

**WIRING AND MAINTENANCE  
FOR  
FEDERAL 35" ALL LIGHT STREETHAWK® LIGHT ASSEMBLY**

**SAFETY MESSAGE TO INSTALLERS**

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

- To properly install this light: 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. Remove all burrs from drilled holes. To prevent electrical shorts, grommet all drilled holes through which wiring passes.
- 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 is to be used.
- High voltages are present inside the strobe light equipped models during and after operation. Ensure that power is disconnected and wait at least ten minutes before removing the dome.
- Locate light system controls so the VEHICLE and CONTROLS can be operated safely under all driving conditions.
- You should frequently inspect the light 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 reinstalling the product.

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

**I. ELECTRICAL WIRING.**

The Light Assembly is completely wired at the factory and does not require any additional internal wiring. The cable connected to the Light Assembly contains all the conductors necessary for proper control of all basic and optional functions (see figure 1).

**WARNING**

To prevent personal injury and/or damage to vehicle components, in the event of a short circuit in the power cable, install a fuse in each incoming cable conductor.

Figure 7 illustrates the external/internal Light Assembly wiring by function. Using figures 1 and 7 as a guide, make the appropriate electrical connections shown in Table 1. Be sure to use fuses (current ratings shown in figure 1), wire and switches with adequate current capacity for each function. Any of the light assembly 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.

**NOTE**

When takedown lights or directional strobe lights are not used in the front and rear secondary light positions, alternating flash end lamps (35-watt halogen lamps) will be found in these positions.

**II. NFPA INSTALLATION.**

**MESSAGE TO NFPA INSTALLERS**

For mounting, color configuration, and mounting considerations, refer to the latest edition of the NFPA standard for automotive fire apparatus.

For Models FHL3554R, FHL3554W, and SHL3554, use figure 2 and Table 2 as a guide (for mounting and wiring) when installing this light assembly as part of an NFPA certified system.

**III. 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, one-step, automotive paste cleaner/wax and a soft cloth.

**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.

**1. Dome Removal (see figure 3).**

- a. Turn-off power to Light Assembly.
- b. Remove two #10 type "B" hex washer head thread-forming screws which secure the upper grille to the lower grille. Lift upper grille away from lower grille.
- c. Remove the eight (four on each side) #8-32 x 7/8" hex head screws and #8 flat washers from the front and rear edges of the dome.
- d. Carefully remove the domes. Ensure that the bulkhead gasket remains tucked in its groove.
- e. The domes and upper grille can be replaced by reversing the procedure. Torque dome screws to 14-18 in./lbs and grille screws to 20-25 in./lbs.

**2. Primary Rotating Lamps.**

To replace the halogen lamp, proceed as follows (see figure 4):

**CAUTION**

Forced rotation of the light mechanism will cause damage to the worm gear. ALWAYS rotate the light mechanism by rotating the motor shaft.

- a. Rotate the reflector until the lamp clip (located at the base of the lamp) can be removed, and remove the clip by sliding it away from the reflector.
- b. Note the lamp's orientation and pull the defective lamp and connector out of the socket.

Table 1. Electrical Connections.

Wire Color	Functions
GRN	Right Alley
ORN	Left Alley
BLU	Flashing Front and Rear
YEL	Takedown
RED	Rotating Lights
GRA	Tail Light, Strobe
BLK/WHT	Left Turn Signal
RED/WHT	Right Turn Signal
BLK	Ground (-)
BRN/WHT	Not Used
BRN	Not Used

