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Synopsis

Xenon lamp (HID) is much brighter than incandescent lamps, the light is a more natural color like sunlight, allowing better night vision, and it uses only 60W of power to produce better, brighter light than 100W halogens.

Transformation in the Ballast of 12v to 20,000v uses 25W and the lamp itself uses 35W for a total of 60W sustained draw to the system.....not bad for a little light thats noticeably brighter than two large 55W halogens.

1) Install lamp on left side, using the three left side fairing screws.

2) Move some of the original components around and install the transformer ahead of battery between frame rails. It's tight, but it fits!!

3) Make the electrical connections

Sorry the English translation was not very good and has been revised extensively below (Oct 25,2004).

Click [here to download](#) english instructions for more color photos to accompany this better translation (.pdf document - 468K). We have added some additional tips and pictures below in ADDENDUM.



TOURATECH Xenon HID Lamp for F650GS

[040-1504](#) instruciones (NEW TRANSLATION).

Click [here to download](#) english instructions (.pdf document - 436K)

Please see addendum below.



F650GS HID kit shown on the left side. (in this photo the right side is a fog lamp 040-2004)

Use these suggestions at your own risk.

- These instructions are new and have not been tested by independent installers.
- The instructions are not complete, they are only a supplement to the english instructions.
- Touratech and Touratech-USA assume no responsibility for errors using these suggestions.

If you have any doubts about your ability to install electrical parts, please contact a professional installer.

Necessary tools:

Torx 20,25,30
screwdrivers
thin wrenches 8,10 mm

4x washer for M5

Allen keys 3,4 mm

Parts included in kit:

1x auxiliary headlight xenon with ballast hardened for vibration including wiring harness and relay
1x bracket for auxiliary headlight on F650GS
1x bracket for installation of Ballast in F650GS frame
1x bracket for F650GS starter solenoid
2x spacers 37mmL
1x bolt hex M5x10
4x bolt hex M5x45

1x nut self-locking M5
1x bolt hex M5x25
2x bolt hex M6x10
2x bolt hex M6x14
4x washer for M6
2x nut self-locking M6
1x spacer 7mm L
1x spacer 19mm L
1x spacer 24mm L
3x connector ring eye 6.5mm
1x female spade connector

1. Assembly of the Ballast bracket

Remove seat, tank cover, side covers with turnsignals, windscreen, headlights and intake tract. Remove the battery and solenoid (from its tabs). Push the intake, solenoid and battery cables out of the way, and discard the plastic cover (with solenoid tabs). Bolt the relay onto the backside of the ballast bracket with the M5x10 screw, washer and nut (Photo 1). Pre-cut the wiring harness at about 12 in (30cm) from the grey+blue waterproof connector and remove sheath. Then final-cut blue wire to 12cm and install spade connector. Cut brown wire to 25cm and install ring connector. Connect the blue wire with spade connector onto Relay terminal "87". Install the ballast bracket with the relay down/forward. Route the blue cable to the left under and outward from the bracket, the other cables to the right. Install the new bracket using the original Torx screws. Route both brown cables near the 12v- battery terminal, trim accordingly and install the other connector ring on the brown wire. Do not attach yet.

2. Assembly of the fuse holder:

Route the red cable from the relay to the right side under the air cleaner box. Route cable past the battery positive terminal (Photo 2). Attach the fuse holder with a cable tie to the airbox support structure (Photo 3) such that with the seat removed there is good access to the fuse holder. Cut the red cable to proper length at positive terminal at battery and install connector ring. Remove the fuse and replace only after the completion of the electrical work.

Use extra black sheathing from step 4 to protect the red wire between the battery and the fuse.

3. Assembly of the Ballast bracket:

Place the Ballast into the bracket with the padded side downward and the cable exiting left from the bracket.(Photo 4)
Fasten the solenoid mounting plate with two bolts M5x45 screws and two 37mm spacers.

