

# DAKAR

DUAL SPORT KITS



*XR650 DUAL SPORT KIT INSTALLATION INSTRUCTIONS*



## KIT CONTENTS

### Inspect Your Kit

Your kit will include the following items

#### A. XR650 Installation Instructions

Read through the entire instruction manual before starting.

#### B. Dakar Headlight Assembly

#### C. Handeibar Turn Switch

#### D. Horn

#### E. Tail Light and Mounting Screws

#### F. Universal Hardware Bag (Contents)

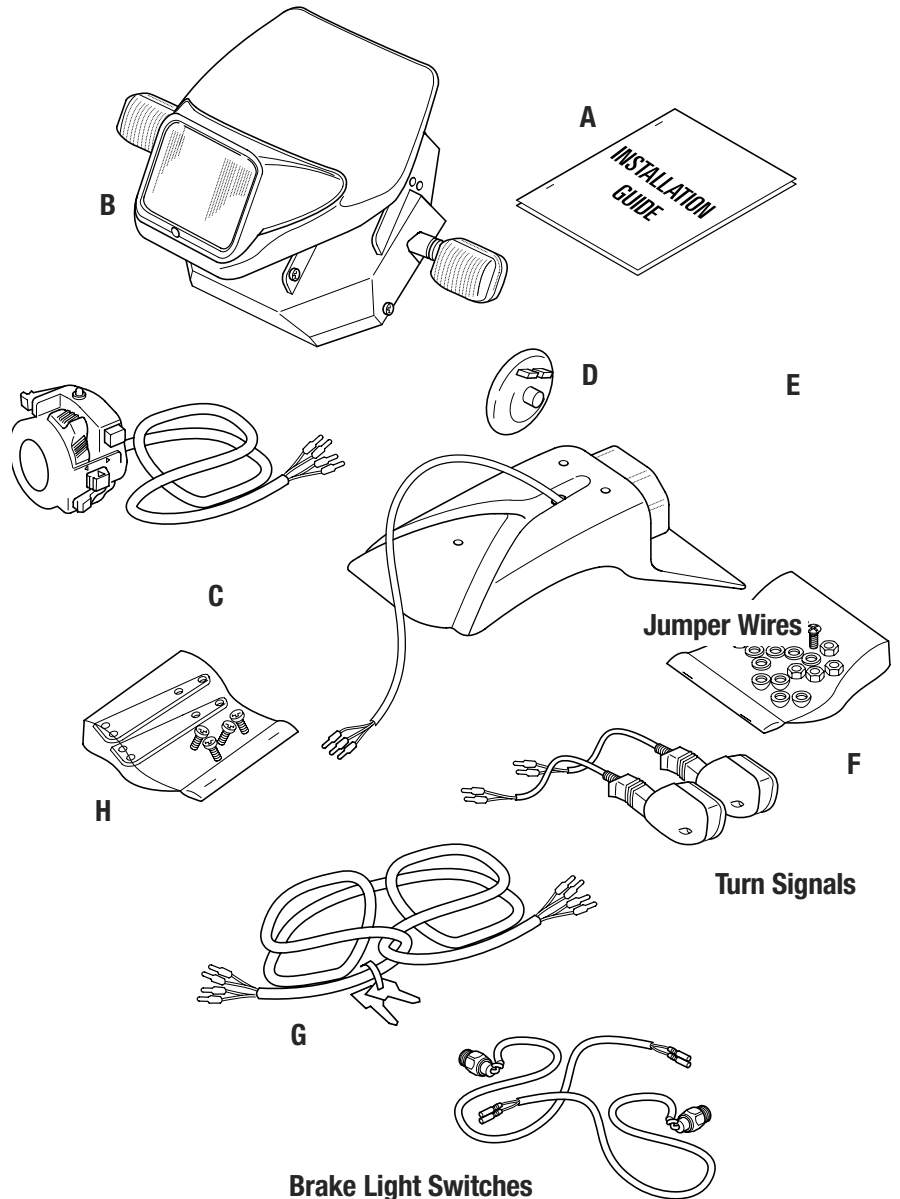
- Turn Signals (2)
- Brake Light Switches (2)
- Cable Ties
- Yellow Jumper Wires
- Wiring Diagram Label
- Round Plastic Signal Alignment Wedges