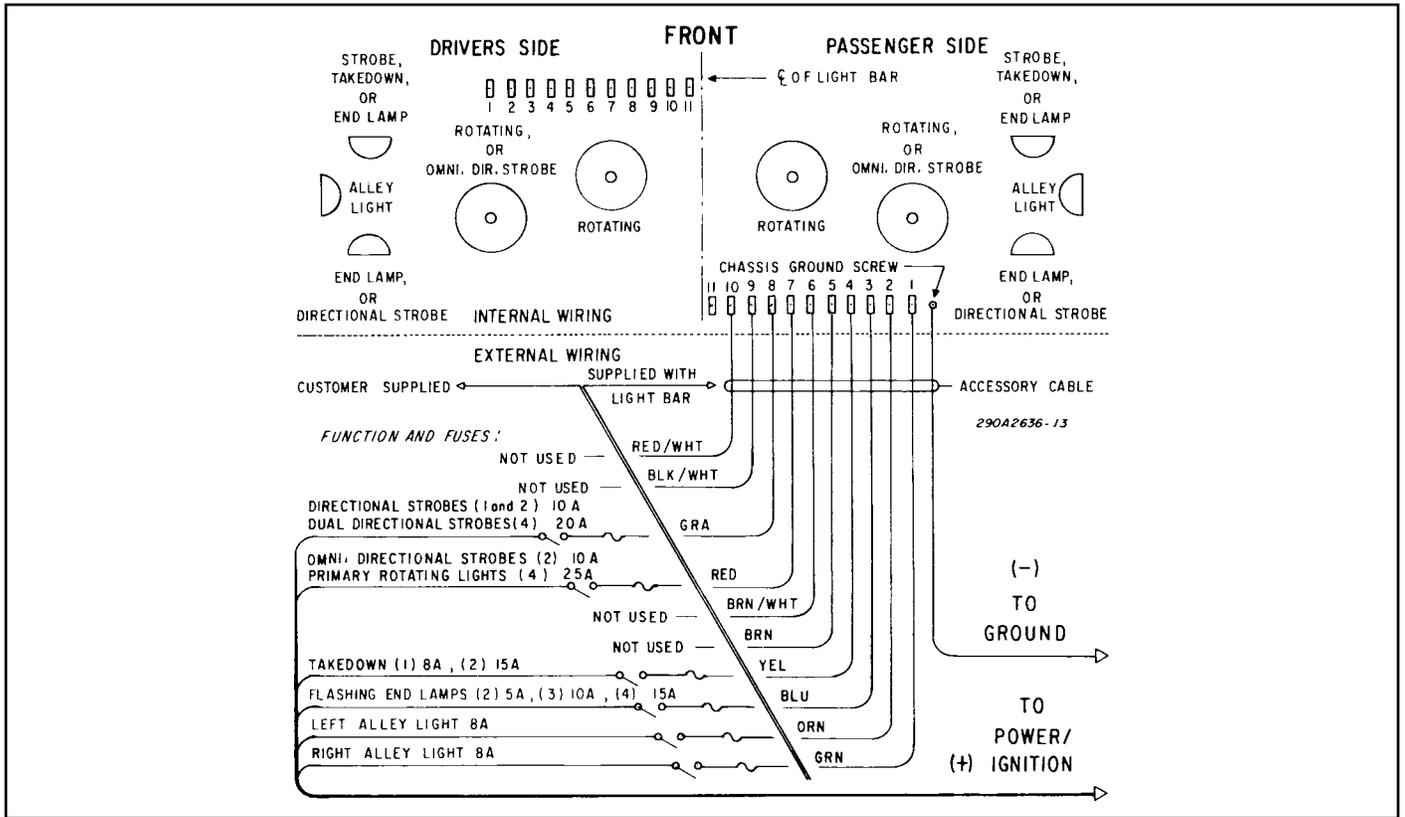


Figure 1.

