

## Opel GT Headlight Rewiring Tips:

**ALL OPEL GT's NEED their headlights rewired!**

The unique horizontal twisting and turning of GT headlights, after 30 years' time, cracks the old dried-out rubber insulation on the high current headlight wires, causing electrical shorts in the un-fused circuit, and has even caused fires in the engine compartment.

Because of these severe consequences, you need to perform this repair ASAP as a preventative measure !!

To visually inspect, turn ignition key off and open the headlights and unscrew 3 screws holding down metal headlight lid.

The area of most critical wear, is where the wire loom rotates behind the bulb; you can peel back some insulation here to view cracked rubber and bare wires. Additional symptoms may include: Failure of headlights, Failure of main (7-wire) headlight relay, and/or the amp gauge "pegging" when lights are switched on. (Refer to article for other GT headlight/micro-switch diagnoses).

**\*\*NOTE:** This procedure is for "driver" Opel GT's, as it leaves in place, some of the original circuit. If GT will be restored factory-original (or judged in a car show), either the original harness will have to be opened up and then re-taped, or completely replaced with an original-style replacement headlight wiring harness. Read all the notes, and have all parts ready, before starting.

### Special Parts Required:

10 feet of 12-gauge wire: White, Yellow and Brown\*\*  
25 feet of Black Electrical Tape or Specialty Wire Wrap  
2 Headlight Connectors, 3-Prong Type; Solder and Flux;  
15 Black Wire Ties, Small Diameter; 2 Eyelet connectors  
Flex Tubing, 15mm Outer Diameter, 2 pieces each 12" long  
(Optional) Electrical Wire Sleeve (max 1/2" O.D.);  
(Suggested) 2 Electrical Connectors, 3-Wire Detachable

### Special Tools Required:

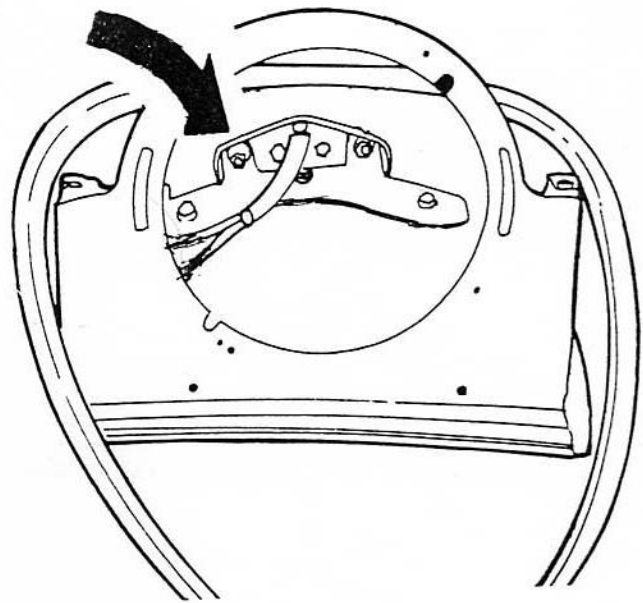
Wire Cutter, Solder Iron, Coat Hanger, Exact-o Knife

### Procedure:

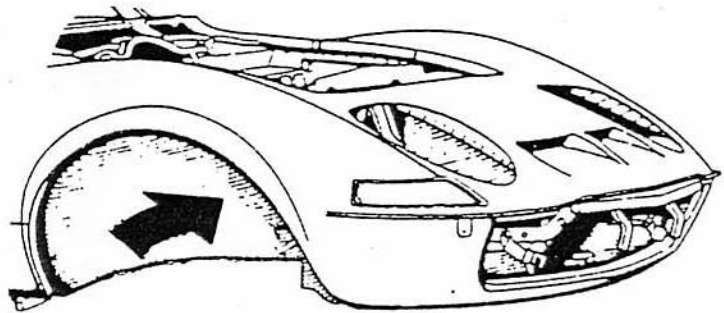
Disconnect battery cables. Open headlights and remove metal lids (See: "L" or "R" stamp on middle right lip of each lid; they are side-specific). Cut the wires to the 3-prong connector to the back of the headlight bulb.