#### G.. Main Wiring Harness

- Note: Ignition Keys Zip Tied to Harness

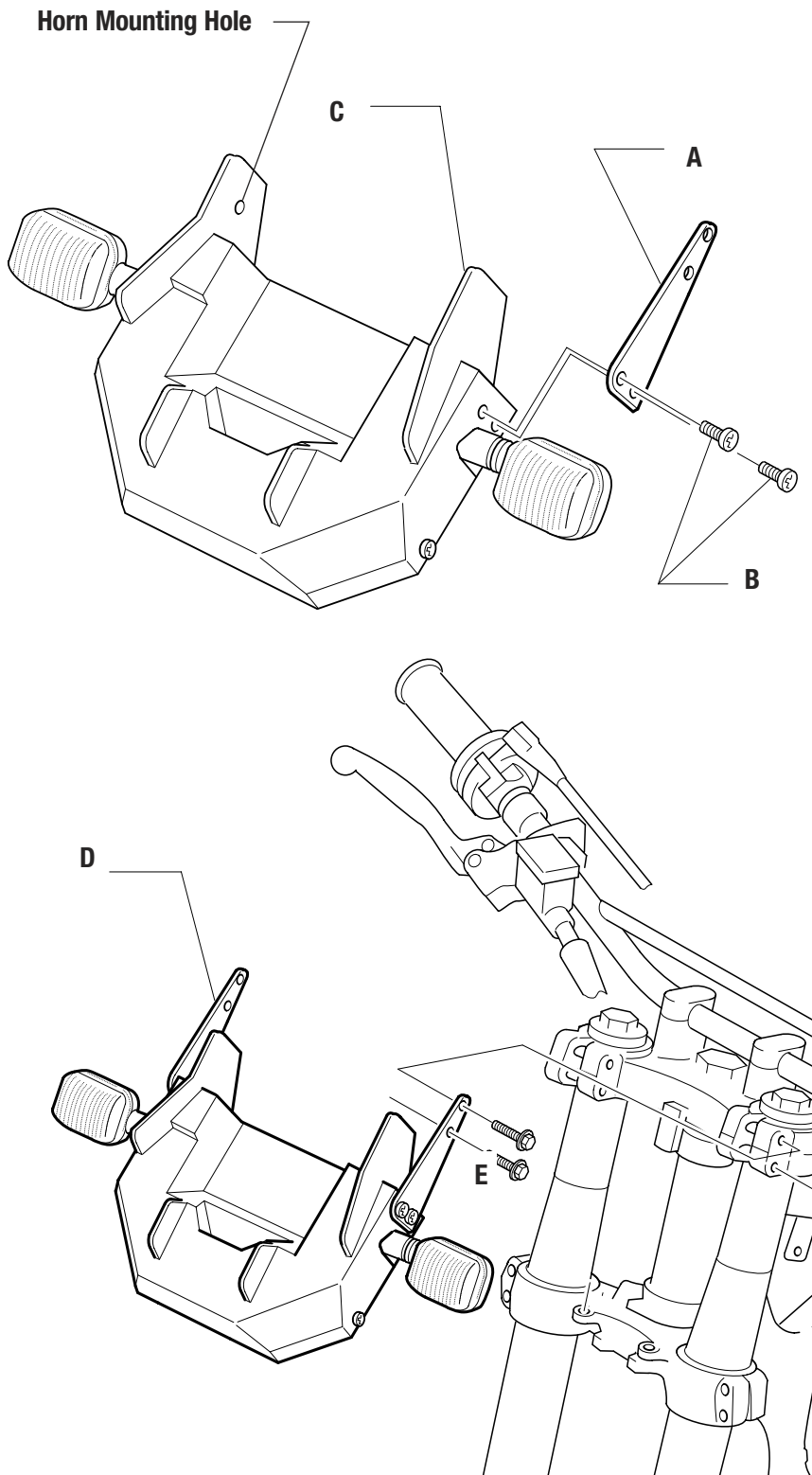
#### H. Mounting Kit Hardware Bag

- Triple Clamp Mounting Brackets
- Kit Specific Pieces



*Note: Please take a moment to become familiar with the contents of the kit. Due to slight variances between motorcycle models, there may be differences in the instruction manual drawings and the actual parts. The basic installation procedure remains the same.*

## HEADLIGHT UNIT SUB-ASSEMBLY



### Getting Started

Remove and retain four (4) retaining screws, holding the headlight numberplate to the Dakar unit. Then, unplug the main wiring harness, turn switch wiring harness, headlight and horn wiring connectors from the Dakar unit.

### Attach The Horn

The horn may already be installed on your kit, if not, the horn has a nut with a washer screwed on the back. Remove and retain the nut and washer. Locate the horn's threaded stud on the outside of the Dakar unit and into the horn mounting hole in the Dakar unit. Fasten with previously removed washer and nut. (Be sure to tighten securely without stripping)

### OEM Speedo bracket modification

Grasp the speedo and slightly bend the mounting bracket down about 1/8 inch. This will allow the speedo cable to run straight.

### Mounting Brackets

Attach headlight mounting brackets (A) with two screws (B) on each side. Tighten screws securely into the Dakar headlight unit (C) without stripping.

Note: Bracket shown in illustration may differ from pieces in your kit. However, the installation will remain the same.

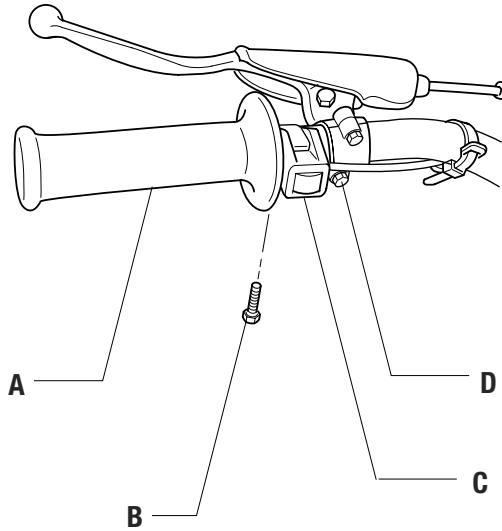
### Installing The Dakar Headlight Unit

Remove and retain existing top triple clamp bolts (E). Carefully slide brackets into position and fasten with existing bolts as shown.

*WARNING: Torque triple clamp bolts as specified in your service manual.*

Note: Headlight assembly omitted for clarity.

**TURN SWITCH INSTALLATION**



**Remove Existing Kill Switch**

**Step 1**

Using a small phillips head screwdriver, loosen the locking screw ( B ) on the kill switch ( C ). Remove any cable ties and unplug kill switch from existing wiring.

**Step 2**

Loosen clutch cable perch ( D ) and move inboard about 1/2 inch.

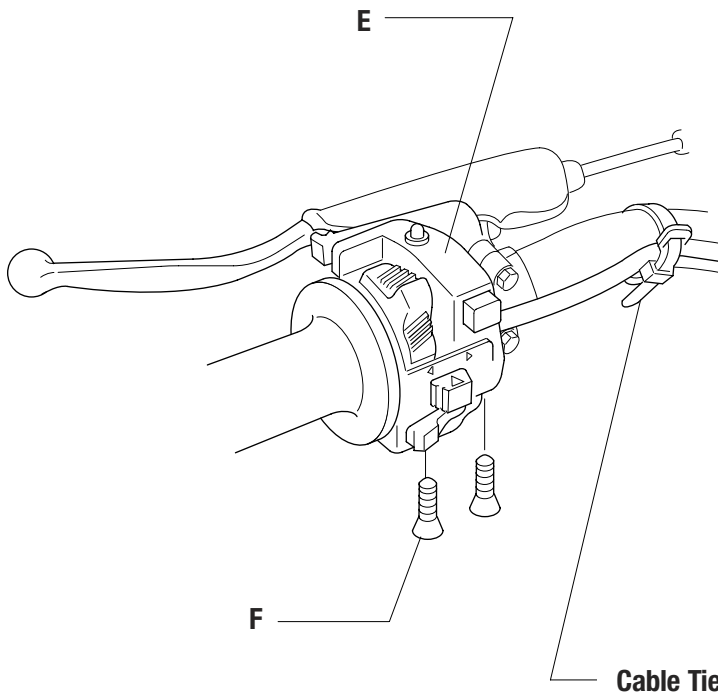
**Install Turn Switch**

**Step 1**

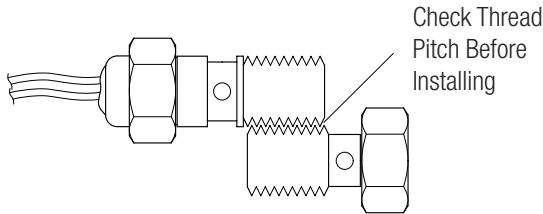
Open and wrap the new turn switch ( E ) around handlebar and securely fasten with two screws ( F ) as shown.

