

# Non-Kit Fog Lamp

# KC HiLiTES INSTALLATION & CARE OF YOUR NEW KC HiLiTES

## 1. WHAT YOU NEED TO GET STARTED

First, thanks for choosing KC HiLiTES. We honestly feel that you have chosen the highest quality lights available that will really do the job. The all steel housings, combined with the highest quality optics and superior quality bulbs make KC HiLiTES one of the most popular choices for auxiliary lighting.

If you purchased a KC HiLiTES Pair Pack you'll find the following inside:

- |                                       |                                  |
|---------------------------------------|----------------------------------|
| 2 KC HiLiTES                          | 21' of 14 or 16 gauge wire       |
| 2 KC Covers                           | 2 scotch lock connectors         |
| 1 KC Switch with mounting panel       | 5 solderless insulated terminals |
| 1 fuse box tap clip                   | 3 sheet metal screws             |
| 1 in-line blade type fuse and carrier | 4 nylon wiring ties              |

If you purchased your KC lights individually packaged, we recommend you use one of our wiring kits that contains the necessary parts to wire them correctly.

## INGREDIENTS FOUND IN EACH SWITCH KIT

### SWITCH KIT #6300/6301 FOR ONE PAIR OF LIGHTS

- 1 Switch
- 1 Single Panel
- 21' of 41 strand 14 gauge wire
- 2 scotch lock connectors
- 5 solderless insulated terminals
- 3 sheet metal screws
- 4 nylon wiring ties
- 1 fuse and fuse carrier
- 1 fuse box tap clip

### SWITCH KIT #6400/6401 FOR TWO PAIR OF LIGHTS

- 2 switches
- 1 double panel
- 40' of 41 strand 14 gauge wire
- 4 scotch lock connectors
- 10 solderless insulated terminals
- 3 sheet metal screws
- 6 nylon wiring ties
- 2 fuses and carriers
- 2 fuse box tap clips

### SWITCH KIT #6500/6501 FOR ONE PAIR OF LIGHTS

- 1 switch
- 1 single panel
- 1 fuse and carrier
- 1 fuse box tap clip

### SWITCH KIT #6600/6601 FOR TWO PAIR OF LIGHTS

- 2 switches
- 1 double panel
- 2 fuses and carriers
- 2 fuse box tap clips

Please check your pair pack or installation kit for missing parts. If you are missing any parts, please contact KC HiLiTES Customer Service at 800-528-0950. Any missing parts will be promptly furnished at no charge.

You'll need the following tools for installation:

- 3/8" or 1/2" Drill Motor
- 1/8" & 1/2" drill bits
- phillips screwdriver
- electrical crimping pliers or standard pliers
- open end/box wrench or socket equivalents:
- 3/4" for all lights except Daylighters
- 7/8" for large Daylighters

## 2. MOUNT 'EM UP...

**Driving Lights...** Where you mount your driving lights is extremely important, as well as the aiming of the units. Too high and they'll bounce right back at you and you'll be trying to look through the beam of light instead of down the road. Too low and they'll skim across the rocks on the roadway and not illuminate where you're trying to see correctly. However, most vehicles have virtually built-in spots for driving lights that work out perfectly... either right under the bumper, or on top of it, mounted directly to the bumper. Try and place the lights as far back toward the grille as possible; this will keep the front profile of the lens behind your bumper for added protection from impact breakage. Refer to chart on this page for proper mounting height for driving lights.

**Fog Lights...** Fog lights will perform most effectively when mounted low and aimed underneath the fog. Since fog rarely settles right onto the roadway, these lights are designed to cast a

low, wide beam pattern that lights the road just under the fog. For these reasons, mount your KC HiLiTES fog lights as low as possible. Refer to chart below for proper mounting height for fog lights.

**Bumper Mounting...** Before mounting on or under your bumper, please consult the recommendations on the chart below. When mounting on the bumper, simply pick your location, making sure that the distances are the same from both sides of the bumper, and drill the mounting holes. Remove the hex nut and washer from the light and slip the mounting bolt through the hole. Now re-install washer and nut and tighten. On Daylighters, separate the rubber cushion between the large washers and slip the bolt and top cushion through the hole. Then, on Daylighters slip the bottom cushion and washer on the bolt and tighten the nut. Do not overtighten—leave a little loose at this point for aiming purposes. Go right on to the Wiring section at this point, unless you have rectangular lights, then check for...

