

**WIRING AND MAINTENANCE INSTRUCTIONS  
FOR AeroDync® LIGHT ASSEMBLIES  
Models 22, 24, 25 ( all models )**

**SAFETY MESSAGE TO INSTALLERS  
OF  
FEDERAL SIGNAL LIGHT SYSTEMS**

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.
- 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.
- 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. ELECTRICAL WIRING.**

The Light Assembly is completely wired at the factory and does not require any internal wiring. The 12-volt cable connected to the Light Assembly contains all the necessary conductors for proper operation. The Light Assembly Wiring Diagrams, contained in this sheet, illustrate the function of the conductors in the cable. Locate the wiring diagram for your particular model and wire accordingly. Be sure to use fuses (current rating shown in wiring diagrams), wire and switches with adequate current capacity for each function. The necessary switch current capacity for each model is listed below.

Model	Min. Current Capacity of Switch	Recommendation
24E, 24EA, 24ME, 24MEA, 24SE, 24SEA	20 ampere	Any of Federal's Modular Control Center switches can be used.
22, 22H, 24, 24EH, 24EAH, 24M, 24MEH, 24MEA, 24S, 24SEH, 24SEAH, 24SH	30 ampere	SW8 switch or equivalent.
24H, 25, 25CF	40 ampere	SW9 switch or equivalent.

**II. 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 Federal Dome and Chrome Cleaner (Federal Part No. 8287B349A). CAUTION: The use of other materials such as strong detergents, solvents, petroleum products, etc. can cause crazing (cracking) of the plastic domes.

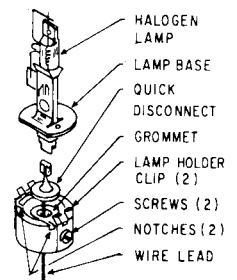
**B. Halogen Lamp Replacement.**

To replace the halogen lamp, proceed as follows (see figure 1):

1. Loosen the screw (approx. 1 turn) which secures each lampholder clip. In some cases, it may be necessary to turn the drive train to allow access to one of the screws. This is easily done by rotating the large gear at the motor.
2. Pull the lamp and its quick disconnect out of the socket. Slack in the lead wire will allow the quick disconnect to be pulled a few inches out of the socket.
3. Pull the defective lamp out of the quick disconnect and insert a new one. Reinstall the quick disconnect and lamp in the lampholder. Note that the squared (flat) portion of the lamp base must fit in the notches of the lampholder (figure 1). Re-tighten the screws in the lampholder clips.

**CAUTION**

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



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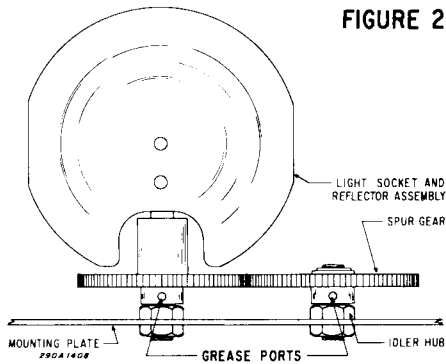
**FIGURE 1**

**C. Gear Train Service.**

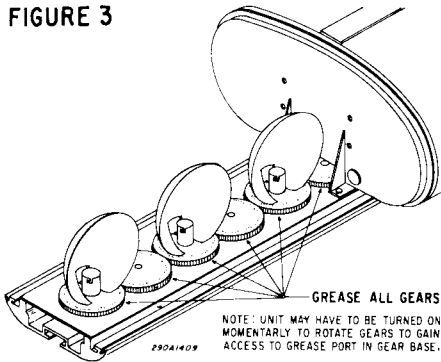
All gears should be greased at least twice a year. Use medium consistency Dow Corning DC33 or equivalent type grease. A special grease fitting (Part No.8542A293) required to perform this operation can be purchased from:

Service Department , Signal Division  
Federal Signal Corporation  
2645 Federal Signal Drive  
University Park , Illinois 60466

The fitting can be attached to any grease gun having a 1/8" N.P.T. outlet. Figures 2 and 3 show the location of the gear grease ports .



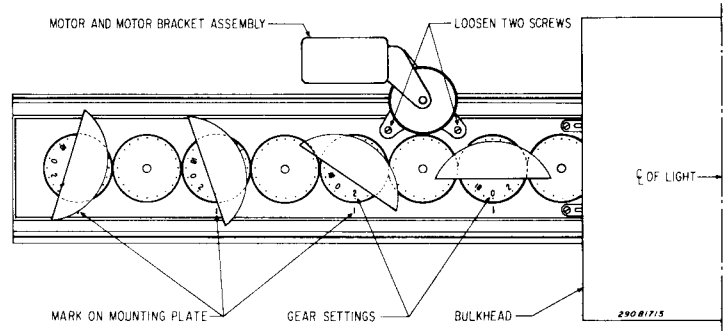
**FIGURE 3**



1. The reflector gears can be rotated by performing one of the following steps.

- a. Momentarily, apply voltage to the motor.
- b. Loosen or remove the two (2) screws which secure the motor and motor bracket assembly to the mounting plate (see figure 4). Move the motor bracket until the gears can turn freely.

