‘06-‘12 R6R
Yamaha Wiring Harness
Connector Identification Guide

Whether you have recently received a freshly converted harness or are working with a more seasoned harness, you may find it useful to familiarize yourself with the harness and the different connectors that it is comprised of. This guide is focused on the wiring harness for a 2008-2010 Yamaha R6. Please note that when referencing cylinder # designations, the outermost cylinder (left side of the car) is #1. The second one is #2 and so on.

If the harness is installed into the racecar and has been used, remove it and place it onto a bench or table. This will allow you to easily identify any potential problems or other areas which may require attention. Start at one end of the harness and work towards the other, looking for areas of worn-through tape, broken wires or connectors and any signs of melting. If any of these conditions exist, gently peel pack a section of tape to further assess the damage. Any areas where bare wires are exposed have potential to cause catastrophic damage to the harness and other electronic components of the car. It’s best to consult a professional at Hyper Racing for repair instructions and services.

ECU CONNECTORS

The ECU Connectors are some of the most identifiable because of the multitude of wires leading to them. These will be the largest and most populated connectors on the harness. On harnesses converted after Nov. 2010, two separate wires will be tied up near the ECU connector. These wires are for use with the Power Commander 5. Consult our Power Commander 5/Auto Tune Instruction Page for further information regarding the placement of these two wires.

TIP-OVER SENSOR & CONNECTOR

The Tip-Over Sensor is designed for use with the factory stock motorcycle. In our application, its function is undesirable. The sensor will remain on the harness but is disabled. Although the word “UP” is cast into the plastic cover, its mounting position is unimportant.

STARTER RELAY CONNECTOR

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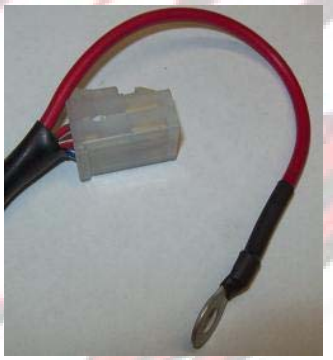

Relays use low current to control items which require high current such as a starter motor. The Starter Relay Connector is white in color and is located in close proximity to the ECU Connectors. In most cases, the Starter Relay Connector has a plastic cover on its top to protect the wires from dirt and moisture. The Starter Relay is black plastic and contains a 15AMP standard automotive fuse. Also, on the Starter Relay, the positive battery cable should be connected to the post labeled "B" and the starter motor cable should be connected to the post labeled "M". The red wire with a ring terminal must be connected to the same post (B) as the positive battery cable.

RECTIFIER CONNECTOR

The Rectifier converts Alternating Current Voltage (AC Voltage) from the engines generator or alternator into Direct Current Voltage (DC Voltage) required to charge the battery and operate the electrical system of the car. The rectifier is constructed of aluminum and features a number of cooling fins on its outer surface. This is used to dissipate the large amount of heat produced in the conversion from AC volts to DC volts.

CHASSIS HARNESS CONNECTOR

As an optional item, for use only with a Hyper FIT Chassis Harness, the Chassis Harness Connector connects the wires from the harness to the Chassis Harness and eventually to the switches through a neat and professional connection. Without a Hyper FIT Chassis Harness, you will notice a series of loose wires to be connected manually to the switches on the dash. Consult our Switch Wiring Schematics for instruction regarding the wiring of these loose wires.

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U6SA Technical Inspection RPM/Tachometer Plug

On the same harness leg as the Chassis Harness Connector or Switch Wires, another optional item is the standardized U6SA RPM Plug. This connection contains provisions for a tachometer to be connected using a professional connector. Without a tachometer, the plug contains a "dead end" cap to prevent dirt and moisture contamination.

CRANKSHAFT POSITION SENSOR CONNECTOR

With one of the smallest and most easily damaged connectors on the 05-06 ZX6R Wiring Harness, the Crankshaft Position Sensor sends information regarding the location of the crankshaft in its rotation. Without this critical feedback, the ECU will not provide ignition spark to the coils and spark plugs. The sensor is located on the right side of the engine (near the driver's legs) and uses a wiring pigtail before reaching the location of the connector. Because of its size and location it is often damaged and overlooked upon assembly and disassembly.

