

A close-up photograph of a motorcycle's front lighting assembly. The central element is a large, clear, oval-shaped main headlight. On either side of this main headlight are two smaller, circular fog lights with amber-colored lenses. Below the main headlight, a rectangular fog light is integrated into the fairing, also with an amber lens. The motorcycle's bodywork is a light beige or tan color. The background is dark and out of focus, showing parts of the engine and other mechanical components.

***Adding Fog Lights
to
Russian Motorcycles***

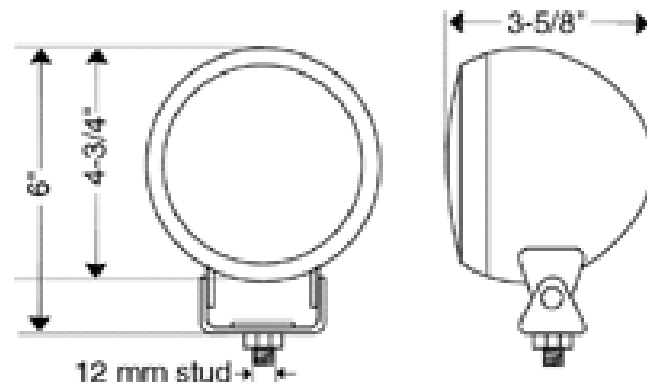
***Ernie Franke
02/2011 eafranke@tampabay.rr.com***

Adding Fog Lights to Russian Motorcycles

- ***Looking for Something that Would Increase Conspicuity (visibility or noticeability) to Other Drivers***
- ***Chose to Mount Two Fog Lights Along-Side Headlight***
- ***Chose Lowest Power-Consumption (35-Watt each) Lights***
 - ***Easy on Alternator/Battery.***
- ***Need to Add a Relay in the Circuit to Turn Lights On & Off***
 - ***Allows the Current to Pass Thru the Relay Contacts and Not Thru the Ignition Switch***
- ***15-Amp Common Auto Fuse Added in Headlight Cavity***
 - ***Where It Should Be, and Not Under the Gas-Tank***
- ***Control for Fog-Light Relay Coil Receives Voltage from Previously Unused Blue Connector in Headlight Cavity***
 - ***Folks Keep Asking about That Unused Connector***
 - ***Used in Europe, Not in U.S.***
 - ***Because the Relay Control Voltage is Derived from This European Daylight Switch Connector, Fog Lights Go Out When Switch to Hi-Beam***