**Inverted Bezels...** If you mounted your lights so that they hang down, the bezels are now in the wrong position. After they are mounted, use a phillips head screwdriver and carefully remove the two screws on each side of the light. Remove the bezel, lens and reflector as one assembly and re-install so that the writing on the lens is in proper attitude.

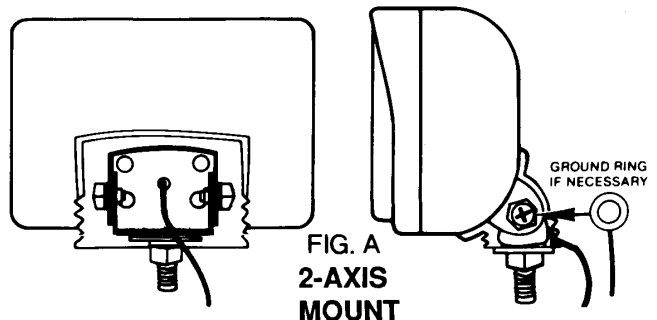
**Light Mounting Recommendations...** The following chart indicates the mounting specifications preferred by the AAMVA (American Association of Motor Vehicle Administrators) and should be consulted prior to mounting your KC HiLiTES.

State	Spot Lamps		Fog Lamps		Aux. Parking Lamps		Aux. Driving Lamps	
	Max. Hgt.	Min. Hgt.	Max. Hgt.	Min. Hgt.	Max. Hgt.	Min. Hgt.	Max. Hgt.	Min. Hgt.
Alabama	1	2	12" 30"	2	24" 42"	2	16" 42"	
Alaska	2	2	12 30	2	24 42	2	16 42	
Arizona	1	2	12 30	2	24 42	2	16 42	
Arkansas	2	2	12 30	2	24 42	2	16 42	
California	2(1)	2	12 30	2	24 42	2	16 42	
Colorado	2	2	12 30	2	20 42	2	16 42	
Connecticut	2	2	12 30	2	24 42	2	16 42	
Delaware	2	2	12 30	1	24 42	2	16 42	
D.C.	2	2	12 30	2	24 42	2	16 42	
Florida	1	2	12 30	2	24 24	3	12 42	
Georgia	1	2	12 30	1	24 42	3	16 42	
Hawaii						3	12 42	
Idaho	2	2	12 30	2	24 42	2	16 42	
Illinois	1	2	12 30	1	24 42	3	12 42	
Indiana	2	2	12 30	1	24 42	1	16 42	
Iowa	1	1				3	12 42	
Kansas	2	2	12 30	2	24 42	2	16 42	
Kentucky								
Louisiana	Prohibited	2	12 30	2	24 42	2	16 42	
Maine	1	2(2)			2(2)		2(2)	
Maryland	1	2	12 30				16 42	
Massachusetts						2		
Michigan	2(5)	2	12 30			2	24 Min	
Minnesota	2	2	12 30	2	24 42	2	16 42	
Mississippi	1					2	24 Min	
Missouri	1					3	12 42	
Montana	2	2	12 30	2	24 42	2	16 42	
Nebraska	1		12 42			2	24 Min	
Nevada	2					2	16 42	
New Hampshire	2					3	12 42	
New Jersey	1					2	12 42	
New Mexico	2	2	12 30	1	24 42	1	16 42	
New York	(6)							
North Carolina	2	2	12 30	2	24 42	2	16 42	
North Dakota	1	2	12 30	2	24 42	2	16 42	
Ohio								
Oklahoma	2(3)	(4)						
Oregon	1					3	12 42	
Pennsylvania	1					(4)	12 42	
Rhode Island	2					2	(4)	
South Carolina	1	2	12 30	1	24 42	1	16 42	
South Dakota	1					3	12 24	
Tennessee								
Texas	2	2	12 30	2	24 42	2	16 42	
Utah	2	2	12 30					
Vermont								
Virginia	2	2		1		1		
Washington	2	2	12 30	2	24 42	2	16 42	
West Virginia	1	2	12 30	1	24 42	1	16 42	
Wisconsin	2(3)	2	12 Min (4ab)			1	12 Min (4ab)	
Wyoming	2	2	12 30	1	24 42	1	16 42	