Starting with the passenger "R" side: Inside front wheel-well, remove the 4 phillips-head screws holding the access plate (you have to scrape some undercoating off the heads of these 4 screws, to be able to turn them).

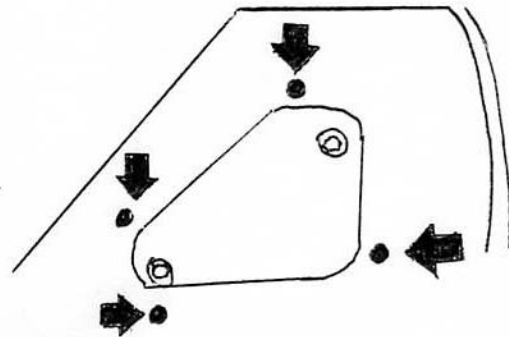
Prepare replacement wire loom. Cut 10' of each of the three wires into 2 lengths, 7 1/4 feet (87") for the passenger side, and 2 3/4 feet (33") for the driver's side. (Unless 1/2" O.D. electrical wire sleeve is used), tape a loom of three-color strands into a tight "triangle" at least 12" from one end, using overlapping, evenly spaced layers for clean look and protection. This loom must fit through a narrow 15mm hole, So keep wires straight and tight in the new loom.



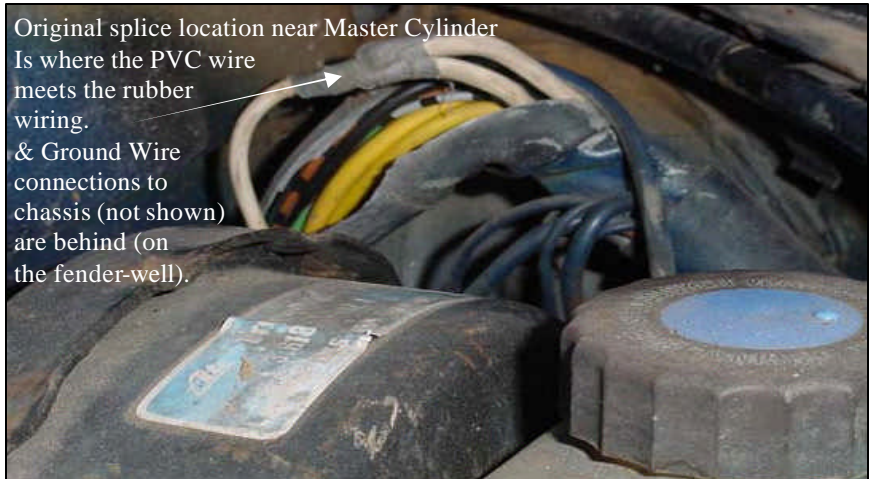
Where to look for frayed headlight wires



Where to locate access plate (passenger side shown)



Access panel screw locations, Passenger side



Original splice location near Master Cylinder  
Is where the PVC wire meets the rubber wiring.  
& Ground Wire connections to chassis (not shown) are behind (on the fender-well).

Attach the end of this new 3-wire loom to the ends of the old wires by wrapping and taping them together, then from inside the wheel-well pull on the old wires, back from the bulb area back into the wheel-well. Push the end of a coat hanger from the engine area through the wiring grommet (in the front corner area) into the wheel-well area, then attach the end of the coat hanger to the 3-wire loom and securely tape together.

Carefully pull these wires back through the grommet into the under-hood area (It's a tight 15mm fit, so use some WD-40 or Vaseline to lube and protect the grommet and the tape on the new wire loom). Detach the ends of the new wires from the old wires, then cut into the old loom a couple of inches and cut off the old wires back in the old loom. Back at the headlight buckets, ensure that un-taped wire ends run through section of 15mm flex tubing in hole in headlight mechanism (to avoid chafing during rotation).