KC Hilites 487 50 Series 5" Black Amber Fog Light System - Set of 2

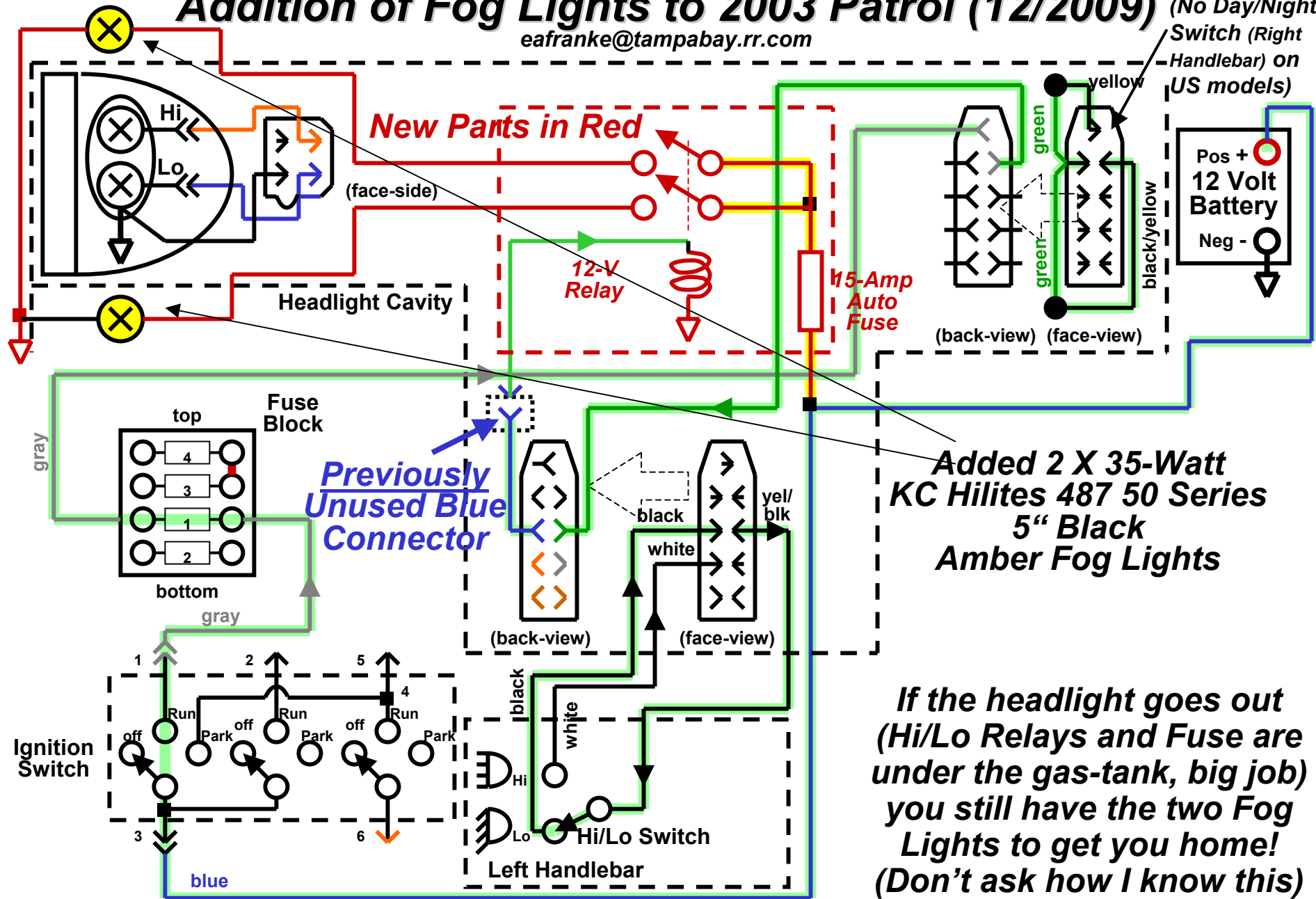
- **Designed to provide clear and brilliant lighting**
- **Features a 35-Watt rating**
- **Manufactured from highly durable material**
- **Backed by a 23 year warranty**
- **Price: \$123 & this item ships for FREE with Super Saver Shipping**
- **KC 50 Series - 5" Round Black-Chrome AMBER Fog Light Kit. KC 50 Series provide powerful light output in a compact 5" round housing. Two axis mounting provides for quick and easy aiming. Ideal for use on compact trucks & SUVs where space limitations are a consideration.**
- **Bulb Type: 12-Volt / 35-Watt / 7,000 Candlepower (Wagner 4414A)**
- **Features: Black-Chrome housing with the multi-position bracket.**
- **Kit Includes: Two lamps with protective light covers, pre-terminated relay wiring harness and easy to follow instructions.**
- **Dimensions: 6 " x 4 3/4" x 3 5/8"**



Addition of Fog Lights to 2003 Patrol (12/2009)

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(No Day/Night Switch (Right Handlebar) on US models)



New Parts in Red

Previously Unused Blue Connector

Added 2 X 35-Watt KC Hilites 487 50 Series 5" Black Amber Fog Lights

If the headlight goes out (Hi/Lo Relays and Fuse are under the gas-tank, big job) you still have the two Fog Lights to get you home! (Don't ask how I know this)