**Step 2**

Route turn switch wiring down and along handle bar behind Dakar headlight. Secure switch wiring to handlebars with one cable tie. For more information, please refer to the Cable Routing Diagram on page 2.

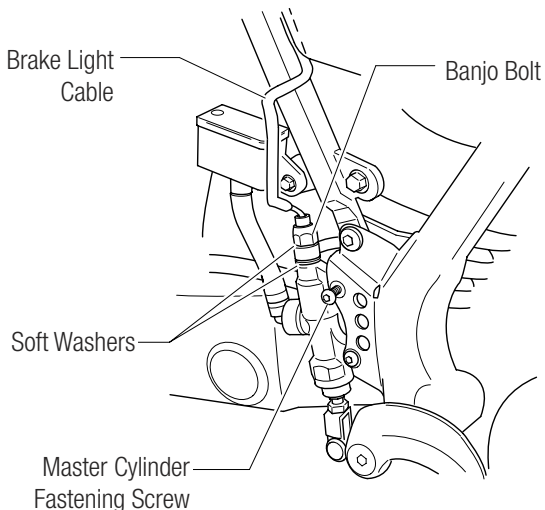
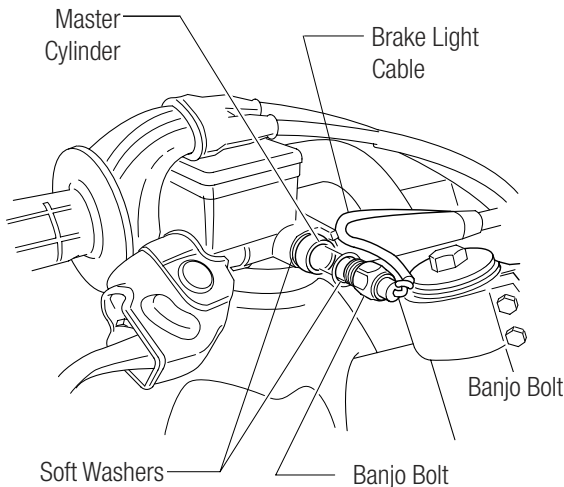


## BRAKE LIGHT SWITCHES



### **WARNING: Check the thread pitch on your banjo bolts**

*Make sure the thread pitch on your stock banjo bolts match the replacement versions provided in the kit. More than likely they will match. Some manufactures have changed the stock design requirement which is why it necessary to check. If your parts do not match up, stop the installation and give us a call. We'll send replacement parts to you!*



### **Front Brake Light**

#### **WARNING**

*Bleed front and rear brakes according to instructions provided in your owners or service manual. This must be performed in order for proper brake operation. Failure to do so may result in brake failure*

#### **Step 1**

Place a drop cloth or rag under the front brake and bike to catch any fluids. Loosen and retain banjo bolt on master cylinder.

#### **Step 2**

Insert brake light switch into position and fasten with banjo bolt on top of soft washer, hydraulic line and second soft washer. Securely fasten banjo bolt without stripping.

#### **Step 3**

Route the front brake light switch wiring along the lower portion of the handlebar towards the center of the triple clamps. Fasten wiring to the handlebar with a cable tie.

### **Rear Brake Pedal Light**

#### **Step 1**

Place a drop cloth or rag under the rear brake and bike to catch any brake fluid. Remove the screws and guard providing access to the rear brake master cylinder.

You must temporarily reinstall the screws that attach the master cylinder to the frame to prevent damage to the master cylinder or Banjo bolt threads. After the master cylinder is secure, carefully remove the existing banjo bolt. Remove and retain the mounting screws.

Note: Some bikes allow access to the master cylinder without removing a cover or guard.

