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Lights On !™

Automatic Headlight Control System

Model 20012

Installation Manual

Congratulations on your purchase of **Lights On!**TM. **Lights On!** automatically turns on your lights when it gets dark or visibility is reduced — and more importantly, turns off your lights after you leave your car.

Lights On! automatically *Turns On* your headlights, parking lights and tail lights:

- When Darkness falls.
- In tunnels or parking garages.
- Anytime your windshield wipers are on.

After **Lights On!** has been activated, your headlights, taillights and parking lights automatically *turn off* a minute after:

- You enter bright daylight.
- You turn off your windshield wipers.

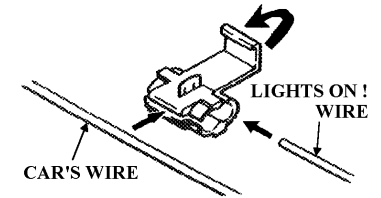
Lights On! can even be used to leave your headlights on for 20 (or 40) seconds after you turn off your ignition. This helps light your way for safety and convenience.

CONTENTS:

- 1 Lights On! Automatic Headlight Control System with 20 amp fuse, fuse holder, Power connector and Photo cell Tube.
- 1 Headlight Plug Adapter
- 2 Mounting Screws
- 5 Blue Scotch Lock Wire Connectors
- 4 Cable Ties
- 1 Extra 20 Amp Fuse

Wire Functions:	RED	+12 Power
	BLACK	Ground
	BLUE	Ignition sense wire
	GREEN	Wiper sense wire
	WHITE	Low Beam lights
	ORANGE	High Beam lights
	YELLOW	Parking Lights
	Gray Twisted wire	Photocell sensor
	Small purple loop	Programming

The diagram to the right shows how to use the blue wire connectors to tap into the desired wires. Slip the connector over the wire you want to attach to. Push the product's wire (unstripped) into the open end of the connector. Use pliers to press the metal blade into the wires. Close the plastic cover over until it clicks.



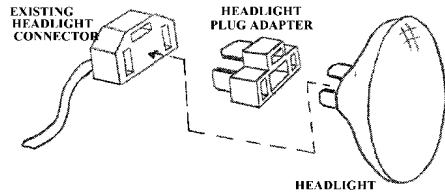
Installation Instructions:

- 1) Start your car and turn on the headlights.
- 2) Check that the headlights and parking lights are operating normally.
- 3) Check that the windshield wipers operate normally.
- 4) Next, turn off your car and begin the installation.

STEP 1: Mount the module in the engine compartment near one of the low beam headlights. Locate a mounting place against the car's body under the hood near one of the headlights. Drill two 1/8th inch holes for mounting and mount the module using the provided screws. (You can also just strap the unit to a secure area with the cable ties.)

STEP 2: Connect the BLACK wire to the chassis for ground. Scrape away any grease or paint from the hole location where the wire is being attached to get a good ground.

STEP 3: Use the chart below and the headlight connector diagram at the right for the correct attachment to your headlights. Using the pre-attached connectors, attach each wire from the unit to the appropriate wire on the headlight connector behind the low beam headlight.



Your Automobile Headlight System

- Case 1: Two lamp system or circular four lamp system.
- Case 2: Rectangular four lamp system.
- Case 3: Toyotas, Hyundais, Subarus, Chevrolet Novas, 1984 Colt Vistas, 1983-86 Dodge Ram 50 Pickups, 1983-86 Plymouth Colts, 1978-83 Challenger Sapporos
- Case 4: 9000 series halogen lamps (non-sealed beam)

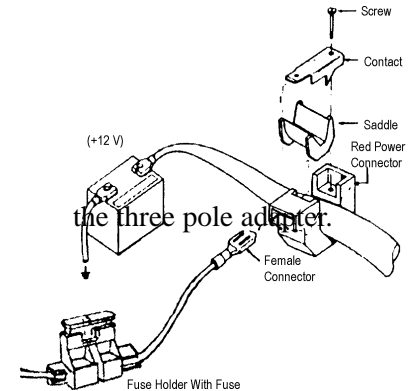
<u>Case #</u>	<u>Wire Color from unit</u>	<u>Connect to the following color on the headlight adapter</u>
1	White (Low beam) Orange (High beam)	YELLOW VIOLET
2	White (Low beam) Orange (High beam)	BLACK YELLOW
3	White (Low beam)	BLACK for two lamp & circular four lamp VIOLET for rectangular four lamp Orange (High beam) Do not connect
4	See Special Note #2	Use a test light to locate correct wires. Do not use

Special Notes:

- #1) For Nissans, you may find that only one headlight is activated. You will need to connect the **WHITE** wire to both headlight input wires.
- #2) For cars with the 9000 series halogen lamps (non-sealed beam), you will need to locate the low beam and high beam wire using a test-light — and then connect the unit's **WHITE** wire to the low beam wire on the outer light and the **ORANGE** wire to the high beam wire on the inner light. You do not use the Headlight Plug adapter for this case. Cut off the tabs at the end of the WHITE and ORANGE wires before doing this.
- #3) For cars with pop-up headlights, you will need to locate the wire behind the light switch which changes state to open up the headlight covers. You can trigger this wire with the **YELLOW** wire. You may need to use an additional relay if more than one wire is needed to activate the headlight covers.