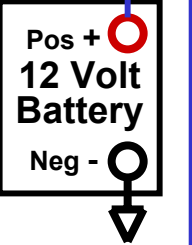
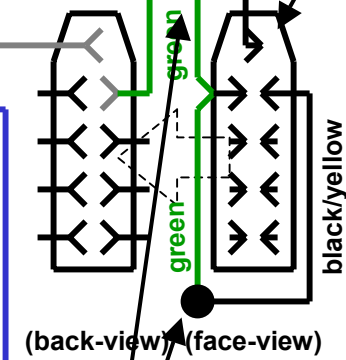
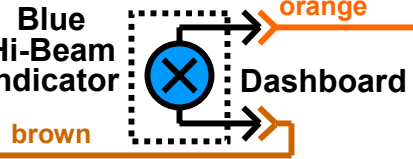
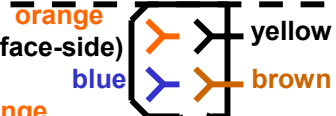
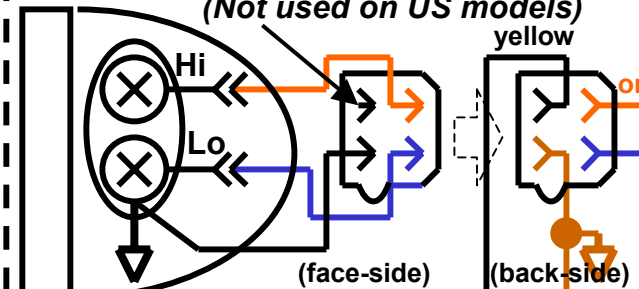
2002-2005 High/Low Beam (ver. 081509)

(IMZ-8.103717001-13, 2002-2005 Owner's Manuals) eaf Franke@tampabay.rr.com

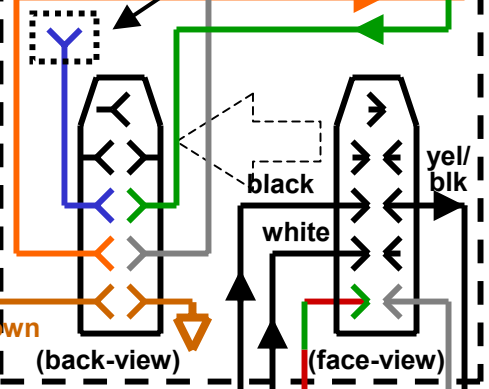
(No Day/Night Switch (Right Handlebar) on US models)

Headlight Cavity

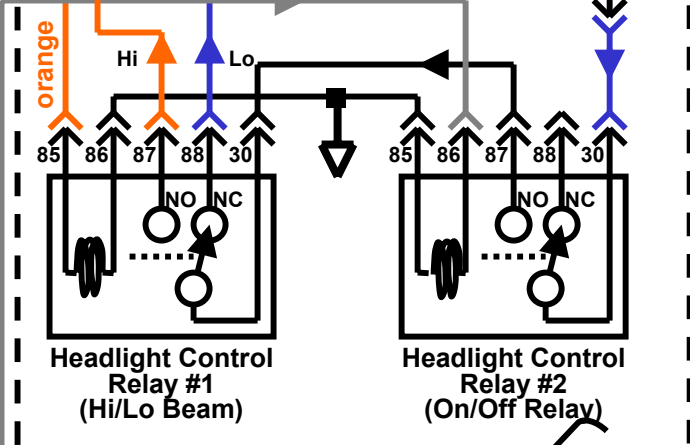
(Not used on US models)



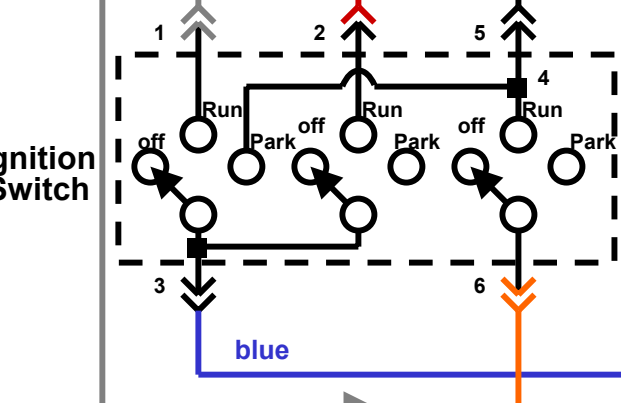
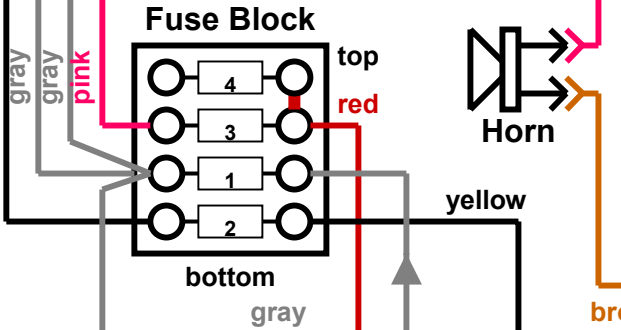
(for Optional daytime lights. Not used in US)