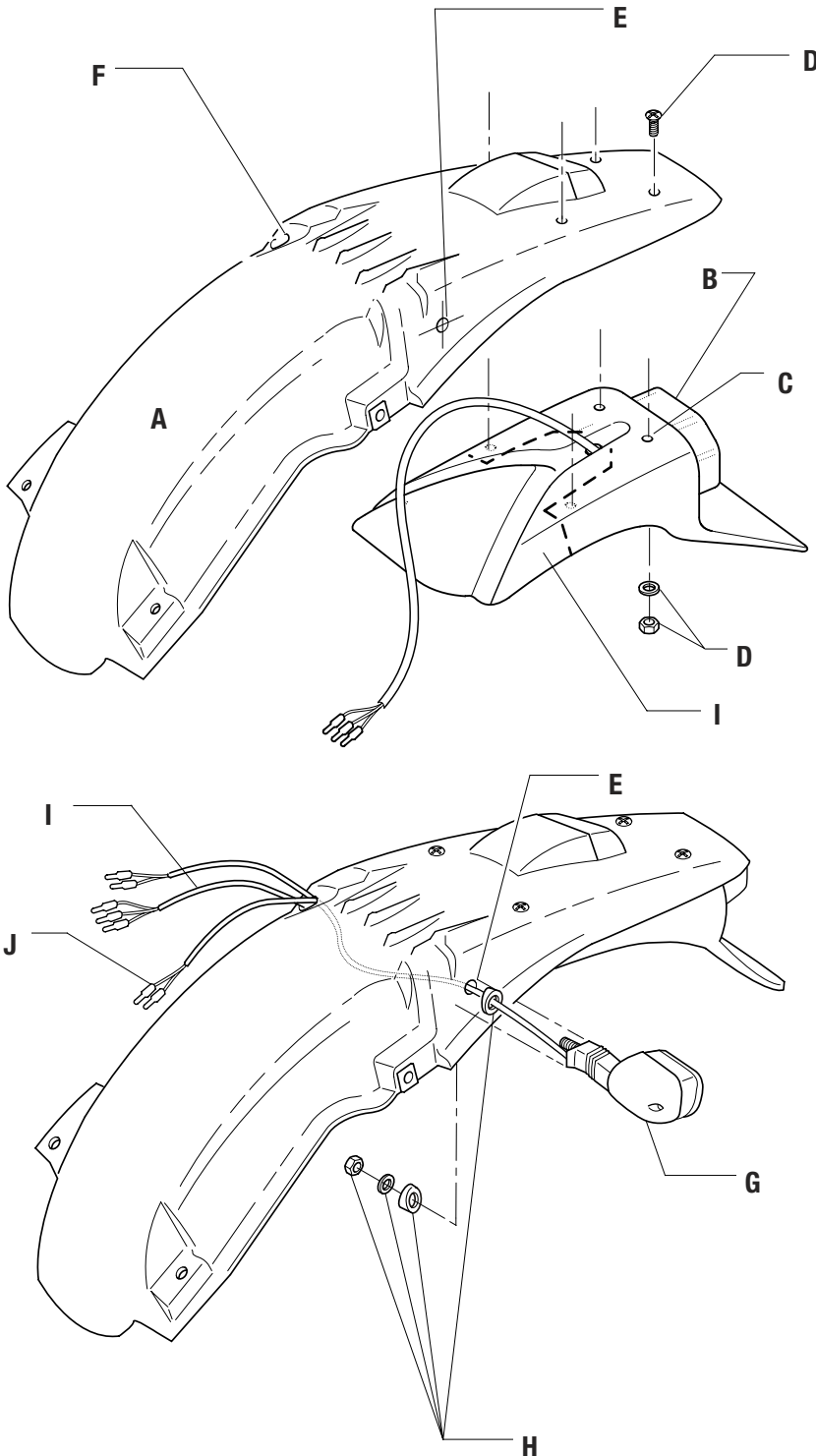
#### **Step 2**

Insert brake light switch into position and fasten with banjo bolt on top of soft washer, hydraulic line and second soft washer. Securely fasten banjo bolt without stripping. Reinstall guard with screws

#### **Step 3**

Route the rear brake light switch wiring up the sub-frame spar and following behind the airbox up towards the back of the frame. The wiring should meet up next to the main wiring harness tail light and turn signal connection point.

## TAILLIGHT AND TURN SIGNALS



### Remove Existing Parts

Remove your existing seat, front number plate, radiator covers, fuel tank, side number plates and rear fender. Please refer to your owners manual for detailed dis-assembly instructions for each item.

### Taillight Assembly

Place the rear fender (A) upside down on a clean work surface and position the rear tail light (B) on the inside of the fender. The tail light should rest slightly under the rear edge of the fender.

Note: XR's require enlarging the center opening by about 1/2 inch on each side using an electric jig saw. This is for clearance to the existing top brake light. Then, using the rear tail light's four mounting holes (C) as guides, trace around each hole with a felt tip marker on the underside of the fender creating drill hole locations. Remove the tail light and drill four 1/4 inch holes. Reposition the tail light, and fasten with supplied screws, washers and nuts (D) as shown.

### Turn Signal Mounting

#### Step 1

Position the rear turn signals by visually lining up the signals (G) behind the rear seat, when its attached to the sub-frame. Care should be observed to insure signals do not interfere with the rear silencer. The signals must mount free and clear of exhaust heat in order to prevent damage to the signal.

Once you have found a suitable location for the signal mounting hole (E), mark and drill one 3/8 inch hole through each side.

#### Step 2

Carefully open up the grommet (F) with a pen knife, allowing the turn signal and brake light wires to pass through.

#### Step 3

Feed the tail light wiring (I) through the existing grommet and then the turn signal wiring (J). Secure turn signal with supplied alignment wedges, washer and nut (H). Attach second turn signal following same procedure and complete by reinstalling rear fender on bike.

*Note: There may be differences in the instruction manual drawings and the actual parts.*

## TAILLIGHT AND TURN SIGNAL CONNECTIONS

### Cable Routing Harness Location

Feed the main wiring harness through the frame cable loop behind the triple clamps. For more information, please refer to cable routing diagram. For reference, stick the wiring connection decal on the rear fender, below where the seat will cover it up.

### Taillight Connection

Connect the WHITE tail light male to the GRAY female connector. Connect the BROWN tail light male ground to the BLACK female connector as shown. Be sure to route the wiring under the frame supports as shown.

### Turn Signal Connections

Connect both BLACK tail turn signal grounds into the dual BLACK female ground connector. Connect the ORANGE female into the BLACK male (right turn signal) connector, and the PINK female, into the BLACK male, (left turn signal) connector. Be sure to route the wiring under the frame supports as shown.

### Brake Switch Connection

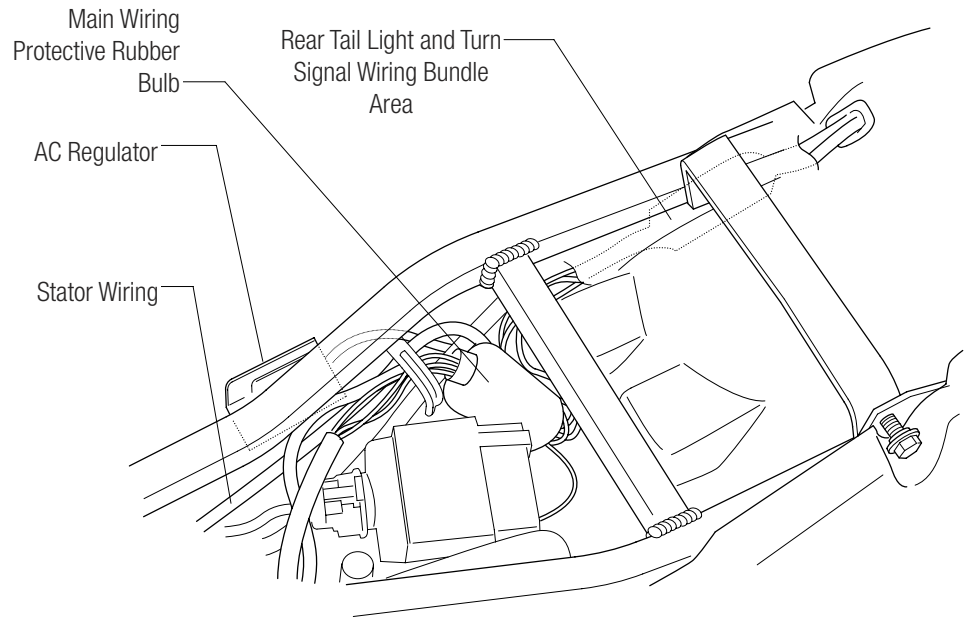
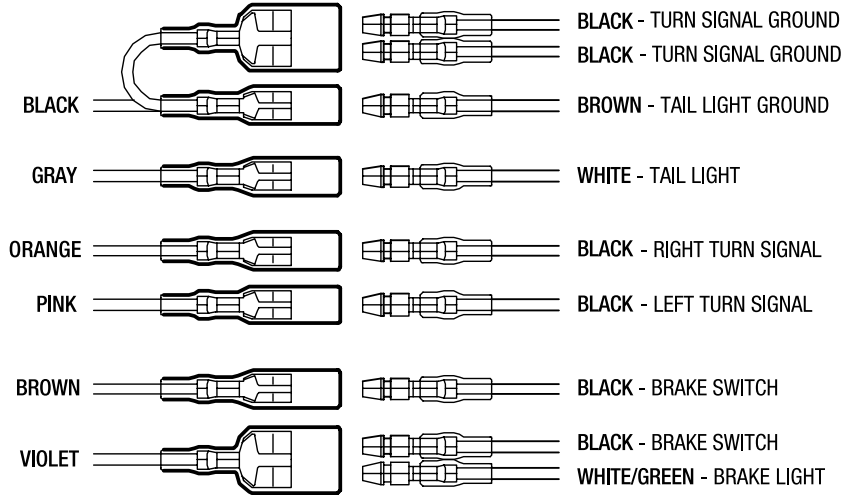
Connect one of the BLACK brake switch male leads into the BROWN female connector and the second BLACK brake switch male into the dual VIOLET connector. Route the wiring down along the sub-frame towards the brake pedal.