2. The chart below shows the initial reflector gear setting for the various light models. Gear settings (below) are shown left-to-right as viewed from the front of the light (see figure 4).



**FIGURE 4**

Model	Gear Setting
24 (PHI)	6-4-2-0/0-2-4-6
24 (Burst)	12-10-8-0/0-8-10-12
24M	4-2-0/0-2-4
24ME, 24SE	10-0/0-10
24S	4-2-0/0-2-4
22 (Alter)	0-10-15-5-
22 (Wig-Wag)	0-10-10-0-
25A	8-6-4-2-0/0-2-4-6-8
25B	2-19-1-18-0/0-18-1-19-2

**NOTE**

If the motor was moved to adjust the flash sequence, tighten or replace the two screws which secure the motor and motor bracket to the mounting plate.

**D. GEAR SETTING SEQUENCE.**

**CAUTION**

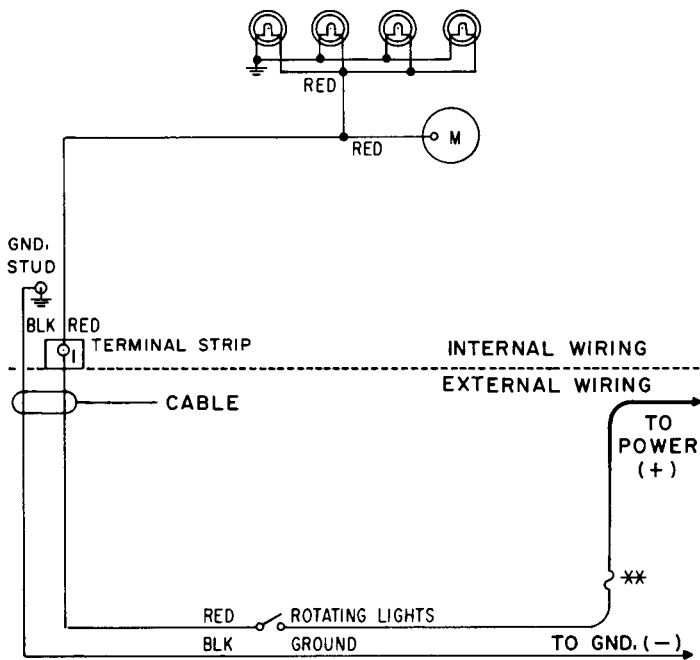
There is no clutch in Models 22, 24 and 25. Do not attempt to rotate the reflector gears by hand before performing step b. (below). Damage to the worm gear may result.