(Bypass shorts for Day/Night Switch)



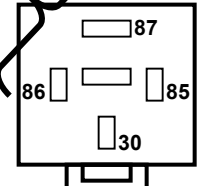
In-Line Fuse #2 (15 Amp) (Headlight)



Left Handlebar

Under Gas Tank

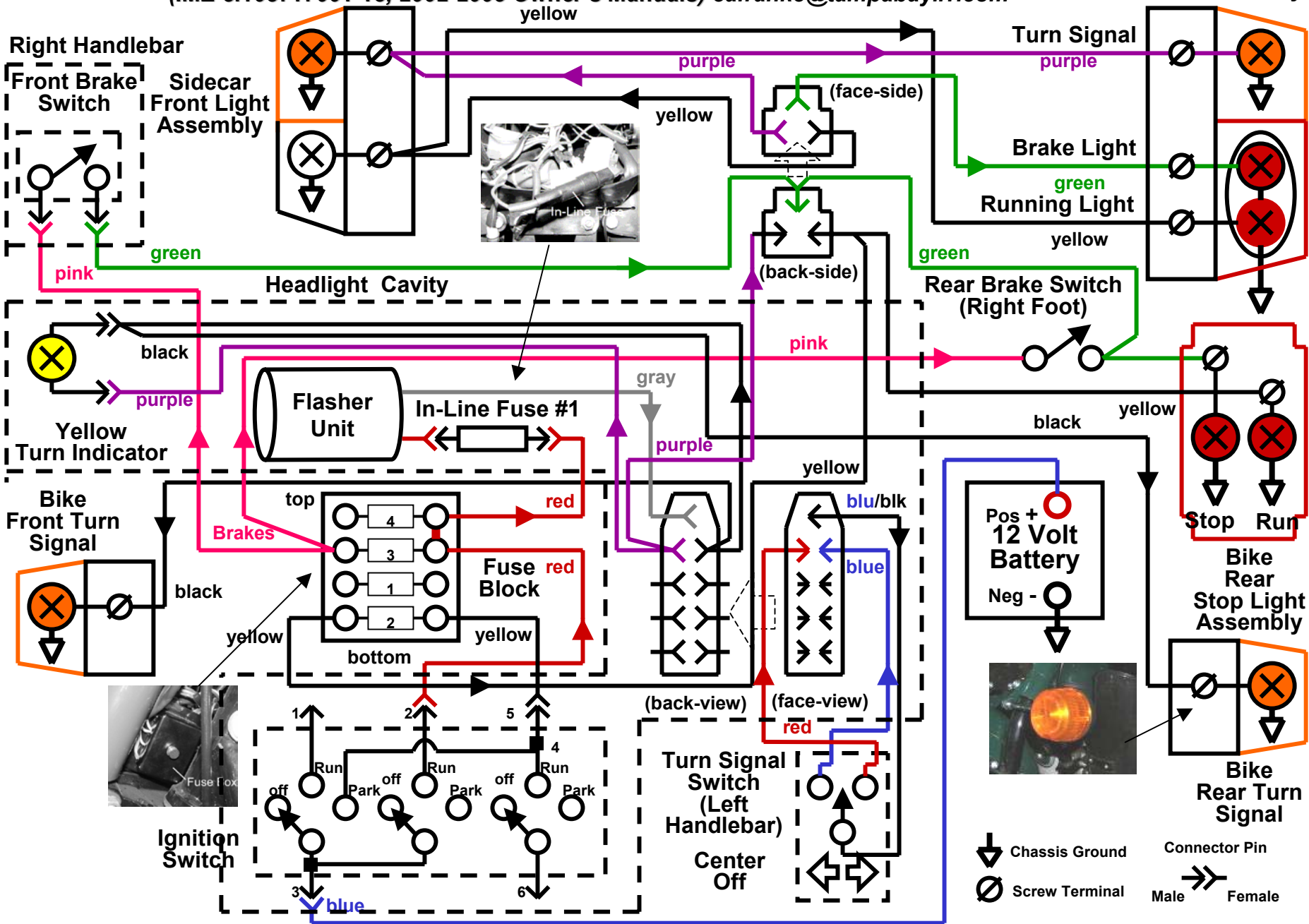
(to Headlight Control Relay) (to Speedometer Lights)