### Note

Be sure to carefully and fully seat the connectors into position.

### Secure Cable Ties

Use a few cable ties along the sub frame to hold the harness into position. Make sure that you secure the harness to frame areas that will not bind or crimp the harness.



## STATOR WIRING HARNESS AND CDI CONNECTION

### IMPORTANT

You should use a high output stator (ESG440) with your Dakar kit. Otherwise, replacement to a 35W headlight bulb is required. (Bulbs are available from your local motorcycle dealer)

### Stator & Dakar Wiring Connection

#### Step 1

Pull the main wiring out from the protective bulb containing the main wiring harnesses. Then, from the new stator wiring, plug the WHITE male wire, into the WHITE/YELLOW dual connector coming from the AC regulator.

*Note: Ensure all connections are fully and completely seated together. Double check each connection.*

#### Step 2

From the new stator wiring, connect the GREEN female lead into one of the YELLOW male leads coming from the Dakar wiring harness.

#### Step 3

From the new stator wiring, connect the PINK female lead into the second YELLOW male lead coming from the Dakar wiring harness.

#### Step 4

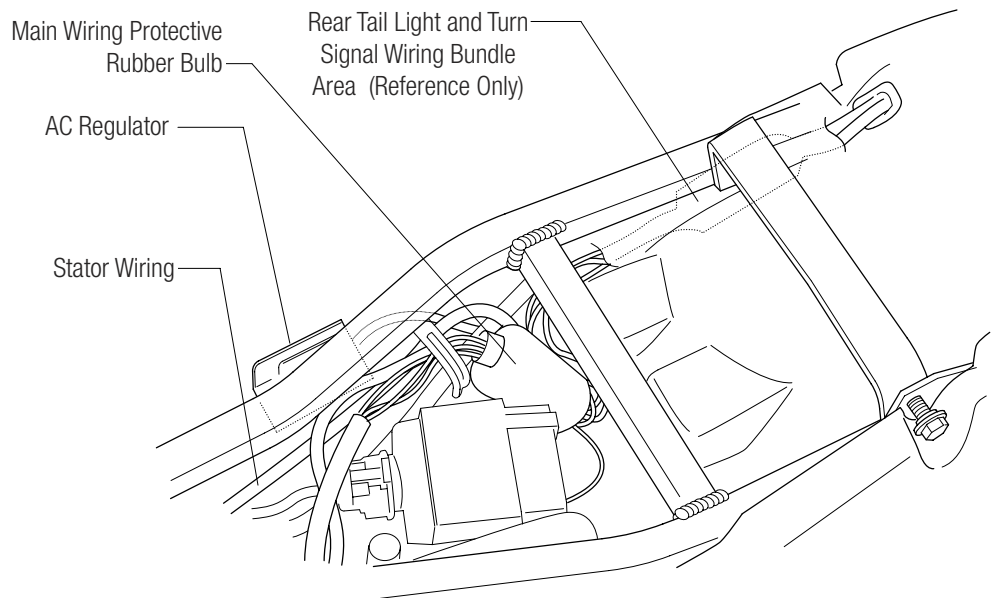
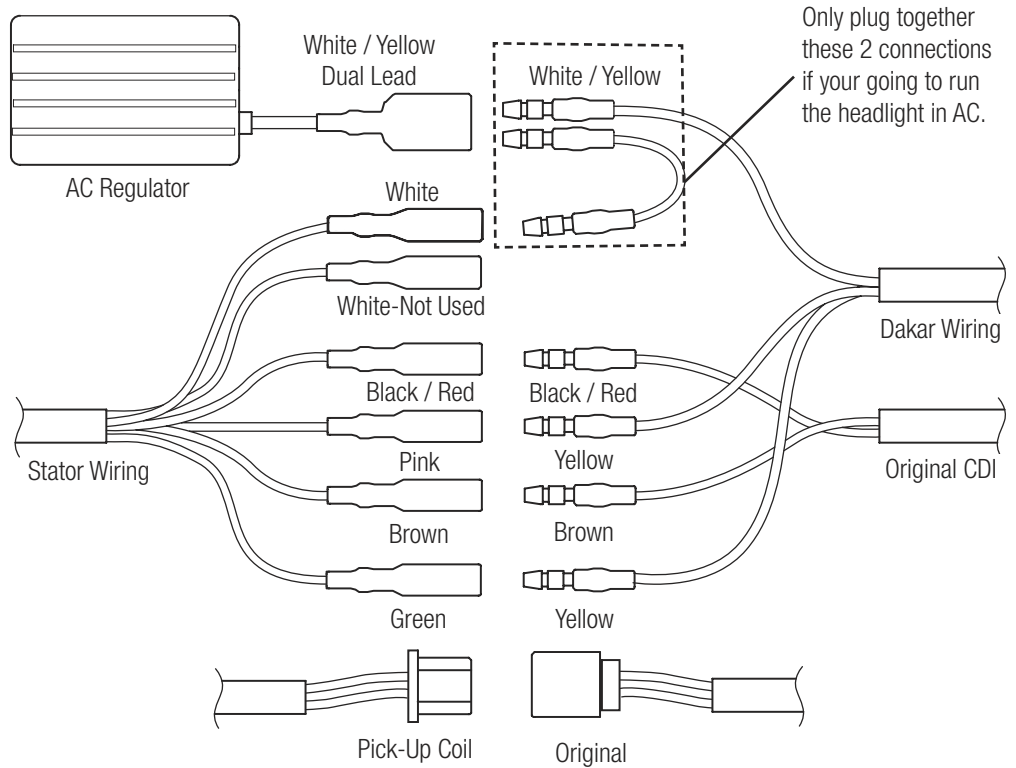
From the Dakar wiring, connect the WHITE/YELLOW male lead into the remaining female WHITE/YELLOW dual lead coming from AC regulator. *Visually inspect all connections to the wiring diagram one last time.*

### CDI Connection

From the original CDI wiring, plug the BLACK/RED male lead, into the BLACK/RED female lead coming from the new stator wiring. Then plug the BROWN male lead, into the BROWN female lead coming from the new stator wiring. Note: If the bike will not start, swap the RED/BLACK and BROWN (Reverse the Connections)

### Pick-Up Coil

Connect the rectangular plug connector from the new stator harness into the rectangular plug connector coming from the existing wiring harness.