If a 3-wire detachable connector is used here (preferred, as it allows future removal without cutting wires), install it and solder or connect wires to the 3-prong type headlight bulb connector. Make sure wire colors are in correct location at headlamp bulb (see Diagram, at Right).

**Repeat wire replacement procedure on driver's side of car.**

Then, for a clean look, use the black wire ties to neatly secure the new passenger-side loom to the old harness, where it goes in front of the radiator and back towards the master cylinder. You can also wire-tie the driver-side harness where it crosses under the master cylinder.

Separate brown (ground) wires from ends of the new wire looms near the Master Cylinder, then splice the yellow wire and the white wire to the existing wire harness. You have 2 options for location: The easiest to access, is on the main harness in the driver's side of the engine compartment, about 10" towards the rear from the radiator support beam. Unfurl the metal clips, then pull the main harness out from under the inner lip of the fender. The original splice location is near the master cylinder (where original wires connect 2-into-1 in the loom) but unless you insist on originality, it's a tight area for the splicing and soldering work.

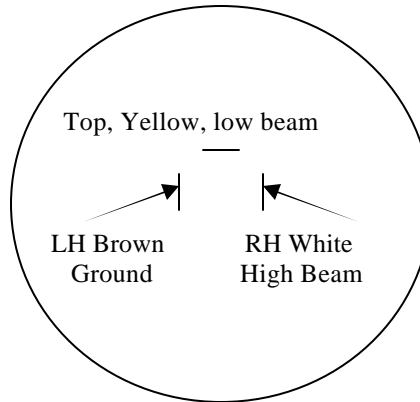
Open up the loom, by cutting sleeve lengthwise about 8" with an exact-o blade, then locate, tug out and cut the white wire and yellow wire (forward of area to be spliced). Prepare to splice the ends of the replacement white wires to a small section of the original white wire (use blade to strip a 1" area of insulation, or two separate 1/2" areas "staggered" for a cleaner look). Place some cardboard below the area for protection, then carefully solder (using lots of flux) these wires together. Let cool, then use this same approach but about 1" back, to solder the replacement yellow wires to the original yellow wire. Let cool, then tape up the loom, and hide the splice area by securing it with the clips under the inner lip of the fender.

Connect brown wires to chassis ground, by adding a round "eyelet" to wire ends and attaching with self-tapping screw to existing hole in engine area sheet metal (& sand off rust/paint there) on inner fender-well behind master cylinder (see photo).

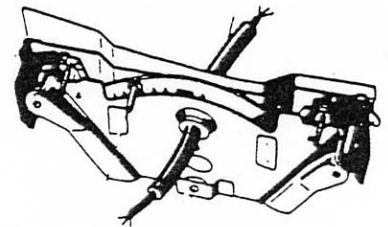
Re-inspect all connections, to make sure they are secure and well insulated. Reinstall metal headlight lids. Reinstall 4-screw metal access plates in fender-wells. Reconnect battery cables. Test headlights for proper function.



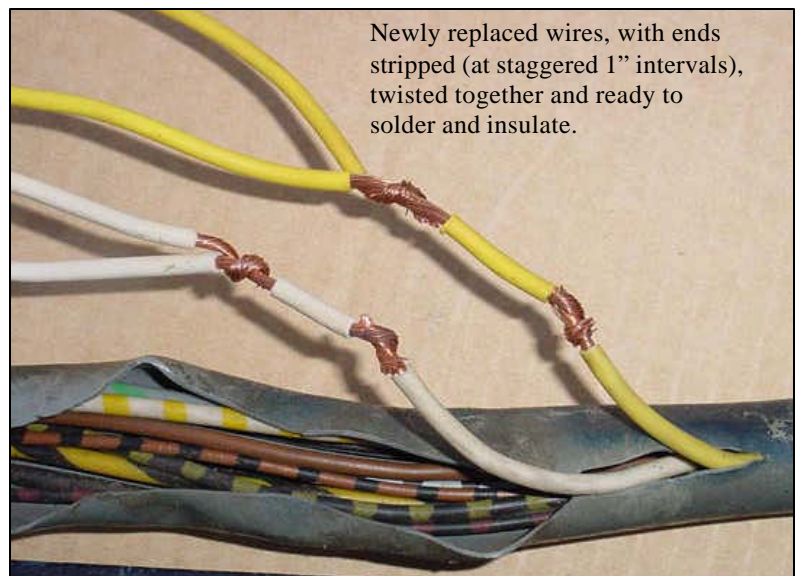
Passenger side headlight wiring and grommet entry to rear access panel area behind headlight mechanism