STEP 4: Connect the **YELLOW** wire to the positive wire of the nearest available parking lamp — the wire which goes to +12V when the parking lights are activated.

STEP 5: Using the Power connector, attach the **RED** wire to constant +12V at the battery. (You may need to remove the saddle provided for large power wires.) See the diagram at right. Be sure the 20 AMP fuse is inserted completely in the fuse holder.



STEP 6: Connect the **BLUE** wire to any wire that goes to a constant +12 volts when the car is running (for example the '+' side of the ignition coil) and turns off when the car is off. This tells Lights On!™ the key is in the ignition.

STEP 7: Mount the **photocell sensor** with its long white plastic tube right behind the front grille of the car. Mount such that the white tube is just

behind the grille — but so that it can be clearly seen when looking head-on into the grille area from the front of the vehicle. Do Not hide the tube. Use two cable ties provided to secure behind the grille. A specific orientation is not important. (A bead of silicone adhesive can be used to mount the photocell for a cleaner appearance instead of the 2 cable ties.)

STEPS 1 through 7 must be connected for Lights On! to operate.

OPTION 1 — For Lights On!TM to automatically turn on your lights when the windshield wipers are on:

Connect the **GREEN** wire to the hot lead on the wiper motor (the wire that goes to +12 volts when the wipers are activated). Use a test-light or volt meter to locate this wire. This will turn your lights on automatically when the wipers are activated. Note: In a few cars there is not a wire that goes to +12V when the wipers are activated. If you cannot locate this wire, connect the GREEN wire to any wire that changes state (i.e. +12V to ground) or (+12V to OPEN) when the wipers are activated. There must be a change in voltage on this wire when the wipers are activated.

Reminder: Always turn off the wipers before you leave your car. If you do not, it is possible that Lights On!TM will not automatically come on the next time the vehicle is started.

OPTION 2 — To have Lights ON! leave your headlights on for 20 or 40 seconds after you turn off the ignition:

This feature is helpful at night by letting your vehicle light your path when you leave your car to walk up to your home or other building. For no delay — simply turn off the ignition. For the 20 second delay feature, simply turn off the ignition key and within two seconds turn it back to the ignition (run) position (not the Start position) and then off again.

To choose a 40 second delay option, cut the PURPLE wire loop.

LIMITED WARRANTY

Hopkins Manufacturing Corp. warrants to the original consumer/purchaser that this product shall be free of defects in material and workmanship under normal use and circumstances for a period of **two** (2) years from the date of original purchase. When the original consumer/purchaser returns the product to Hopkins Manufacturing Corp., 428 Peyton Street, Emporia, Kansas 66801, USA within the warranty period, and if the product is defective Hopkins Manufacturing Corp. will, at its option, repair or replace such.

This warranty shall constitute the sole liability of Hopkins Manufacturing Corp. concerning the product. Hopkins Manufacturing Corp. expressly disclaims all other warranties INCLUDING, WITHOUT LIMITATION, THE WARRANTIES OF MERCHANT ABILITY AND FITNESS FOR A PARTICULAR PURPOSE. NO PERSON, FIRM OR CORPORATION IS AUTHORIZED TO ASSUME FOR HOPKINS MANUFACTURING CORP. ANY OTHER LIABILITY IN CONNECTION WITH THE SALE AND USE OF THE PRODUCT. Hopkins Manufacturing Corp. and agents and distributors will bear no liability for incidental or consequential damages or charges of any kind.

Some states do not allow the exclusion or limitation of incidental or consequential damages, so the above disclaimer regarding incidental or consequential damages may not apply to you.

This warranty shall be effective only if the registration card is fully completed and mailed with proof of purchase to: Hopkins Manufacturing Corp, 428 Peyton Street, Emporia, Kansas 66801, USA within ten (10) days after date of purchase.

This warranty is void if the product has been damaged, tampered with, or if the product has been opened. In all cases of damage during shipment, a claim must be filed with the shipping carrier and not with Hopkins Manufacturing Corp.

This warranty gives you specific legal rights; you may also have other rights which vary from state to state.

OUT OF WARRANTY REPAIRS

Hopkins Manufacturing Corp. will at its option either (1) replace this product with a functionally similar (but not necessarily visually identical) refurbished product or (2) repair the original product and return it to the original consumer/purchaser C.O.D. covering all reasonable repair or replacement charges if the product is returned prepaid to Hopkins Manufacturing Corp., 428 Peyton Street, Emporia, Kansas 66801, USA, after the two year warranty period has expired.

This registration card must be returned within ten (10) days of purchase.

NAME _____ User's Age _____

ADDRESS _____

City _____ State _____ Zip _____

PLACE OF PURCHASE _____ DATE OF PURCHASE _____

Product Purchased: Lights On #20012

Purchased for : _____ YOURSELF _____ SPOUSE

_____ OTHER FAMILY MEMBER _____ FRIEND

Where did you learn about this product? _____

Vehicle Make: _____ Vehicle Model: _____ Year: _____

_____ Please send me **FREE** information on other innovative Hopkins products.