4. Connection of the Ballast signal wire:

Route the grey/yellow cable from the blue relay forward into the headlight shroud. Locate the wires to the original headlight plug and carefully remove approx. 2-3cm of the black tape. Shorten the grey/yellow cable to the appropriate length and connect it with the provided Scotchlock connector to the white cable (hi-beam) at the headlight plug.(Photo 5)

5. Assembly and connection of the Xenon headlight:

Route the hi-voltage lead from the ballast leftward. Be sure it remains clear of the steering at all steering angles.(Photo 6)
Install the side panels and attach the Xenon

6. Finishing assembly

Install the battery and connect the red wire to the positive terminal. Connect both brown

light to the mounting plate with the two M6x14 and washers.
 Bolt the Xenon light bracket to the left blinker mount (Photo 7) with 2x M5x45, 1x M5x25 and the appropriate spacers (24mm at rear, 07mm center, 19mm in front) in the original fairing screw connections.

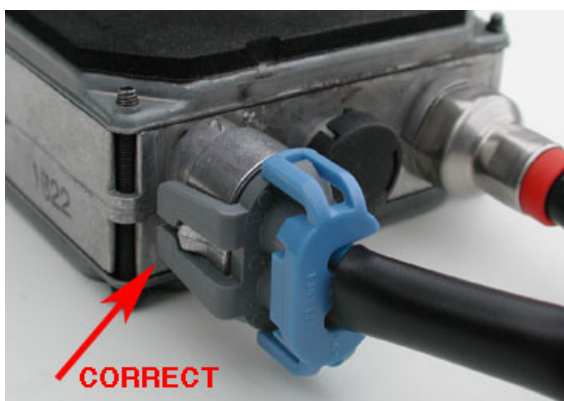
Now engage the red hi-voltage connector carefully into the lamp housing. NOTE: Follow carefully the HELLA instruction booklet for engaging this red connector. Never operate the ballast without the lamp attached.

Install the heatshield with the M6x10 screws and washers (Photo 8).

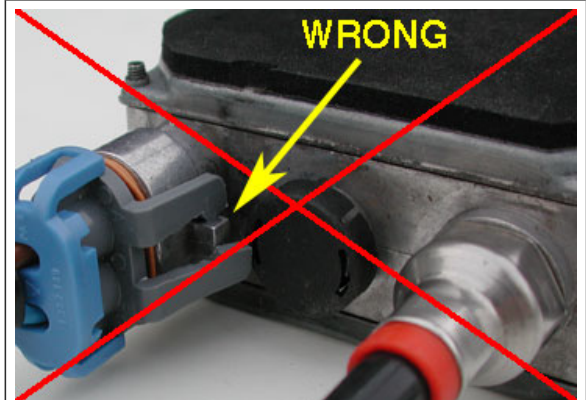
the positive terminal. Connect both brown wires to the negative terminal. Insert fuse into the holder. Turn on the headlight and switch to hi-beam to check for function of the Xenon lamp. The xenon lamp will activate only with the hi-beam.

Secure all cables with cable ties. Reinstall intake tract, replace solenoid onto the new aluminum tabs, and install tank cover. Reinstall the seat.