(Back side of headlight bulb)



Wiring needs to pass through a flexible 15mm tubing to protect delicate insulation from rotating metal parts. As shown.



Newly replaced wires, with ends stripped (at staggered 1" intervals), twisted together and ready to solder and insulate.



## GT Headlight System Quick Diagnosis:

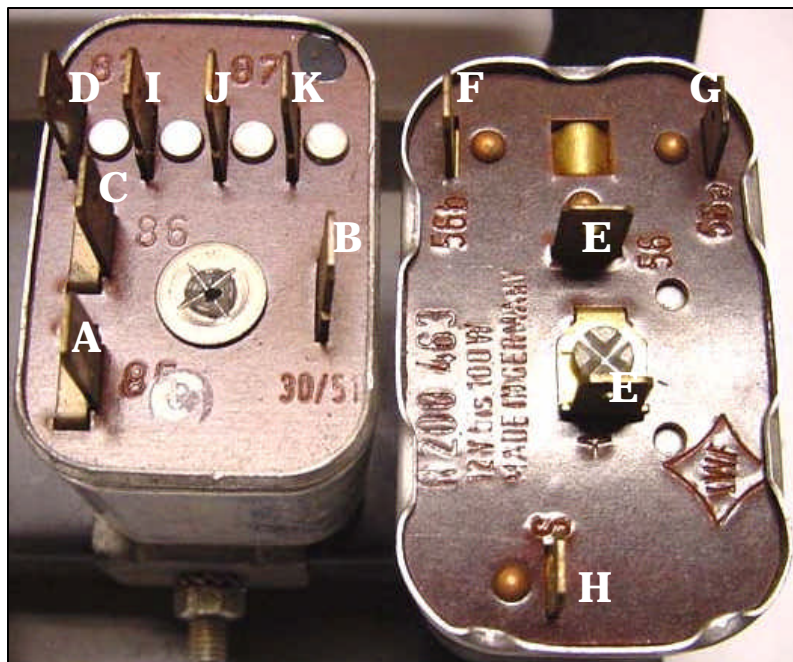
1) Verify GT Headlight Wires are fully functional (or replace, per tech article in August 2004 OMC Blitz).

2) Verify GT Headlights are in the fully up position and both headlight buckets are latched. (or adjust, per Opel Service Manual or tech article by Wayne Torman in August 2001 OMC Blitz).

3) To test, use DC voltmeter and insulated "jumper" cables on individual relay prongs.

**\*\*Perform these procedures with ignition key OFF when jumper wires are connected, then turn key on (without starting engine) for results\*\***

4) Test Microswitch operation. Test for power at "A." If there is no power there, and microswitch is receiving power (from black wire at fusebox terminal #2, same circuit as high beam dash-panel indicator lamp), then microswitch is inoperative.



**An alternative to the difficult job of pulling the driver's side headlight mechanism -- required to replace the micro-switch on 1970-1973 GT's -- is to add a substitute "toggle switch" to turn the headlights on and off. See Diagram, below right.**

(Note: 1968-1969 GT's used a dual-microswitch circuit which operated in parallel, with an extra microswitch behind the passenger side headlight mechanism. Replacement microswitches are available from Opel retailers).