**E. SERVICE PARTS KITS.**

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

# AeroDynic® WIRING DIAGRAMS

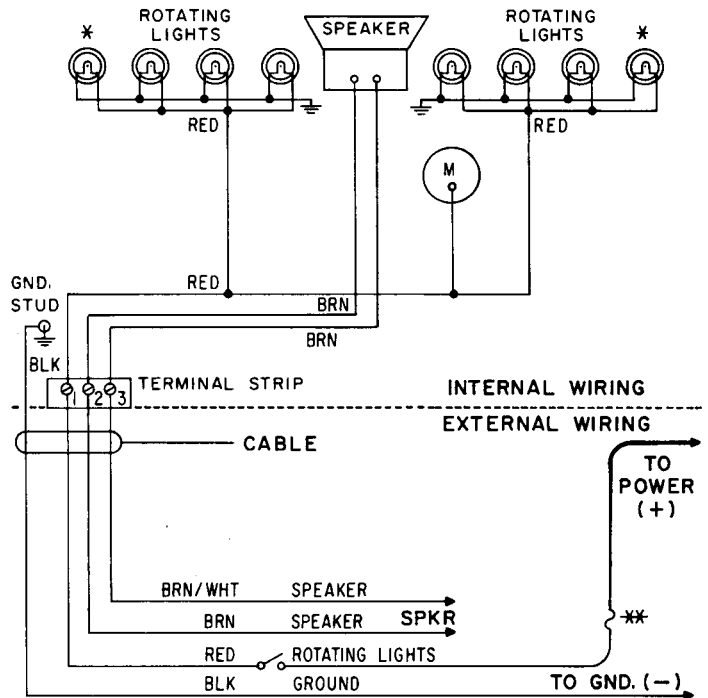
**MODELS: 22 & 22H**  
 DRIVER SIDE FRONT CURB SIDE  
 ROTATING LIGHTS



\*\* USE 20 AMP FUSE FOR MODEL 22  
 USE 30 AMP FUSE FOR MODEL 22H

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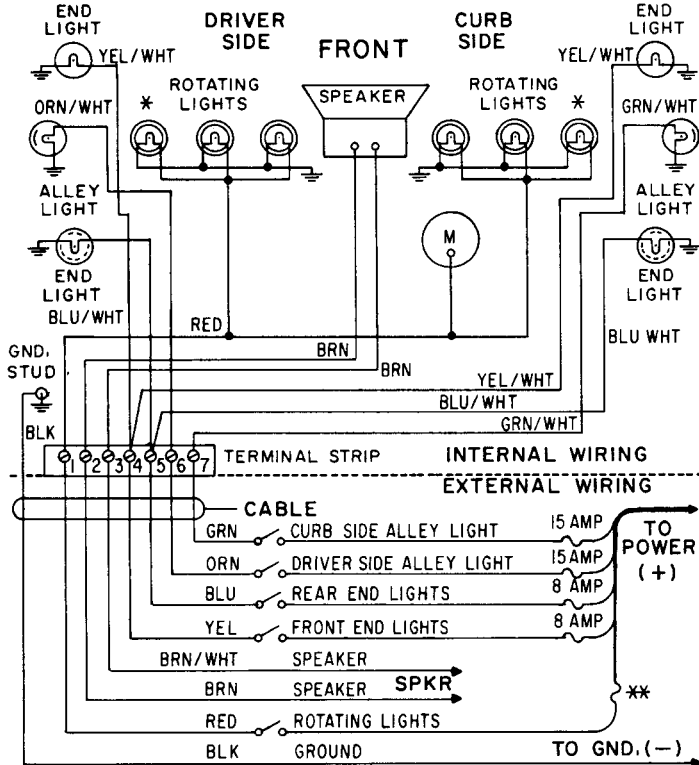
**MODELS: 24, 24H, 24S, 24SH, 24M, & 24MH**  
 DRIVER SIDE FRONT CURB SIDE  
 ROTATING LIGHTS SPEAKER ROTATING LIGHTS



\* MODELS 24S, 24SH, 24M, & 24MH, HAVE 3 ROTATING LIGHTS ON EACH SIDE.  
 \*\* USE 30AMP FUSE FOR MODELS 24S, & 24M.  
 USE 40AMP FUSE FOR MODELS 24, 24SH, & 24MH.  
 USE 50AMP FUSE FOR MODEL 24H.

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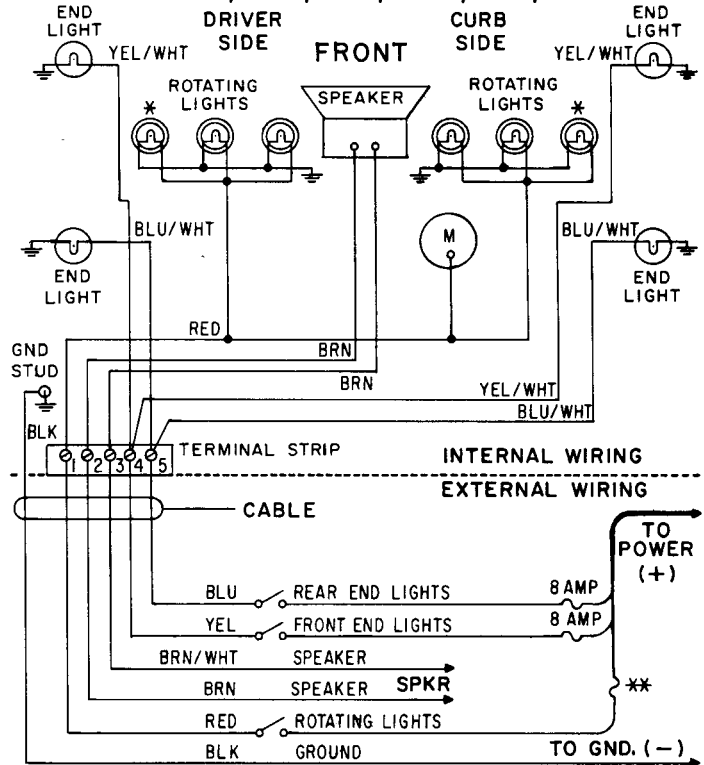
**MODELS: 24EA, 24EAH, 24SEA, 24SEAH, 24MEA, & 24MEAH**



\* MODELS 24SEA, 24SEAH, 24MEA, & 24MEAH, HAVE 2 ROTATING LIGHTS ON EACH SIDE.  
 \*\* USE 20 AMP FUSE FOR MODELS 24SEA, & 24MEA.  
 USE 30AMP FUSE FOR MODELS 24EA, 24SEAH, & 24MEA.  
 USE 40AMP FUSE FOR MODEL 24EAH.