2002-2005 Brakes/Turn Signals/Running Lights (ver. 1.0)

(IMZ-8.103717001-13, 2002-2005 Owner's Manuals) eafranke@tampabay.rr.com

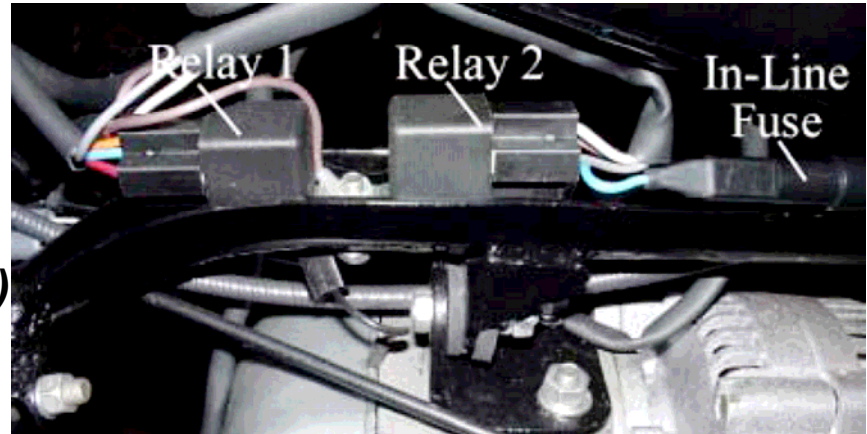
Sidecar Rear Light Assembly



2002-2005 Simplified Hi/Lo Beam Circuit

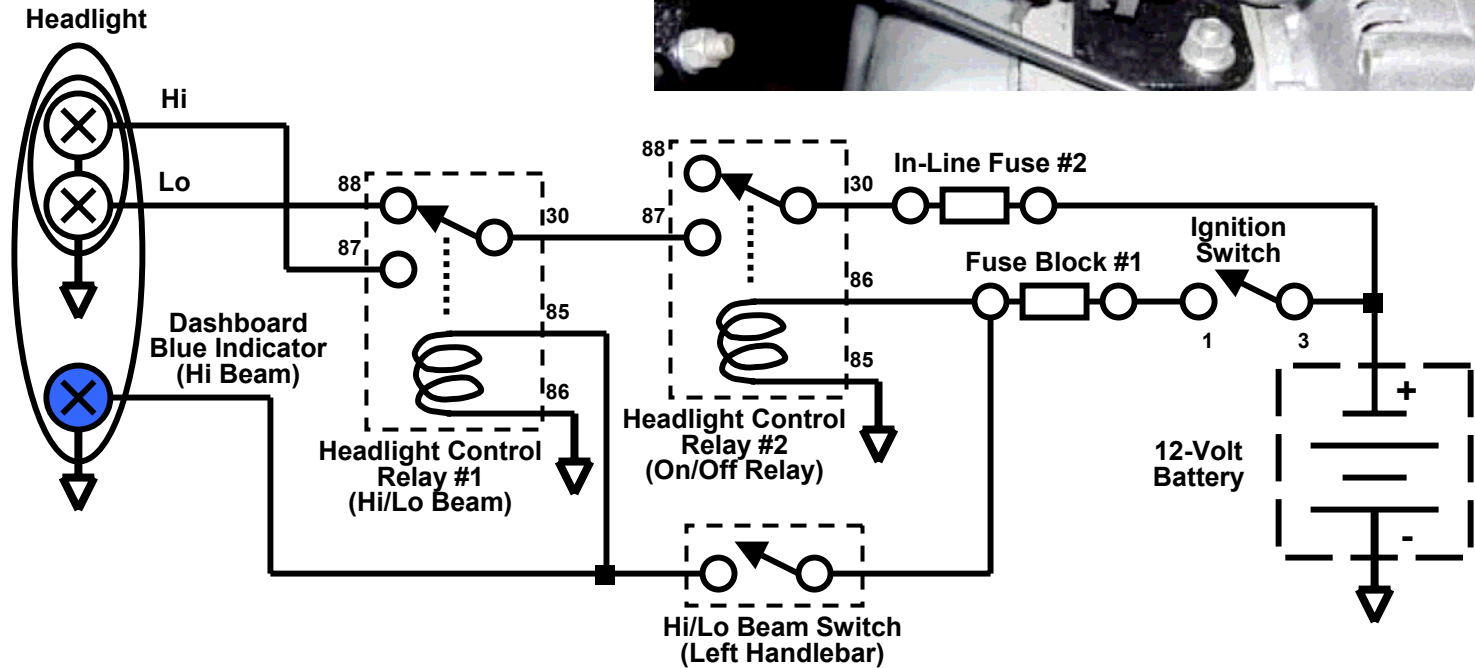
(ver. 081509) eafranke@tampabay.rr.com

The headlight relays and in-line fuse are inconveniently located on the center bar under the gas-tank.



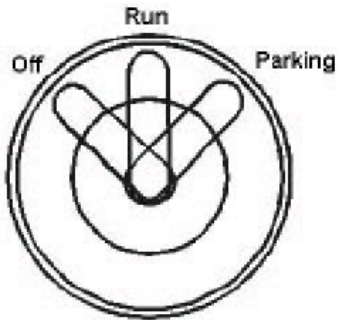
(front)

(rear)



The relays, controlled by the ignition switch and the Hi/Lo beam switch, are used to make high-current connections. (Thus the ignition switch and Hi/Lo handlebar switch last longer because their contacts only handle relay coil current.)

2002-2007 Ignition Switch