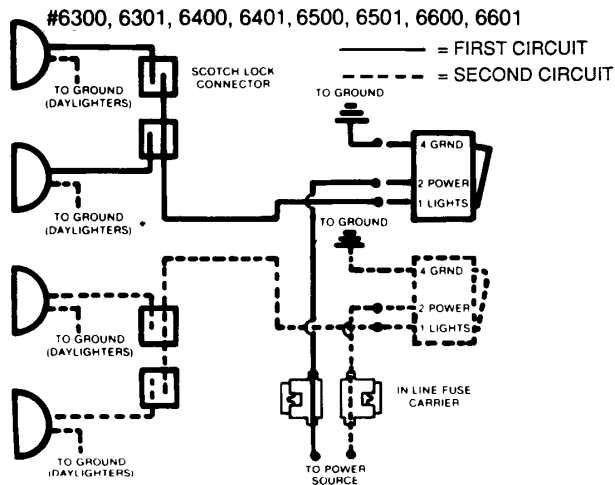
- NOTES:  
 (1) Cannot exceed 32 cp or 30 watts  
 (2) Total of two fog or auxiliary lamps permitted  
 (3) Must be mounted at height between 30" & 72"  
 (4a) Mount below headlamp centers  
 (4b) Not to exceed 75k cp  
 (5) Emit white or amber light only  
 (6) Affix amber lights below headlamps and avoid glare or dazzle  
 \*Measured above ground at lamp centers

## 3. GET YOUR LIGHTS WIRED...

- If you are mounting 2 wire lights, you may now select your ground point. Either an existing screw or you may use a sheet metal screw. Both lights may be grounded with one wire. On KC HiLiTES, the black wire is ground. Make your ground connection as close as practical to the lights.
- Single wire lights ground through the mounting bolt, and in most cases need no additional ground.  
  
In the event that your selected mounting surface does not offer ground for your lights, a ring terminal and 16 gauge ground wire may be attached to each light using the adjustment screw as in Fig. A. Attach these wires to a suitable ground point (Fig. A).  
  
The factory will be happy to send these ground wires to you at no charge. Simply call our Customer Service toll free.
- Connect your hot leads from both lights using wire in kit. Scotch-Lock connectors are provided for this purpose.

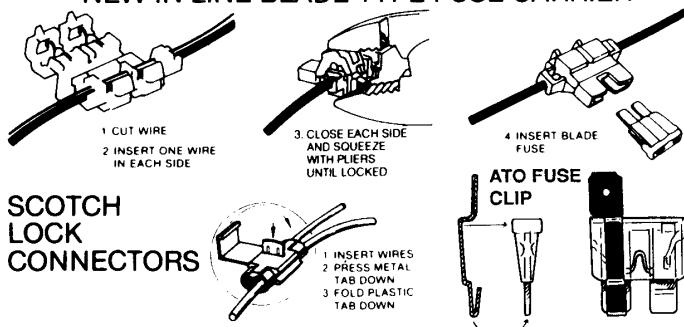


## WIRING DIAGRAM FOR



- Route your wire towards the firewall for entry into the drivers compartment. A piece of coat hanger is helpful in pulling the wire through the firewall. Try to route your wire next to the factory wiring. Once wire is inside the drivers compartment, you may use nylon ties to bundle the wires in the engine compartment.
- Select a position for the switch panel and install using the sheet metal screws provided, and the 1/8" drill bit. The switch may be mounted directly into the dash if you prefer. To do this, use the hole in the switch panel as a template for hole cutting. We recommend cutting the hole small and enlarging as necessary for a snug fit.
- You may now ground the switch by using a short 3" to 4" piece of wire. Crimp a spade terminal on one end and a slip on terminal on the other end. Attach the spade terminal using one of the panel screws... simply insert the terminal between the switch panel and the dash, or under a screw in the dash if you don't use the panel. In either case, tighten the screw for a good ground. Slip the female terminal onto the male terminal in the switch marked *ground*.
- Extend the wire from the lights to the switch terminal marked *lights*. Turn the switch to the *Off* position.
- Attach a slip-on terminal to one end of the remaining wire and connect to the power terminal on your switch.
- Route the power wire coming from the lights to either the fuse block or other power source as you may select. Cut to desired length and crimp a slip-on terminal to the wire end. Do not connect to power source at this time.
- Cut power wire near source and attach the in-line blade type fuse carrier as illustrated below.
- Insuring the switch is in the *Off* position, now connect your power wire to a vacant terminal on your fuse block. If no vacant circuits are available, you may use our new tap clip to create a vacancy. Simply slip the tap clip between the fuse and retainer as shown below.