5) Test for 7-Prong Relay operation. Test for power at "A" "B" and verify ground connection at "C." If these are OK, but there is no power output at "D" then the relay is burnt internally and has failed. This is the main GT Headlight Relay, most commonly affected by short-circuits from cracked insulation on headlight wires. A replacement relay is available from Opel retailers.

6) Test for 5-Prong Relay operation. If there is power at "E" but there is no power at BOTH "F" and "G" (only one operates at a time), then the relay has failed. This is the "High Beam" relay.

7) Test Switch between High and Low Beam Circuit. Briefly touch "H" to ground. If output of 5-prong relay doesn't switch between low "F" and high "G" beams, then relay is bad. (This test can only be performed when "E" is receiving 12 volts from main 7-prong headlight relay).

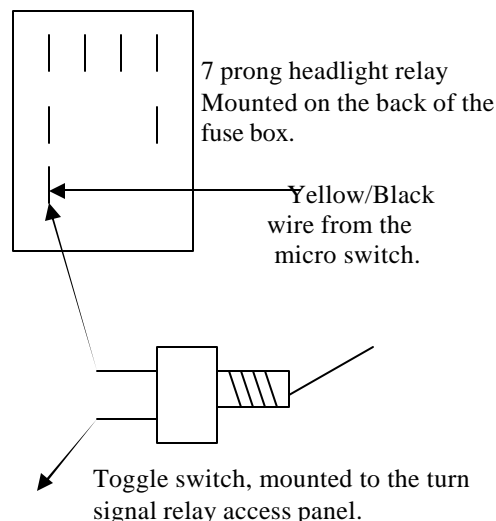
Main 7-Prong GT Headlight Relay (terminal numbers in parentheses):

A = Yellow/Black striped wire (85);  
Carries switched power from microswitch output  
B = Red wire (30/51);  
Carries unswitched power from battery via fusebox terminal  
C = Brown wire (86); Ground  
D = White/Yellow striped wire (87); This wire "splits" into two wires which  
Carry 7-prong relay output power to 5-prong relay inputs labeled "E"

I = Green/Black striped wire (87); Power to Left Side marker lights  
J = Gray/Red striped wire (87); Power to Right Side marker lights  
K = Gray/Green striped wire (87); Power to License Plate & Dash Lights

High-Beam 5-Prong GT Headlight Relay (terminal numbers in parentheses):

E = White/Yellow striped wires (56);  
Both tabs accept power input from 7-prong relay "D" output  
F = Yellow wire (56b); Low Beam Headlight Output  
G = White wire (56a); High Beam Headlight Output  
H = Green wire (S); Switch Circuit  
(operated by the turn signal stalk in steering column)



To the fuse box, #2 fuse  
Add to the black wire connection.

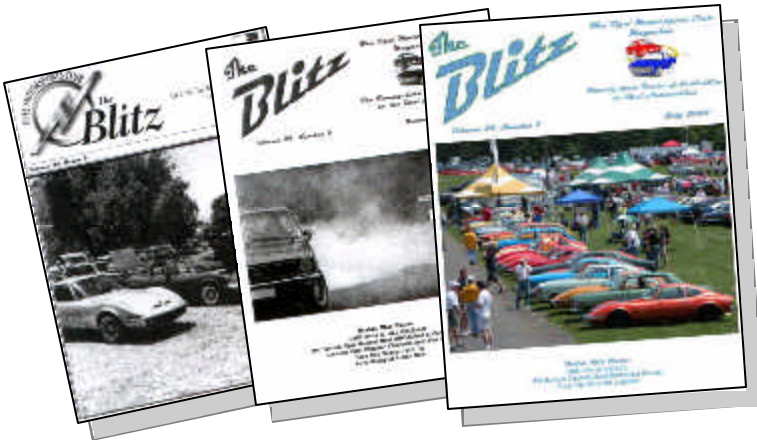
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OMC was founded in 1980 by Opel enthusiasts who wanted to share information and promote their marque in motorsports. A newsletter was established to promote Opel events, report Opel-related news, provide technical tips, discuss vehicle upgrades, and give members a free place to advertise.

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