## INSTALLING AN ESG440 HIGH POWER LIGHTING STATOR

### STOCK WIRING CONFIGURATION

#### DIAGRAM 1 - XR400, DIAGRAM 2 - XR650

This stator replaces the original unit and provides up to 2x100 Watts of lighting. This stator wiring configuration can be used with one 100W headlight, and single taillight.

Connect the original BLACK/RED and BROWN ignition wires. Connect the BLACK wire from the stator to the original BLACK/RED wire. Connect the BROWN wire to the original BROWN wire. Disconnect the original regulator. Take it off the bike, you won't need it anymore.

To get maximum lighting output, you will need to use a second headlight and hook up the extra 100W output white wire from the new stator. *Please see instructions listed below.*

### HIGH POWER LIGHTING CONFIGURATION

**DIAGRAM 2-** The new stator has not one, but TWO lighting outputs (The WHITE wires). Each white wire can provide up to 100W of lighting. If you need extra lighting, you need to mount a second headlight on the bike, and feed the second white wire to that headlight. *To prevent the headlight bulb from blowing out, you will also need to install a second ERG120 AC regulator.*

Feed each white lead to one headlight, and wire an ERG120 AC regulator in parallel to ground. On the Honda the ground is the GREEN wire. You can leave the ORANGE and YELLOW wires unconnected. Make sure that the ends are capped off. If you only need one lighting output, cap the other WHITE lead off as well! ***If you need a lighting switch for the lights, connect it within the white stator wire BEFORE the regulator.***

Make sure all connections you make are good ones. Use high quality crimps or solder the connections.

Again: the GREEN wire you find in the wiring loom is the ground. Make sure that you ground the lights properly to this GREEN wire. The regulators need to be mounted somewhere on the frame, preferably on a flat metal surface, this for better cooling.

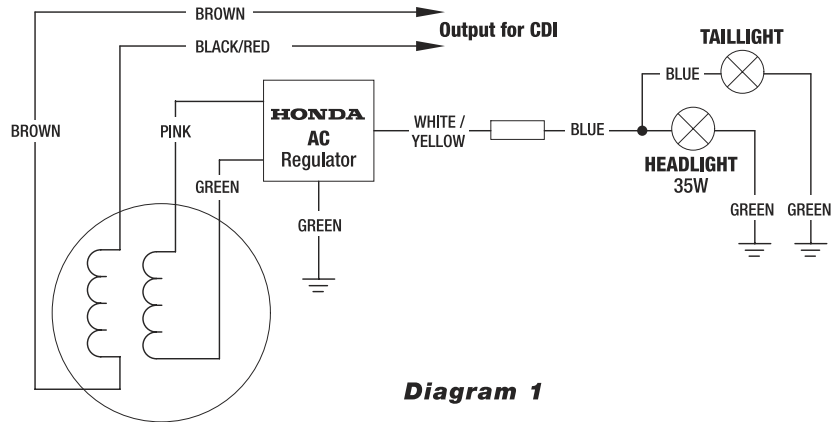


Diagram 1

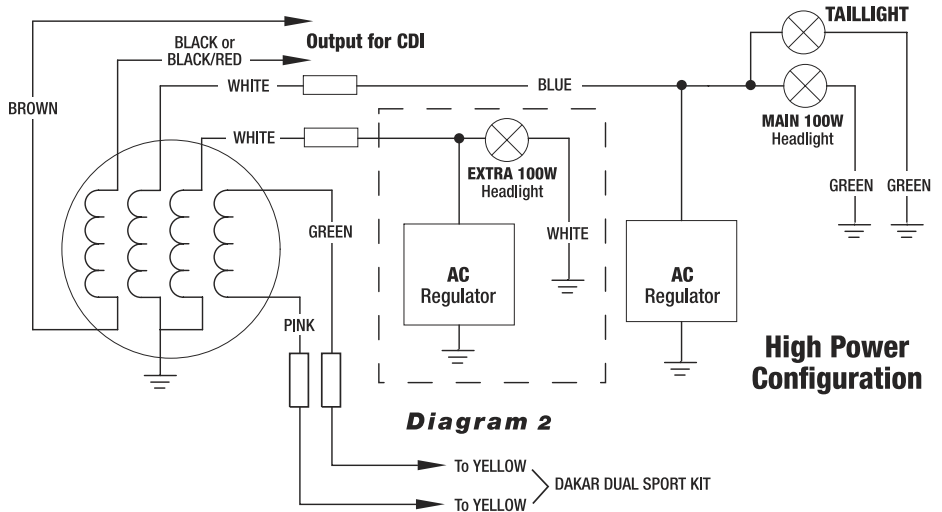


Diagram 2

## Troubleshooting

### Engine Will Not Start

If the engine still does not start, perform a few basic tests: Re-check the connections. Twisting wires together or taping wires will cause engine inoperability. Check the engine for spark and make sure you have fuel in the tank.

**IMPORTANT:** If the bike still will not rev or start, reverse the BROWN and BLACK/RED. With the amount of XR's in the field, sometimes the polarity is reversed in the wiring.

**You must replace the 55 Watt headlight bulb with a 35 Watt bulb if you use an OEM stator. Failure to do so will result in inoperative functions of the kit.**

## HEADLIGHT WIRING

### Main Wiring Harness Connection

Access the Dakar wiring located behind the headlight, by loosening two lower screws and remove two top inboard screws. This is required in order to provide enough freeplay to tilt the headlight forward for harness connections. Please refer to headlight adjustment for more information.

From the main wiring harness, connect the VIOLET and BROWN female connectors into the front brake light switch male connectors.

Plug-in main wiring harness connector. Be sure to fully seat the connection. You will hear the connector "click" into position on both the top and bottom.

### Horn Connection

From the turn switch wiring harness, connect the PINK and BLUE leads, into the horn spade connectors.

### Turn Switch Wiring Connection

Plug-in main turn switch wiring harness connector into the right side block connector on the Dakar unit. Be sure to fully seat the connection. You will hear the connector click into position on both the top and bottom.