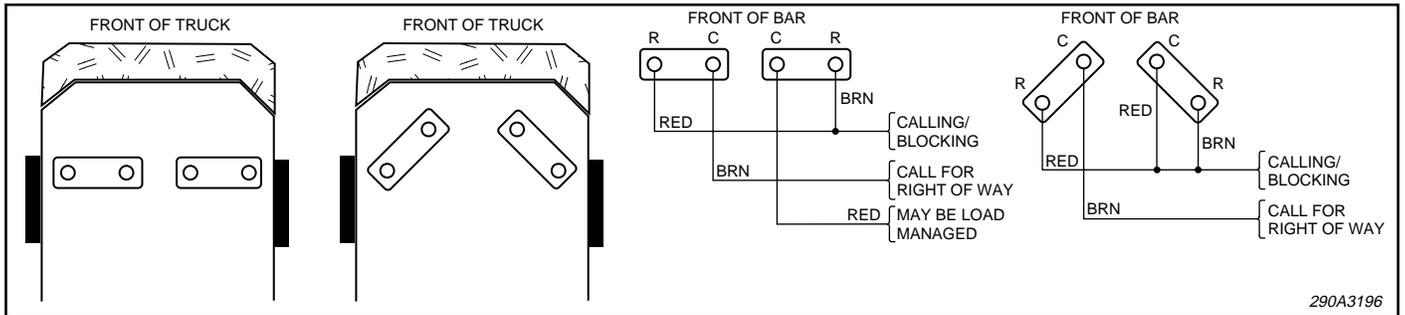


Figure 2.

**CAUTION**

When installing a new lamp, do not touch the glass portion. If the glass has been touched, shortened lamp life will result. If the glass end has been handled, it should be carefully cleaned with a grease solvent.

c. Replace the defective lamp with a new H-1 halogen lamp (Part No. 8440A265A). When reassembling, ensure that the lamp is secured to the connector and that the clip is properly seated in the grooves on the lamp socket.

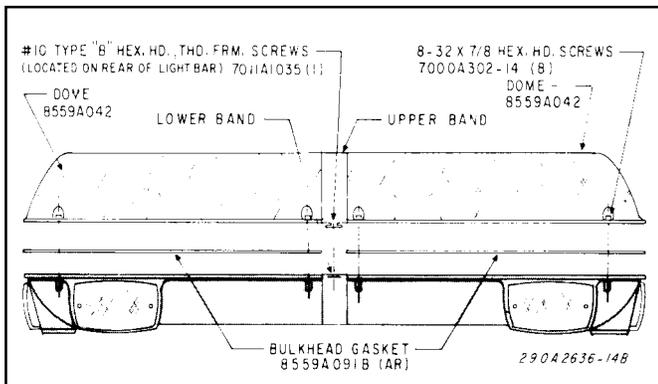


Figure 3.

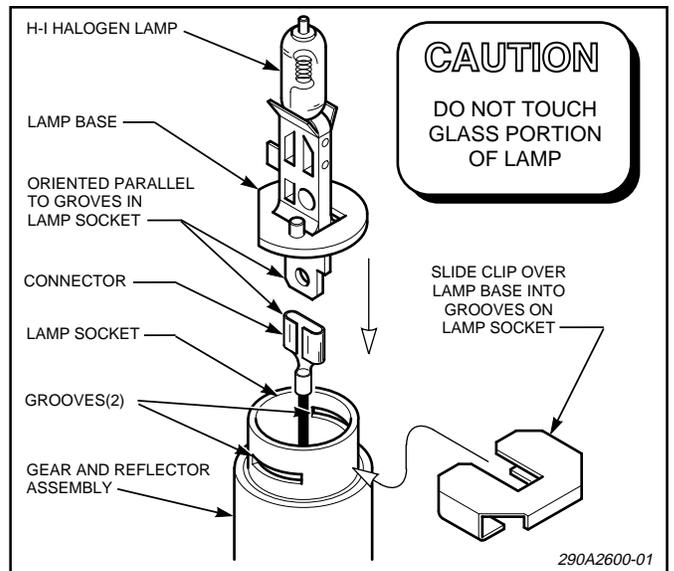


Figure 4.

Table 2. Electrical Connections for NFPA Models.

Term. Block Position	Control Cable Wire Color	Functions
1	GRN	Right Alley (option)
2	ORN	Left Alley (option)
3	BLUE	Takedown, Flashing (option)
4	YEL	Load Managed Calling/Blocking
5	BRN	Call for Right of Way
6	BRN/WHT	Load Managed Call for Right of Way
7	RED	Calling/Blocking
8	GRA	Strobe (option)
9	BLK/WHT	Left Turn Signal (option)
10	RED/WHT	Right Turn Signal (option)
	BLK	Ground (-)

3. Omni-Directional Strobe Tube.

Remove fresnel lens from base. Pull defective flash tube from mounting socket. Replace with Part No. 8422A420 flash tube.