### NEW IN-LINE BLADE TYPE FUSE CARRIER



## 4. AND AIM 'EM STRAIGHT...

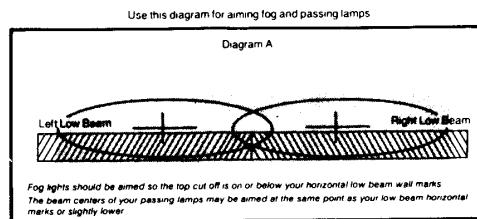
The proper aiming of your KC HiLiTES is extremely important. As you know, we make different lights for different needs. A *fog light*, for instance, must be aimed low to give the best results. A *passing lamp* is intended to supplement your low beam headlights and should be aimed in a similar plane with your low beams. A *driving light* is intended to supplement your high beam headlights so it will be aimed for distance and width.

The proper mounting and aiming of your KC HiLiTES are important considerations. Another very important consideration is to aim your lights so as not to blind other motorists either oncoming or those going your way.

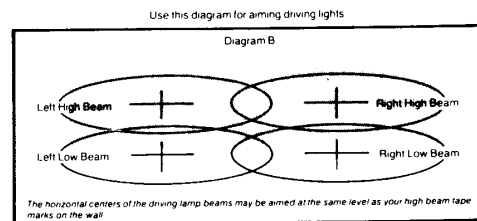
The ultimate consideration, however, is your satisfaction with our products. As lighting is a personal preference, we make the following suggestions for your consideration. Minor adjustments

may be necessary to suit your preference. The aiming for approved fog, passing and driving lights is accomplished by aiming your auxiliary lights in relation to your *properly* aimed headlights.

- Place your vehicle approximately 25 feet from and perpendicular to a flat surface such as a garage door or building. It is important that the vehicle be on level ground.
- With low beam headlights on, mark the vertical center of both left and right headlights on the surface they're shining on with something easily removable, such as masking tape. You may use a short piece to show the vertical center of each light. Use a slightly longer piece (approximately 12 inches) to indicate the brightest horizontal portion of this beam. Your tape should appear as below:



/// Fog Lamps      Passing Lamps



With these marks on the wall, the aiming may be done very easily. Please refer to the proper section below for the type of lights being aimed:

**Fog Lights:** The vertical aiming of fog lights is very important. Because of the low mounting position relative to the ground (12 inches to 30 inches), they should be aimed *parallel to the ground* or lower. Adjusting fog lights for distance would require aiming them in a slightly up attitude which will reduce their effectiveness a great deal as well as offending other motorists. *Fog lights should be aimed so the top cut off is on or below your horizontal low beam wall marks for best results.*

The side to side alignment is up to you. A center overlap of the beams will increase center light and reduce the overall width of both lamps. A slight overlap will give evenly distributed light all the way across as well as very good width.

**Passing Lamps:** Passing lamps are used to supplement your low beams to give a more complete and uniform pattern. *The beam centers of your passing lamps may be aimed at the same point as your low beam horizontal marks or slightly lower.* Here, again, the width and center overlap are up to you.

**Driving Lamps:** Driving lamps are used to supplement your high beams for greater distance and width. They should only be used in conjunction with high beam headlights. *The horizontal centers of the beams may be aimed at the same level as your high beam tape marks on the wall.* The width is up to you as you may prefer to light the sides of the road at a distance rather than concentrating the majority of light down the middle.

### SUMMATION

Some minor adjustments may be needed after your initial use. You may prefer more or less width, or it may be necessary to raise or lower the beams. If you are being flashed regularly by oncoming motorists while using your auxiliary lights, it may be necessary to lower them slightly.

**Off Road Lights:** The aiming of your KC long range or Daylighter is entirely up to you as they may be aimed for extreme distance or width. For multiple sets of lights, we find that aiming each pair at varying levels will give you the desired lighting at intermediate as well as extreme distances.

## 5. KEEP 'EM CLEAN & READY.....

Please exercise courtesy when using our high-powered lights as they are the brightest available for automotive use. Also, we recommend covering your lights when on public roads or highways to avoid problems with enforcement officials.

By using light covers not only are you protecting your lights from potential damage, and keeping them clean and ready to use, you are also showing your preference in auxiliary lighting—

# KC HiLiTES