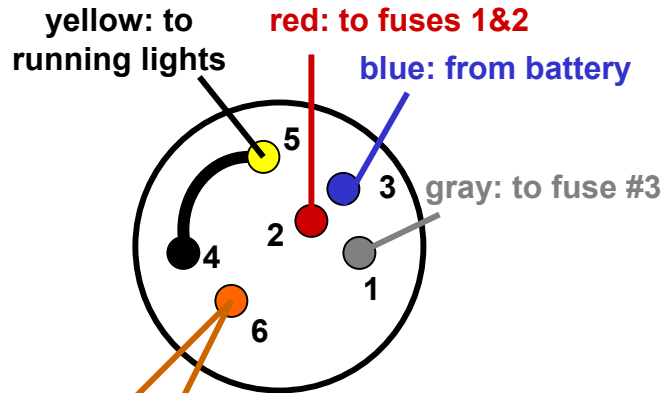
Ignition Switch	Headlight	Brake Light	Turn Signals	Running Lights
Off	Non-Op	Non-Op	Non-Op	Non-Op
Run	Operate	Operate	Operate	Operate
Park	Non-Op	Non-Op	Non-Op	Operate

Non-Op = non-Operational, Operate = Operational

Off: All electrical systems are off.

Run: Voltage is applied to all electrical systems.

Parking: Voltage is applied to running lights only.



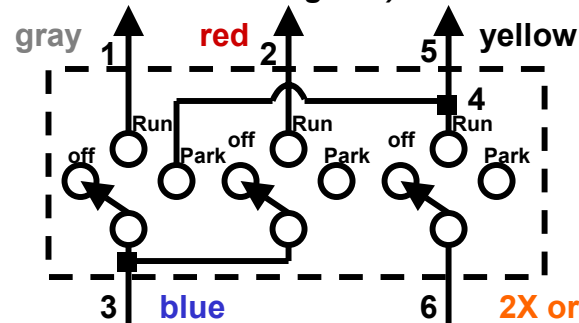
Switch Pin #	1	2	3	4	5	6
Wire Color	grey	red	blue	none	yellow	orange
Off	0 V.	0 V.	12 V.	0 V.	0 V.	0 V.
Run	12 V.	12 V.	12 V.	12 V.	12 V.	12 V.
Park	0 V.	0 V.	12 V.	12 V.	12 V.	0 V.

orange: to speedometer lights

Back View of Ignition Switch

Wire Colors are shown, because switch numbers are very hard to read!