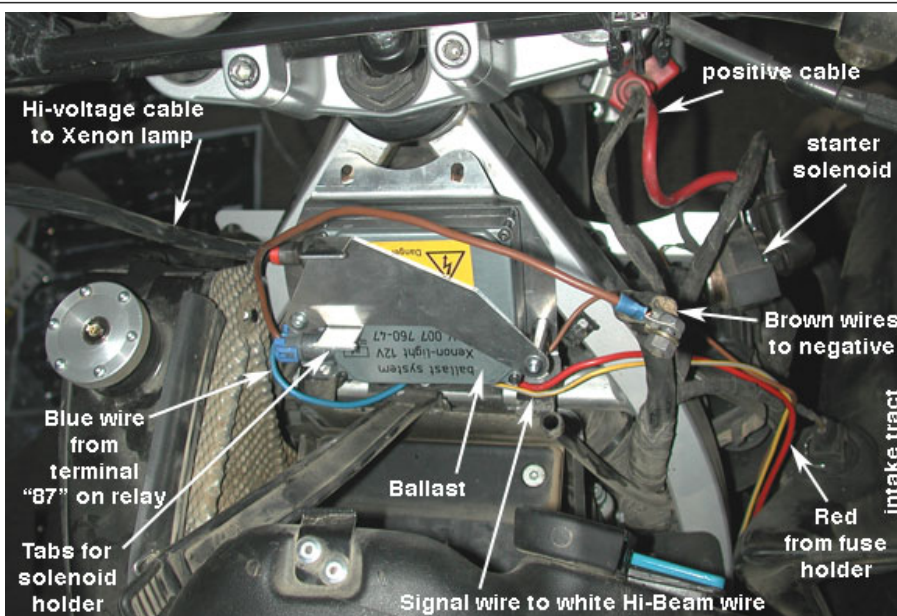
The auxiliary headlight is aligned by shifting the bracket within slotted holes.



Correct connection of power supply to the ballast. Gray fingers on the waterproof connector easily slide past and engage on wedge-shaped protrusion.



WRONG connection. Forcing the gray fingers over the **SQUARE BARRIER** and then applying power will cause an expensive non-warranty failure of the ballast.



ADDENDUM # 1. Mounting the Ballast bracket

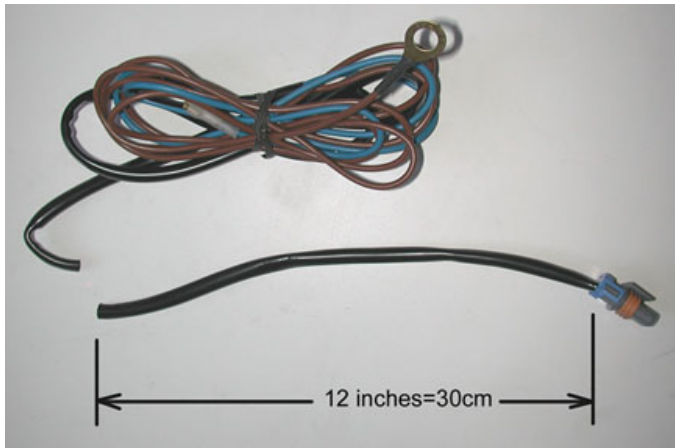
Photo identifies most of the components at partial state of assembly.

Battery has been removed and the intake snorkel is pushed to the right for access.

Ballast fits nicely in the space ahead of the battery with the TOURATECH-supplied bracketry.

The yellow-gray signal wire will be routed forward into the original headlight shroud. The red wire will be routed rearward to place the fuse holder near the seat for access.

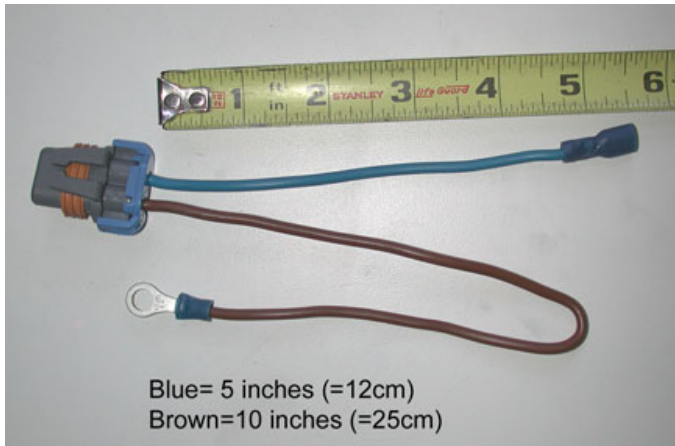
At end of assembly, the starter solenoid will be replaced on the new aluminum tabs.



