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EVO: Electrical System - Sub-03C

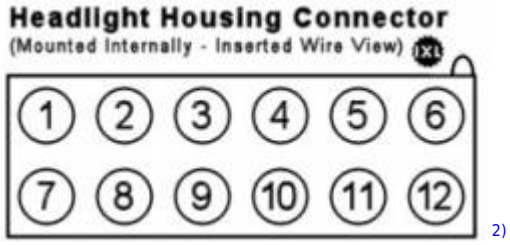
Wiring of the Headlight Housing Connector

The original wiring diagrams do not have Pin# identificaitons. So in this description we will identify pin numbers for the internal connector (mounted to the headlight housing) starting with the Orange wires and looking at the connector from the backside, where the wires are inserted. The two Orange wires are Pin#1 & Pin#4 followed by the Blue wire as Pin#5, naming them from left to right. The row of wires below that will be numbered Pin#7-12. To be clear, the Pin#1 is Top Left.

Of course, when looking at the backside of the external mating connector (from the wire side), the pin locations will be reversed, as they are counted from right to left. Just to be clear, the Pin#1 on the mating external connector is Top Right.

(Note - This is NOT the way the Amp/Tyco Mate-N-Lok connector pins are numbered from the manufacturer if you happen to find that information.)

1)



2)

External View of Connector (Reverse Pin#)

3)

1986-1990 Wiring of the Headlight Housing Connector

1986-1990 Wiring of the Headlight Housing Connector

Mounted (inside) Connector	**External (outside) Connector**
1 - ORANGE - Power from Accessory Fuse 2 - No Wire but jumpered on face from Pin#1 3 - No wire but jumpered on face from Pin#1 4 - ORANGE - Jumper Wire from #1 5 - BLUE - Power from Lights Fuse 6 - No Wire but jumpered on face from Pin#5 7 - PINK - From Coil for Tachometer Trigger 8 - VIOLET - From Lt TS Switch (flashing ON) 9 - TAN - From Neutral Switch 10- GREEN - From Oil Pressure Switch 11- WHITE - From HiBeam wire at Headlight bulb 12- BROWN - From Rt TS Switch (flashing ON)	1 - BLACK to Neutral Light (power) 2 - BLACK to Oil Light (power) 3 - ORANGE to Speedometer Light (power) 4 - ORANGE to Tachometer Light (power) 5 - BLACK to Left Front Running Light (power) 6 - BLACK to Right Front Running Light (power) 7 - PINK - To Tachometer Trigger 8 - BLACK w/VIOLET Tape to Left Front TS (+ another wire) 9 - BLACK - To Neutral Light (Gnd=InNeutral) 10- BLACK - To Oil Light (Gnd=LowOilPressure) 11- BLACK - To HiBeam Indicator Light 12- BLACK w/BROWN Tape to Right Front TS (+ another wire) (+) One BLACK wire from Pin#8 and one BLACK wire from Pin#12 also goes to either side of the TS Indicator Light

(These are the orignal OEM wire colors - Since many bikes have been rewired over the years, your colors may vary and even the pin function locations may have been reorganized if your bike wiring has been butchered (errr - customized).)

Another way of presenting the above data (related to the **1986-1990 wiring**) is to summarize the functional connections on this Headlight Housing Connector:

Left Turn Signal uses Pin#5 & Pin#8
Pin#5 - sends power to the Left Running Light in the TS housing (BLUE wire on inside connector - BLACK wire outside). The TS housing is grounded thru the handlebar ground.
Pin#8 - blinking signal to the Left TS - This is a BLACK wire with a VIOLET Tape Band. This same pin has a wire to one side of the TS Indicator.
……. With other wires, this same signal (from the Handlebar Left TS Switch) is used to drive the Left Rear Turn Signal)

Right Turn Signal use Pin#6 & Pin#12
Pin#6 - sends power to the Right Running Light in the TS housing (Jumpered to Pin#5 (No Wire) inside - BLACK outside). The TS housing is grounded thru the handlebar ground.
Pin#12 - blinking signal to the Right TS - This is a BLACK wire with a BROWN Tape Band. This same pin has a wire to one side of the TS Indicator.
……. With other wires, this same signal (from the Handlebar Right TS Switch) is used to drive the Right Rear Turn Signal)

Oil Indicator Light (OL) uses Pin#2 & Pin#10
Pin#2 - sends power to the OL (Jumpered to Pin#1 (No Wire) inside - BLACK outside)
Pin#10 - active signal from Oil Pressure Sensor (GREEN wire inside - BLACK outside) (Gnd=LoOilPressure)

Neutral Indicator Light (NL) uses Pin#1 & Pin#9
Pin#1 - sends power to the NL (ORANGE wire inside - BLACK outside)

Pin#9 - active signal from Neutral Switch (TAN wire inside - BLACK outside) (Gnd=InNeutral)

HiBeam Indicator Light (HL) uses ONLY Pin#11
Pin#11 - WHITE wire on the inside connector comes to it from the headlight bulb socket. It has power when the HiBeam is ON. The outside connection to Pin#11 is a BLACK wire that goes to the HiBeam Indicator Bulb (HL). The other side of the HL is grounded to the Upper Fork Bracket.
(NOTE: the Hi or Lo Beam power for the bulb comes from the Left Handlebar Hi/Lo Switch directly to the headlight bulb socket and IS NOT wired thru this 12-pin connector.)