### Main Wiring Harness Connection

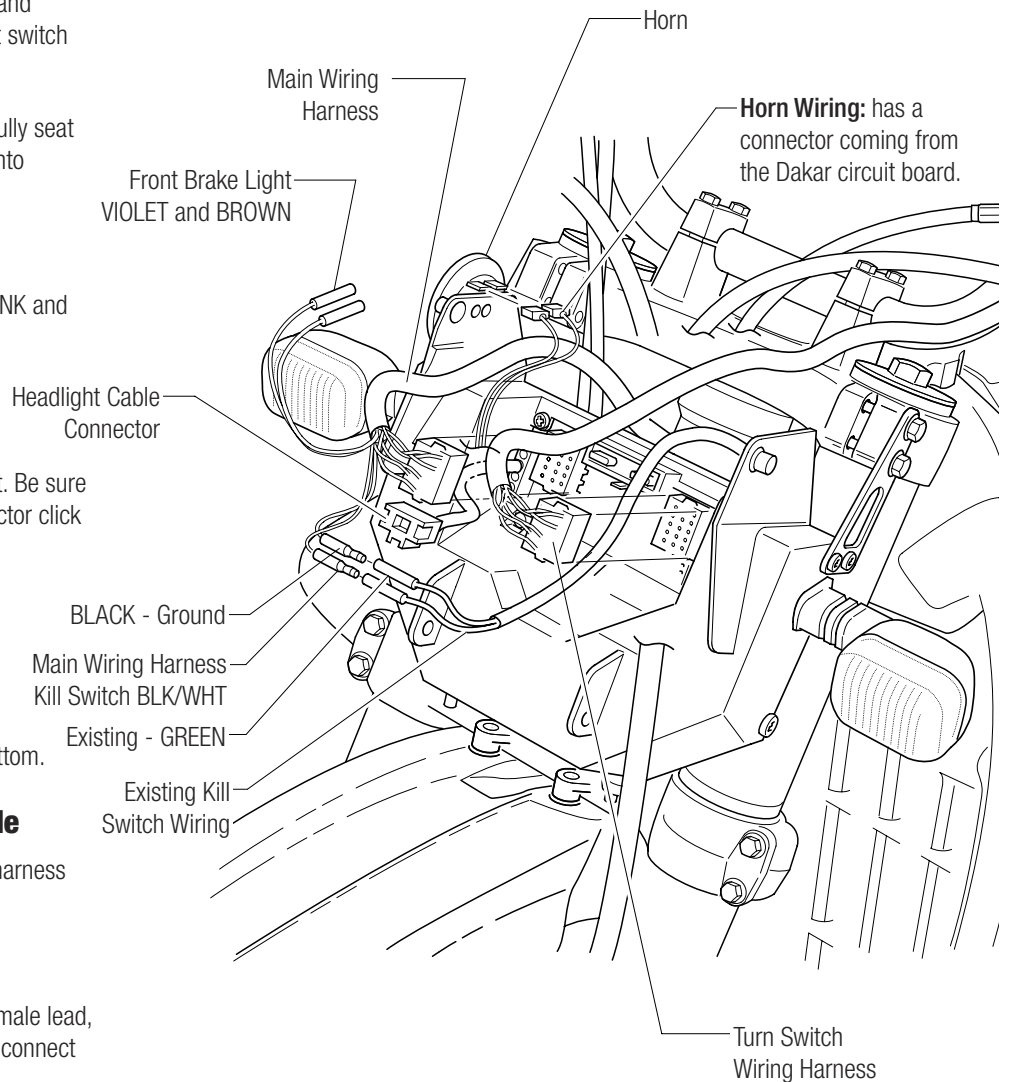
Plug-in main Main wiring harness connector into the left side block connector on the Dakar unit. Be sure to fully seat the connection. You will hear the connector click into position on both the top and bottom.

### Connect The Front Brake Switch Cable

Plug-in the two female leads from the main wiring harness previously installed.

### Connect the kill switch cables

From the main wiring harness, connect the BLACK male lead, into the existing kill switch GREEN ground and then connect the BLACK/WHITE male/female leads



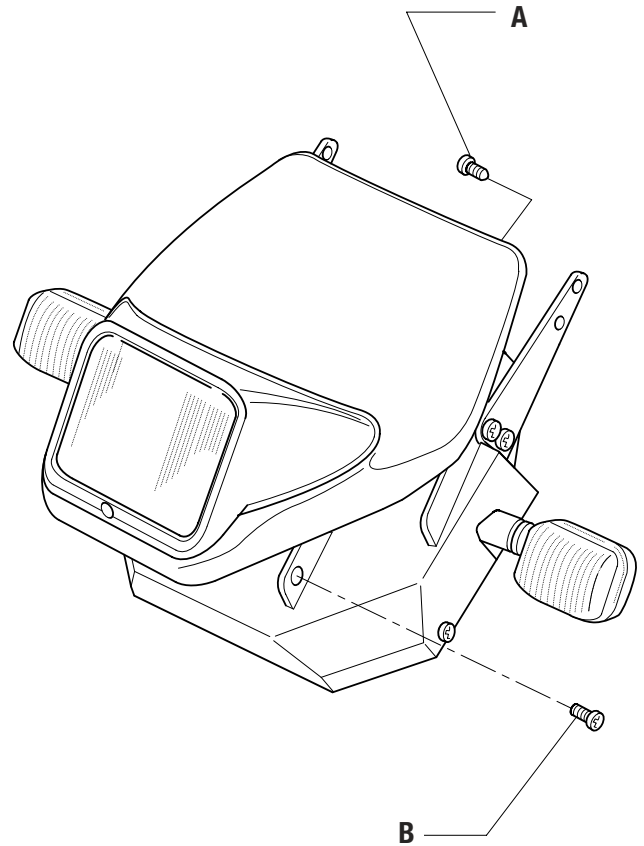
## HEADLIGHT ADJUSTMENT

### Attaching The Headlight

After the wiring harness has been securely fastened and the complete system has been tested, you can now tilt the top of the headlight into the riding position and fasten the two inboard screws (A) as shown. Complete the assembly by tightening the lower two screws (B).

### Accessing the wiring behind the headlight

When accessing the Dakar wiring located behind the headlight, you must loosen the two lower screws (B) and remove the two top screws (A). This is required in order to provide enough clearance while tilting the headlight forward.



## BEFORE RIDING YOUR BIKE

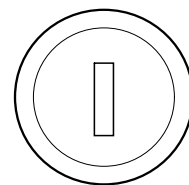
### Ignition Key

The Dakar Dual Sport Kit features a security key designed for theft prevention and unauthorized operation of the motorcycle. To start the motorcycle, rotate the key to the ON position as shown..