ADDENDUM # 2. Cutting the wiring harness

Because the ballast is mounted directly adjacent to the battery, we will cut off most of the wiring harness. Pre-cut at about 12 inches. Remove the black sheath.

Use this extra sheathing in addendum 5 to protect the red wires to the fuseblock.



ADDENDUM # 3. The wiring harness simplified

Install the terminal connectors as shown at 5 inches and 10 inches.

The brown wire from this connector will go to ground on the battery along with the brown wire from the relay.

The Blue wire with the spade connector goes to terminal 87 on the blue relay. Look closely at the relay there are tiny numbers next to each spade terminal.



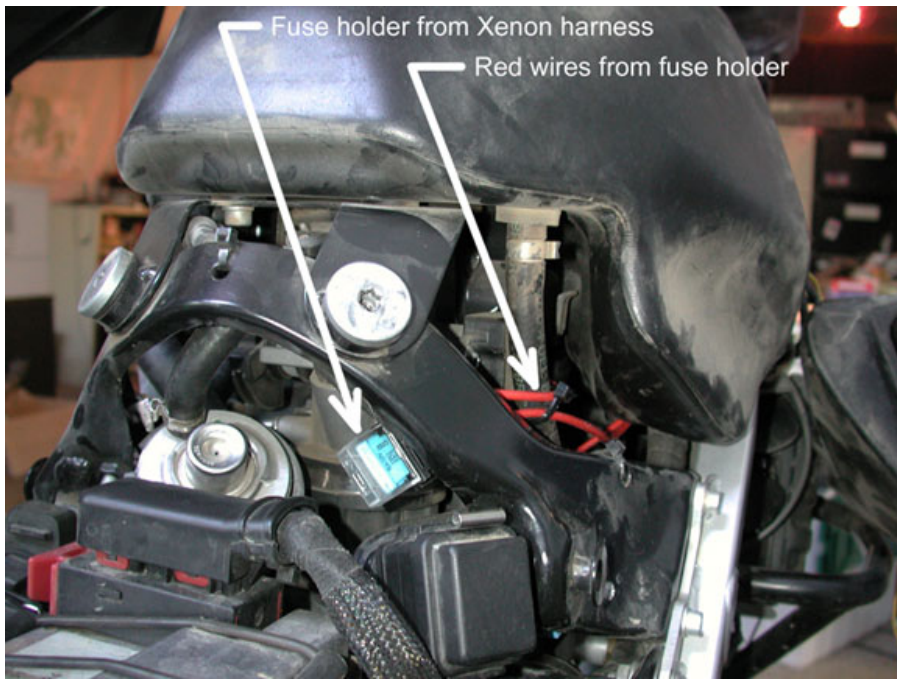
ADDENDUM # 4. The Hi-voltage cable

A suggested route for the hi-voltage cable. There is 20,000 volts in this cable. This is how the Xenon light produces so much light.

Route the cable carefully where the insulation can't be damaged. Any small cut in the cable will leak electricity, and then it can burn a large hole in the cable. Choose a protected route where it cannot be abraded. This cable cannot be disconnected from the ballast or altered in length.

READ the HELLA booklet regarding engagement of this (red and black) connector to the lamp housing. Notice the wire exits at 3 o'clock angle in this installation.

The connector is designed to be positioned at four possible angles: 12 o'clock, 3 o'clock, 6 o'clock, 9 o'clock. But 3 and 6 o'clock are best for the F650GS. If connector is at other angles then it is NOT engaged. Switching the light without proper engagement will burn the connector. It is very important that engagement of this connector is understood as in the HELLA booklet.



ADDENDUM # 5. Suggested location for the fuse holder

A better photo for location of the fuse holder which is accessible when the seat is removed. Notice the red wires to the fuse holder. Use the extra black sheathing to add a layer of protection.

It is most important to inspect the path that the wire from the battery to the fuse is routed safely, and secured so that the insulation cannot be damaged by vibration.

http://www.touratech-usa.com/instl/instl_040-1504.html