4. Secondary Lights.

To replace lamps in the secondary light positions (six locations), proceed as follows (see figure 5):

- Remove the two #6 pan head screws and washers.
- Remove lens by pulling straight out. Remove lens gasket.
- Replace defective lamp with proper lamp only. Refer to Table 3, Secondary Lamp Replacement Guide.
- Reinstall lens and gasket. Secure with two #6 screws and washers removed in step a.

C. Worm Gear and Bearing.

All gears should be greased at least twice a year. Use medium consistency Dow Corning DC33 or equivalent type grease. Proceed as follows (see figure 6):

- Remove lamp and clip from rotating light.
- Lift-off reflector and worm gear. Lubricate with grease as shown in figure 6.
- Replace parts by performing the above procedure in reverse order.

**NOTE**

When reassembling, ensure that the lamp is secured to the connector and that the clip is properly seated in the grooves on the lamp socket.

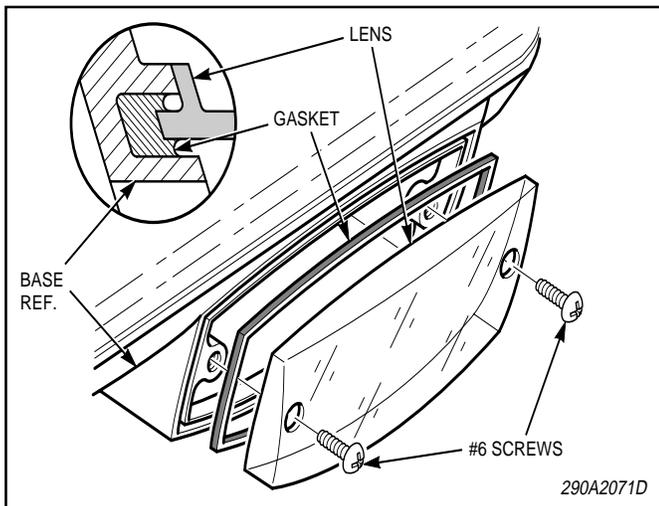


Figure 5.

Table 3. Secondary Lamp Replacement Guide.

FUNCTION	REPLACEMENT LAMP
Alley Light (right and left)	50W Halogen, Sylvania #795 Part No. 8107A119
End Lamps (right and left, front and rear)	35W Halogen, Sylvania #796 Part No. 8548A028A
Takedown Lights (front only) SEE NOTE	50W Halogen, Sylvania #795 Part No. 8107A119
Directional Strobe (front and rear)	Flash Tube Assy. Part No. 8107A127
Brake/Tail Light (rear only)	Incandescent Lamp #1157 Part No. 8107A095

NOTE: If the alternating flash feature is desired, the flasher supplied with the Alternating Flasher Kit is required.

D. Motor.

- Before attempting to service the motor, ensure that the worm gear and worm are free of binding.
- There should be a small amount of gear backlash for proper motor operation.
- Replace motor if operation is sluggish or intermittent, after it has been determined that there is no binding and that all electrical connections are correct.

E. Service Parts Kits.

Service Parts Kits and Instructions are available for these lights. Contact your local Distributor for more information.

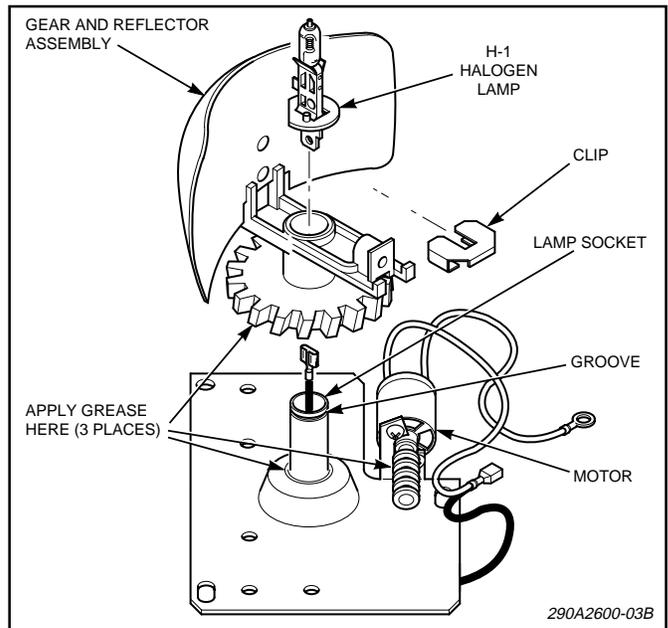


Figure 6.