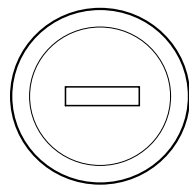
*IMPORTANT: Do not leave the headlight on without the engine running. It could cause damage to the battery. We also suggest turning up the idle speed slightly to increase system voltage while the engine is at idle.*

The key is designed only as a means to disable operation of the motorcycle. Use the turn signal kill switch to shut the motorcycle off. Leaving the key in the ON position will drain the battery, so be sure to turn the switch to the OFF position while leaving the bike unattended. Now start your bike up and go show your friends!

Key OFF Position



Key ON Position





## **Overview**

Vehicle registration policies in most states typically allow conversion of an off-road only title into a street title or in some states a designated "Dual Registration." To register a dirt bike for street use, it must be equipped with the necessary lighting and other equipment required by your state's vehicle code.

### **Every state requires what is called "The Federal Minimum Requirement" which consists of:**

- Headlight with a high and low beam
- Headlight indicator light visible to the operator to show when the high beam is operating
- Horn - Some states mandate an electric horn
- Battery powered taillight and brake light which must operate for 20 minutes on battery power alone
- Rear view mirror
- Turn signals for motorcycles manufactured after 1/1/73 (Most States)
- Some states require speedometers and odometer's
- Tires should be DOT approved
- Lights should be DOT approved
- Fuel tank should be DOT approved\*

\* *Even though the Federal Motor Vehicle Safety Standard specifies steel gas tanks for street motorcycles, most states will not enforce this for converted dirt bikes*

### **Registration procedures vary from state to state but typically involve:**

- Signing two "Statement of facts" certifying that your bike meets state/federal standards.
- Bringing the bike to the DMV or (AAA Insurance Office) for an inspection for proper lighting
- Once the paper work and inspection are complete the final step is to exchange your off-road title for a street title

### **Exchanging your title**

Most states have a "Dual Registration Form" You should be able to download this form from your states DMV over the internet or filling it out at your DMV office. Then pay the transfer fee and obtain your registration, put the plate on your bike and go show your friends!

## **Nothing Happens When You Turn the Power Switch On**

### Possible Causes

- Fuse is blown. Check for bare wire or terminal shorting against the frame or another wire.
- Multi-pin connector not properly connected to the circuit board.
- Poor battery connection. Make sure the connectors are fully seated.
- Battery is flat. Measure voltage with voltmeter, or connect a 12 volt light across it. A fully charged battery will measure between 12.9 and 13.2 volts.
- Poor connection at the blue wire junction above the shock.

## **Headlight does not work on high beam or low beam:**

### Possible Causes

- Check the bulb. Usually one of the bulb filaments is bad, so replacing it will fix the problem. Make sure you replace the bulb with the exact same wattage.
- The handlebar switch is dirty inside. Clean it out with some WD40.

## **Headlight is dim at idle:**

### Possible Causes

- Increase the idle speed a little. Dual sport setups work a lot better if the idle speed is a bit "on the high side". This is due to the design of most of the lighting /charging coils, which really start putting out power at around 1200 rpm.
- Battery is not charged. Charge battery using a standard battery charger. Connect the black (negative) lead from the charger to a good frame ground, and connect the red (positive) lead from the charger to the blue lead that connects to the horn. (just slide the blue connector sleeve back, and connect the charger up to the exposed terminal) You do not need to disconnect the horn. Turn key switch to "ON" Position.
- Check bulb wattage. Certain kits come with a lower wattage bulb than a standard H4 bulb. Electrex has all bulbs in stock.

## **Taillight does not work:**

### Possible Causes

- Check the bulb. Due to vibration the bulb could have gone out. Check the connections in the bulb holder as well, water could oxidize the contacts, preventing the bulb from coming on.
- Check the connections, especially the ground under the seat. You'll find a gray wire (taillight positive), a black wire (taillight and brakelight ground) and a violet wire (=purple, brake light positive). Check these connections carefully.

### **Brake light stays on:**

#### Possible Causes

- unplug the brake light switches one by one. If one of the switches is bad, it will close its contacts and leave the brake light on. The brake light switch that makes the brake light turn off as soon as you unplug it, is bad.

### **Brake light does not work:**

#### Possible Causes

- Check the bulb. Due to vibration the bulb could have gone out. Check the connections in the bulb holder as well, water could oxidize the contacts, preventing the bulb from coming on.
- Check the connections, especially the ground under the seat. You'll find a gray wire (taillight positive), a black wire (taillight and brakelight ground) and a violet wire (=purple, brake light positive). Check these connections carefully.

### **Blinkers don't work:**

#### Possible Causes

- Battery is not charged. Charge battery using a standard battery charger. Connect the black (negative) lead from the charger to a good frame ground, and connect the red (positive) lead from the charger to the blue lead that connects to the horn. (just slide the blue connector sleeve back, and connect the charger up to the exposed terminal) You do not need to disconnect the horn. Turn key switch to "ON" Position.
- flasher relay is bad. Replace with new one.

### **Blinkers don't work at idle, or flash intermittently:**

#### Possible Causes

- Battery is not charged. Charge battery using a standard battery charger. Connect the black (negative) lead from the charger to a good frame ground, and connect the red (positive) lead from the charger to the blue lead that connects to the horn. (just slide the blue connector sleeve back, and connect the charger up to the exposed terminal) You do not need to disconnect the horn. Turn key switch to "ON" Position.
- increase the idle speed a little. Dual sport setups work a lot better is the idle speed is a bit "on the high side". This is due to the design of most of the lighting /charging coils, which really start putting out power at around 1200 rpm.



**Horn doesn't work:**

Possible Causes

- Battery is not charged. Charge battery using a standard battery charger. Connect the black (negative) lead from the charger to a good frame ground, and connect the red (positive) lead from the charger to the blue lead that connects to the horn. (just slide the blue connector sleeve back, and connect the charger up to the exposed terminal) You do not need to disconnect the horn. Turn key switch to "ON" Position.
- Adjust small set screw on the back side of the horn. Turn it both ways until you get a nice loud "honk"

**Lost key while riding:**

Possible Causes

- The Dakar setup will perform fine, but you'll have to top up the battery regularly (weekly) to prevent it from going flat. Call ElectroSport for a replacement.

**Kill button does not work:**

Possible Causes

- Ensure that the black/white wire of the wiring harness is plugged in correctly.
- If the kill button does not work, but turning the key switch does kill the engine, you have a dirty handlebar switch. Spray inside it with WD40.

**Technical Support Contact Information**

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