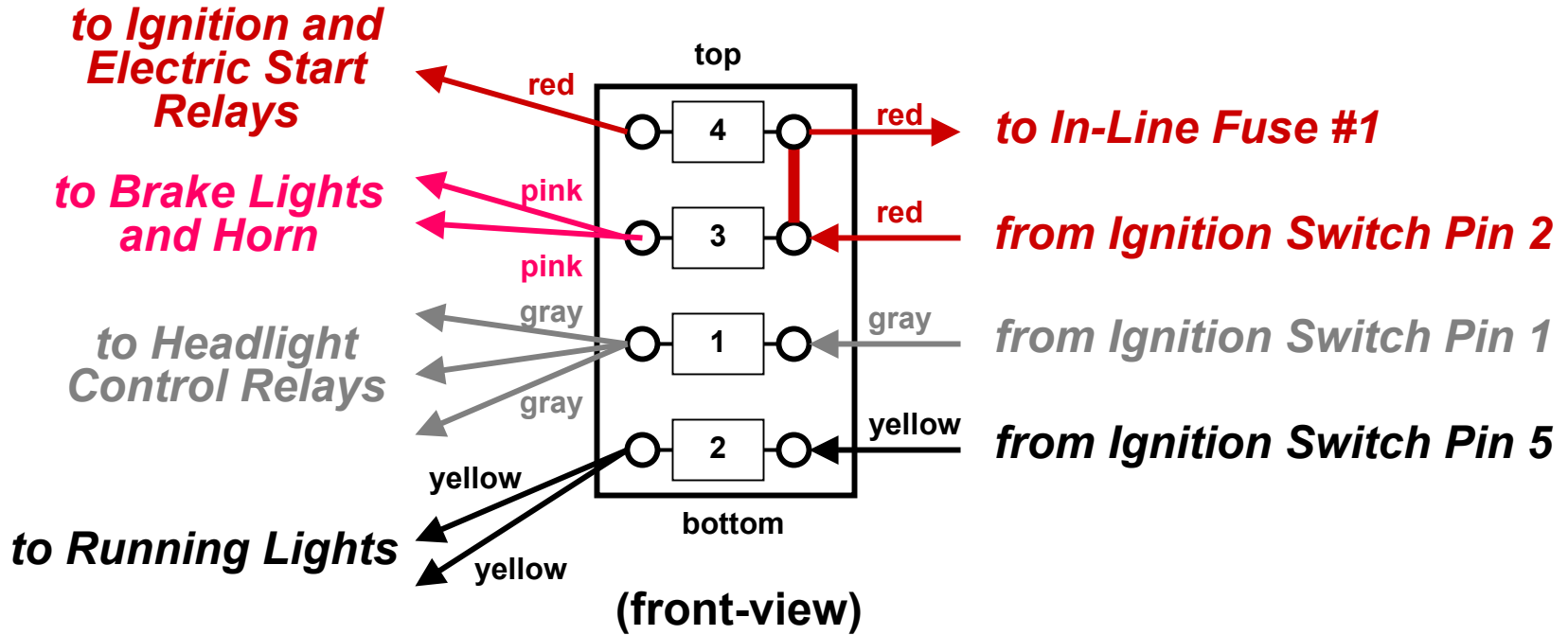
(to Fuse #1 Headlight Control Relays) (to Fuse #3&4 Ignition, Electric Start Relays, Brakes, Horn and Turn Signals) (to Fuse #4 Running Lights)