Speedometer Light uses Pin#3
Pin#3 - sends power to the Speedometer Light (Jumpered to Pin#1 (No Wire) inside - ORANGE wire outside). The other side of the light is grounded thru the speedometer itself, thru the handlebar ground.

Tachometer Light & Signal uses Pin#4 & Pin#7
Pin#4 - sends power to the Tachometer Light (ORANGE wire inside - ORANGE wire outside). The other side of the light is grounded thru the tachometer itself, thru the handlebar ground.
Pin#7 - sends the RPM Signal Pulses from the Ignition Control Module to the Tachometer (PINK wire inside - PINK outside).

1993 Wiring of the Headlight Housing Connector:
For 1993 (and presumably for 1991-1992) the functional wire locations on this connector (therefore, the wire colors) were arranged a little differently (from 1986-90) but all the same functions were implemented.

In 1991, a Turn Signal Canceller Module (TSM) was introduced on the Sportster. This allowed pulses from the Speeodmeter to cancel the flashing turn signals (not wired thru this 12-pin connector). This TSM now took over the function of the simple automobile-type flasher that was used previously. The new TSM did not route the active TS power signals thru the Turn Signal Switches (as previously) but rather, it simply obtained a low-current pulse from the momentary TS handlebar switches to start or stop the flashing function within the TSM. When flashing was needed, the TSM sent ON/OFF power to the Turn Signal bulb in order to flash the Turn Signal. This new TSM also allowed the use of 4-way flashers.

1993 Wiring of the Headlight Housing Connector (presumed for 1991-1992 also)

Mounted (inside) Connector (3A)	**External (outside) Connector (3B)**
1 - ORANGE - Power from Accessory Fuse 2 - No Wire but jumpered on face from Pin#1 3 - No wire but jumpered on face from Pin#1 4 - ORANGE - Jumper Wire from #1 5 - BLUE - Power from Lights Fuse 6 - No Wire but jumpered on face from Pin#5 7 - VIOLET - From TSM for Left Side (flashing ON) 8 - PINK - From Coil for Tachometer Trigger 9 - WHITE - From HiBeam wire at Headlight bulb 10- TAN - From Neutral Switch 11- GREEN - From Oil Pressure Switch 12- BROWN - From TSM for Right Side (flashing ON)	1 - BLACK to Neutral Light (power) 2 - BLACK to Oil Light (power) 3 - ORANGE to Speedometer Light (power) 4 - ORANGE to Tachometer Light (power) 5 - BLACK to Right Front Running Light (power) 6 - BLACK to Right Front Running Light (power) 7 - VIOLET - Left Turn Signal (FlashPower=ON) 8 - PINK - To Tachometer RPM Trigger 9 - BLACK - Power to HiBeam Indicator (when HiBeam ON) 10- BLACK - active Neutral Indicator (Gnd=InNeutral) 11- BLACK - active Oil Indicator (Gnd=LowOilPressure) 12- BROWN - Right Turn Signal (FlashPower=ON) ... Turn Signal Indicator Light was wired separately.

(These are the orignal 1993 OEM wire colors - Since many bikes have been rewired over the years, your colors may vary and even the pin function locations may have been reorganized if your bike wiring has been butchered (errr - customized).)

Headlight Housing & Connector Part Numbers

For 1986-1993, the Headlight Housing now uses this P/N 67743-75.
This housing, although it has an earlier -75 suffix, superceded the original version which was P/N 67743-84. The -84 version used a Speedometer Cable Retainer, P/N 56073-83. It is believed that the -75 version (used before & later superceding the -84 version) does not use this retainer. The -84 version was stock from 1984 thru 1993 and sometime later the 67743-75 version superceded it for replacement parts. Likely, they didn't want to make one version with the retainer & one without it.

In the parts catalog, on the Wiring & Misc Electrical page, the connectors & pins are listed:

Headlight Housing Connector Parts:

For the connector mounted on the Headlight Housing:
72276-74 - Connector Shell using male pins
72039-71A - Male pin for Connector shell (x12)
72275-74 - Jumper Connector Plate - For Two Terminals
72277-74 - Jumper Connector Plate - For Three Terminals

For the external mating connector:
72278-74A - Connector Shell using female pins
72038-71A - Female pin for Connector Shell (x12)
67839-74 - Weatherproofing boot on External Mating Connector

An XLForm discussion related to this subject occured in this thread:
https://www.xlforum.net/forum/sportster-motorcycle-forum/sportster-motorcycle-electrical/sportster-motorcycle-lighting/201229-oem-headlight-bucket?t=2078276

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[1)](#) [3)](#)
pic from Mission1 in this XLF thread:
https://www.xlforum.net/forum/sportster-motorcycle-forum/sportster-motorcycle-electrical/sportster-motorcycle-lighting/201229-oem-headlight-bucket?t=2078276
Annotated by IXL2Relax
[2)](#)
Diagram by IXL2Relax