GROUND

Grounding is extremely important and often one of the most overlooked items on the car. The wiring harness has only one ground. We suggest grounding to the threaded bolt hole on top of the transmission directly beside the crankcase vent. Connect a ground cable from the negative battery post to this same bolt on top of the transmission. We also recommend using this location as a reliable grounding point for other accessories requiring ground.

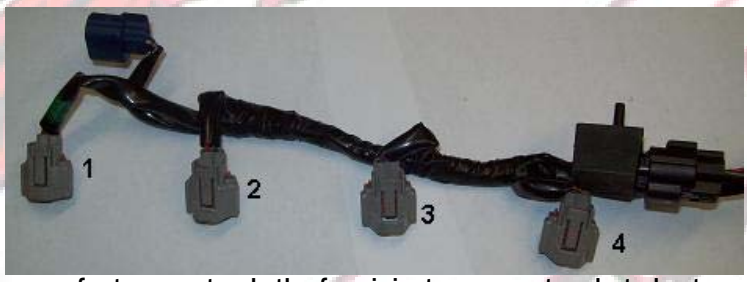
CHARGING SYSTEM CONNECTOR

The heart of the Charging System, the stator, is located on the left side of the engine and features three white wires leading into the connector pictured above. Although a rubber boot is used to shield it from the elements, the Charging System Connector is un-insulated from dirt and water which contributes to its vulnerability. In addition to being un-insulated, the connector is typically located in a position among a variety of coolant lines and other wiring related items which make it difficult to see and keep clean.

YAMAHA CHIP CONTROLLED INTAKE (YCC-I) CONNECTOR

YCC-I refers to the variable intake velocity stack mechanism employed by Yamaha. Mounted to the rear of the airbox is an electric motor with an electrical connector like the one pictured above.

LOWER INJECTOR CONNECTORS



The lower injector sub-harness features not only the four injector connectors but also two air pressure sensors. The blue connector is for the Intake Air Pressure sensor and must be connected to a vacuum line from the throttle bodies. The black connector connects to the Barometric Pressure Sensor which should remain open to the atmosphere.

UPPER INJECTOR CONNECTORS

The Upper Injector Connectors have a sub-harness all to themselves which connect to the main harness through the connector on the right. It will be important to note that the #1 upper injector features a White wire with a blue stripe leading to its connector. The rest of the connectors will fall into sequence.

ENGINE COOLANT TEMPERATURE SENSOR CONNECTOR

This sensor is located directly underneath the #3 intake boot on the rear of the cylinder head. Because of its location, access to the sensor is very limited. Especially when using a thermostat reverser which turns the water outlet from the cylinder head toward the right side of the engine.

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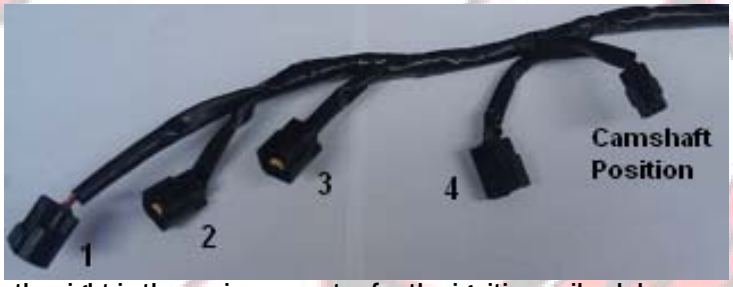
YAMAHA CHIP CONTROLLED THROTTLE (YCC-T) CONNECTORS

Yamahas YCC-T is an electronically controlled throttle actuator. It consists of two throttle position sensors and an electronically controlled motor. The longest wiring lead connects to the sensor between cylinders # 1&2. This is the input sensor for the throttle pulley. The similarly appearing sensor located near cylinder #4 is the sensor for the throttle valves. The third connector is connected to the actuator motor itself and is located in the center of the front side of the throttle bodies.

IGNITION COILS AND CAMSHAFT POSITION SENSOR



The large plug on the right is the main connector for the ignition coil sub-harness. It connects the ignition coils to the main engine harness. The photo on the left shows the individual ignition coil connectors at the other end of the sub-harness. These connectors are each 2pin connectors. The Camshaft Position Sensor is a 3pin connector which connects to a corresponding 3pin connector coming from the engine valve cover.

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