be determined and programmed during installation.

The red/green LED as indicated in figure 1 will be illuminated green when an SAE approved flash pattern is selected. When an unapproved SAE flash pattern is selected, the LED will be illuminated red. The red/green LED may alternate between red and green for several flash patterns.

The following procedures demonstrate the programming and operating features of the flasher:

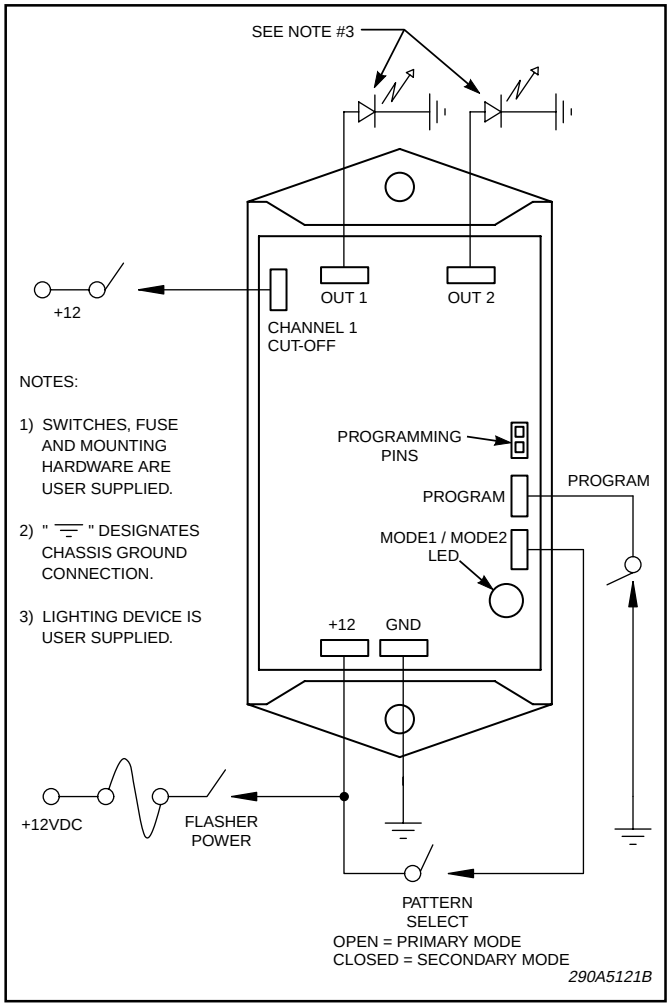


Figure 3.

Turn on the flasher by applying Power (+) and Ground (-). The flasher can be programmed at the flasher by either shorting the programming pins together momentarily or remotely done by connecting the program pin to ground. The flasher will begin to flash in Mode 1(Primary Pattern). By shorting the PROGRAM pin to GND, the flasher will switch to the next pattern. The flasher will step through the patterns each time the program pin is shorted, returning to the top once after the last pattern is displayed. To lock in a chosen pattern, allow the pattern to run for 15-seconds and it is now programmed.

To turn on the flasher in Mode 2 (Secondary Pattern), turn the flasher system on and connect the Pattern Select connection to Power (+). By shorting the PROGRAM pin to GND, the flasher will switch to the next pattern. The flasher will again step through the patterns each time the program pin is shorted, returning to the top once after the last pattern is displayed. To lock in a chosen pattern, allow the pattern to run for 15-seconds and it is now programmed.

Channel 1 may be cutoff while the flasher continues to run and channel 2 continues to flash. +12V is applied to cutoff 1 to cutoff the channel.

The flasher is now programmed. When power is applied to the flasher, it will flash in Mode 1 (Primary Pattern). To operate the Mode 2 (Secondary Pattern) switch +DC to the Pattern Select Pin. Releasing the switch returns the flasher to flashing Mode 1 (Primary Pattern).

III. BASIC MAINTENANCE.

A. *Cleaning the Plastic Domes*.

Ordinary cleaning of the plastic domes can be accomplished by using mild soap and a soft rag. Should fine scratches or a haze appear on the domes, they can ordinarily be removed with a non-abrasive, high quality, automotive paste wax.

CAUTION

The use of other materials such as strong detergents, solvents, petroleum products, etc. can cause crazing (cracking) of the plastic domes.

B. *Lamp Replacement*.

⚠ WARNING

A serious injury may result if lamp is touched when hot. Always allow lamp to cool before removing. Halogen lamps are pressurized and if broken can result in flying glass. Always wear gloves and eye protection when handling the lamps.

CAUTION

Service life of lamp will be shortened if glass portion is touched. If glass has been handled, clean carefully with a grease solvent.

See figure 4. To replace the lamp, Twist to unlock and then pull the defective lamp out of the socket. Install a new lamp of the same type in the socket.

C. *Cleaning Reflectors and Mirrors*.

Use a soft tissue to clean the reflector and mirrors. Avoid heavy pressure and the use of caustic or petroleum base solvents which will scratch or dull the surface.

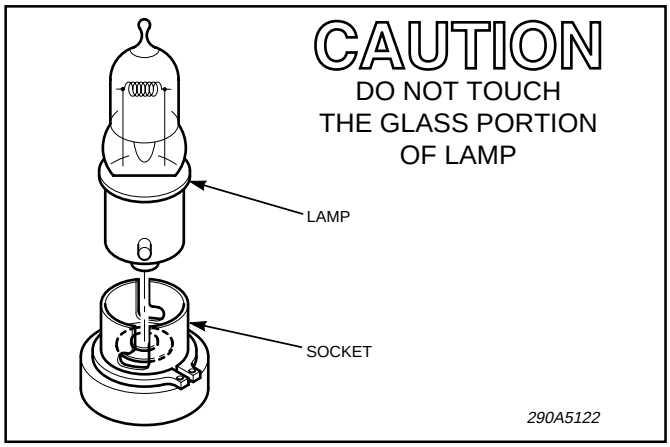


Figure 4.