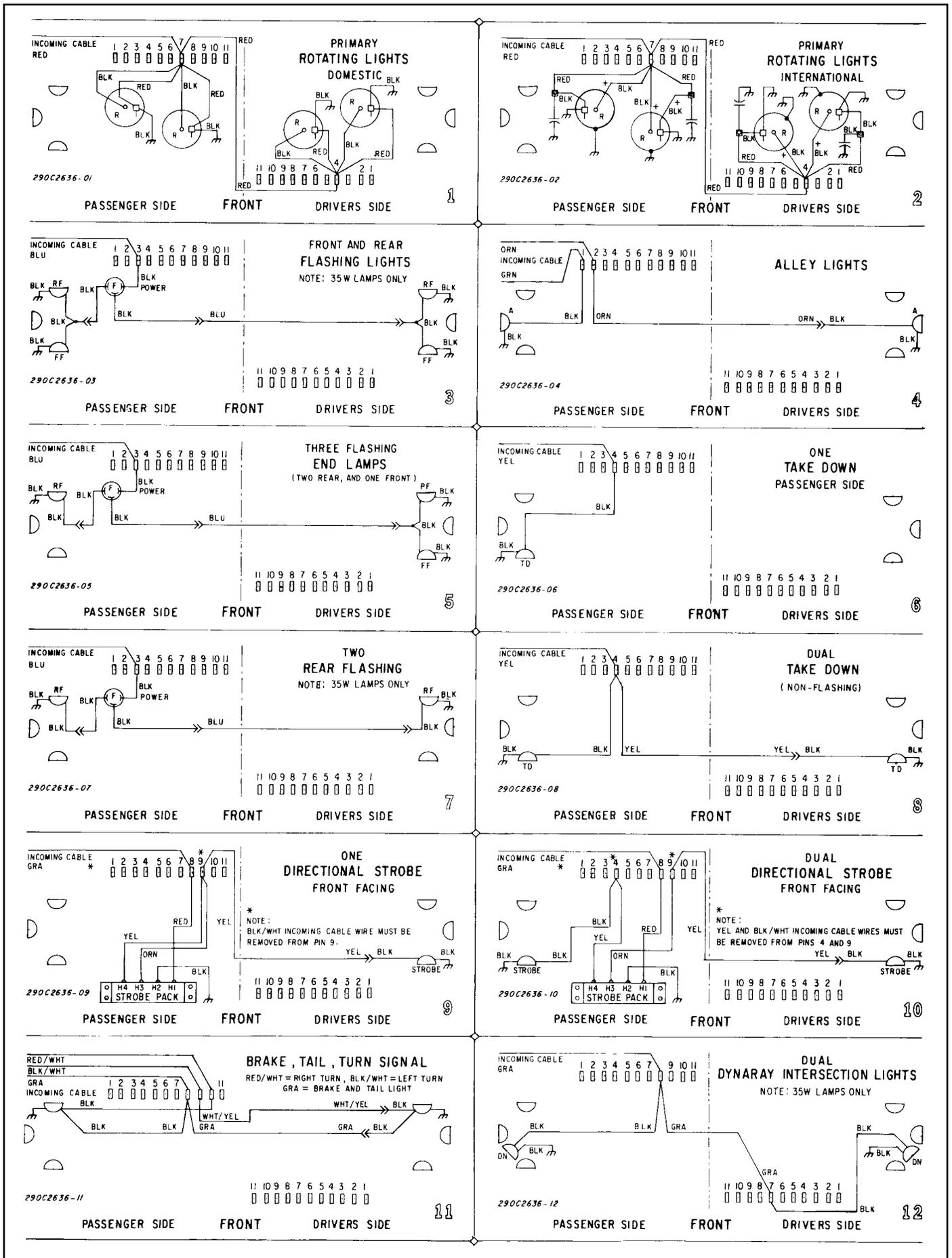


Figure 7.