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**MODELS: 24E, 24EH, 24SE, 24SEH, 24ME, & 24MEH**



\* MODELS 24SE, 24SEH, 24ME, & 24MEH, HAVE 2 ROTATING LIGHTS ON EACH SIDE.  
 \*\* USE 20AMP FUSE FOR MODELS 24SE, & 24ME.  
 USE 30AMP FUSE FOR MODELS 24E, 24SEH, & 24MEH.  
 USE 40AMP FUSE FOR MODEL 24EH.

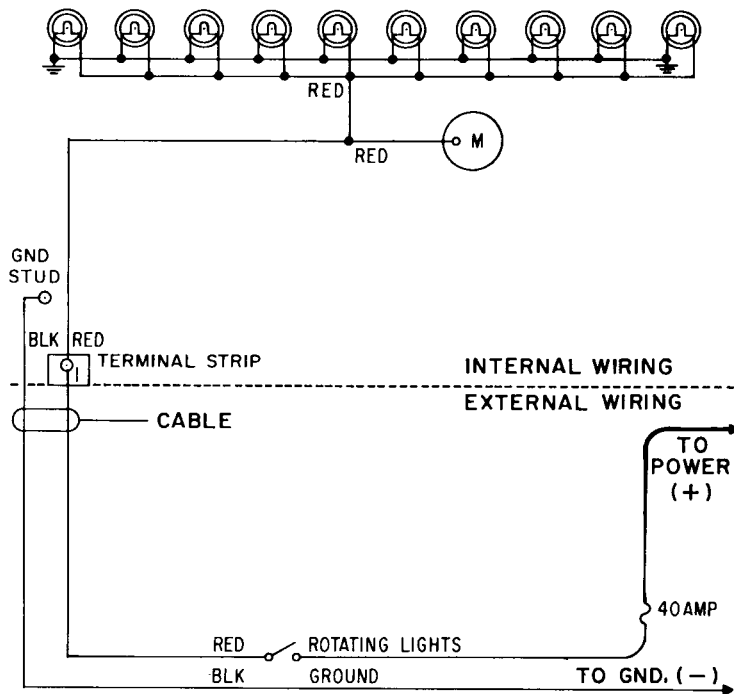
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# AeroDynic® WIRING DIAGRAMS

## MODEL 25

DRIVER SIDE FRONT CURB SIDE

ROTATING LIGHTS

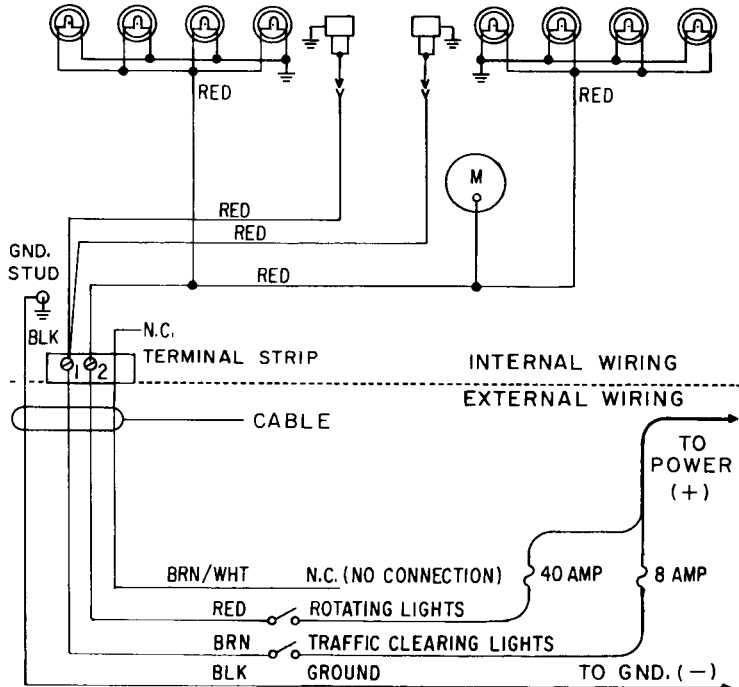


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## MODEL: 25 CF \*012 -SB

DRIVER SIDE FRONT CURB SIDE

ROTATING LIGHTS TCL\* ROTATING LIGHTS



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