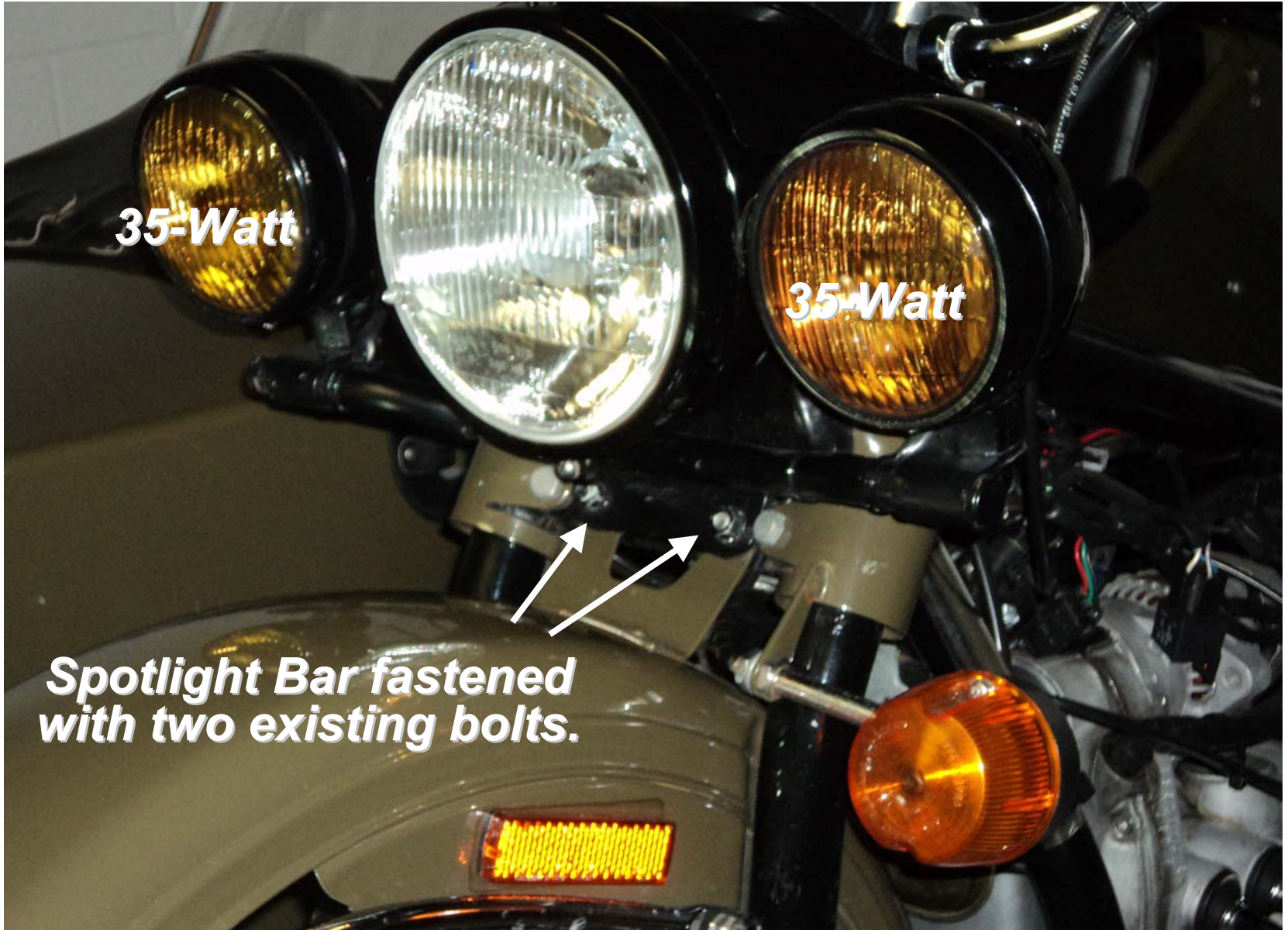
(from +12-Volt Battery and Alternator)

(to speedometer lights)

2002-2005 Fuse Block



Twin KC Hilite Fog Lights Mounted on a Black Spotlight Bar (My 2003 Patrol)



35-Watt

35-Watt

***Spotlight Bar fastened
with two existing bolts.***

Black Spotlight Bar

- ***Black Powder-Coated Spotlight Bar (P/N 900160 A)***
- ***High-Quality Mandrel-Bent Tubing***
- ***Furnished with Wire Openings, Black End-Caps and Clip-Mounts for Lights***
- ***Mounts Directly underneath Motorcycle Headlight to Existing Studs and Nuts***
- ***Bar is Exceptionally Strong and Stable to Eliminate Light Flicker***
- ***Raceway Services***
 - ***2700 19th St. SE Unit #3***
 - ***Salem, OREGON 97302***
 - ***Telephone: 503-588-7227 Cell: 503-871-0197***
 - ***racewayservices@gmail.com***
- ***\$80***

