Pantera Electronics LED Taillight Conversion Installation Manual

This LED signal lamp conversion was designed to replace the incandescent lamp 1157 with a Light Emitting Diode Array designed specifically for 1971 through 1974, Pre-L and L- Model Pantera lamp housings. These LED Array's meet or exceed SAE illumination specifications for automotive signal lamps, yet consume only 40% the power of 1157 incandescent lamps. This significantly reduces the current through the headlight switch extending the life of the switch. The LED Array's are designed to connect to the original Pantera wiring harness. The only changes that are required is the replacement of the turn signal flasher and an adapter for the turn signal indicator in the tachometer. The signal flasher will need to be changed to the Pantera Electronics adjustable rate signal flasher that was designed for the scrolling turn signal LEDs.

The timing of the scrolling turn signal is optimized for a flash rate of about 1 flash per second. If the turn signal flasher is too fast the complete scrolling will not occur. This should be tested for both left and right turn signal LED arrays at installation.

A turn signal Indicator Adapter is available when both front signal and tail light LED Array's are installed. The tail light red or amber turn signal LED Array's have a scrolling or sequential effect of the LEDs indicate the direction of turning.

(Note that these LED Array's are not designed for GT or European type front signal light)

IMPORTANT !

DO NOT LOOK DIRECTLY AT THE LED ARRAY'S WHEN IN OPERATION, DAMAGE TO THE EYE RETINA CAN RESULT.

Only view the LED arrays after installation behind the original Pantera lenses.

Do not touch or clean the LED's, the lenses are fragile.

NOTE: It's important to keep this installation manual for future reference since revisions to the product change the contents of the installation manual.

Items needed in addition to the LED Taillight Arrays

1) 2 pcs. Red Quick disconnect female terminal, 18 to 22 gauge wire, Molex part # 19002-0001.

2) 8 pcs. Red Quick disconnect male terminal, 18 to 22 gauge wire, Molex part # 19023-0003.

3) 2 pcs. Blue Ring, 14 to 16 gauge wire, lug with hole size for connection to 6mm stud.

4) **Clear silicone RTV, Alcohol or Neutral cure is best.**

LED Taillight Array

There are 2 LED Taillight Array's utilized in each tail light housing, the BRAKE LED Taillight Array has a RED LED Array, and the TURN SIGNAL LED Array can be either RED or AMBER depending on your requirements. (presumably you ordered the correct color) The BRAKE LED Array has a BLACK, YELLOW and RED wire, the TURN SIGNAL LED Array has a BLACK and BLUE wire regardless of whether it is a RED or AMBER Array.

1) Remove tail light lens by removing 4 Philips head screws. Remove incandescent lamp #1157 by pushing in and simultaneously turning bulb ¼ turn counterclockwise.

2) Remove two M10 nuts from the studs that retain the tail light housings. You might want to set-up a work level that allows the taillight housing to rest on while making the modification. ***If the tail light housing falls and impacts the floor it may crack or break severely.*** [Image 1]

3) After removing the #1157 lamp the bottom of the lamp socket has a spring pushing the contacts upward out of the socket. This allows a small gap of clearance through a slot in the socket and out of the back hole where the present wires are. This small gap is enough to push the 2 or 3 wires of the LED Array through. If there is corrosion or any reason that you prefer not to use this method for passing the wires to the back of the tail light housing, a hole can be drilled in the back of the tail light housing near the lamp socket for the 3 wires to pass through. [Image 2]

4) Insert the BRAKE/RUN LED Array into the red brake light position, centering the BRAKE/RUN LED Array in the housing with the 3 wires behind and not interfering with the lamp socket. The BRAKE LED Array has a BLACK, YELLOW and RED wire.

5) Center LED panel against the reflector and use clear silicone RTV to retain the BRAKE LED array. [Image 1]

6) Insert the TURN SIGNAL LED Array into the rear lamp housing, centering the LED Array in the housing with the 2 wires behind and out one of the methods above. The TURN SIGNAL LED Array can be identified by the color of the wires that are connected to it. The TURN SIGNAL LED Array has a BLACK and BLUE wire.
Note that there is an arrow "**--->**" pointing in the direction of the sequential operation. This arrow should point to the outside of the car. [Image 4]

7) Center LED panel against the reflector use clear silicone RTV to retain the BRAKE/RUN LED Array.

Do not install the lens until the RTV completely cures, this is usually 24 hours at room temperature.
[Image 4]

8) Crimp the male quick disconnect terminal on the YELLOW, BLUE and RED wire that are through the tail light housing.

9) Remove the M10 nut. Crimp a ground lug on both BLACK wires install the lug with the BLACK wires on the stud and replace the nut and original ground lug.

10) Insert the YELLOW, BLUE, RED and WHITE wire male quick disconnect terminals into the Pantera harness matching the wire colors.

11) An extension wire will be needed for the WHITE wire from the factory harness connector to the factory tail light harness. Make an extension from a 6" to 8" WHITE wire, a male quick disconnect and a female disconnect. [Image 5]

12) Install the tail light housing in the car making sure that the ground lug from the Pantera harness stays on the M10 stud on back of the tail light housing during final positioning. Carefully position the harness so that it does not interfere with the tail light housing. If needed use tie-raps or electrical tape to secure the harness in a good location. Replace the M10 nuts and lock washers.

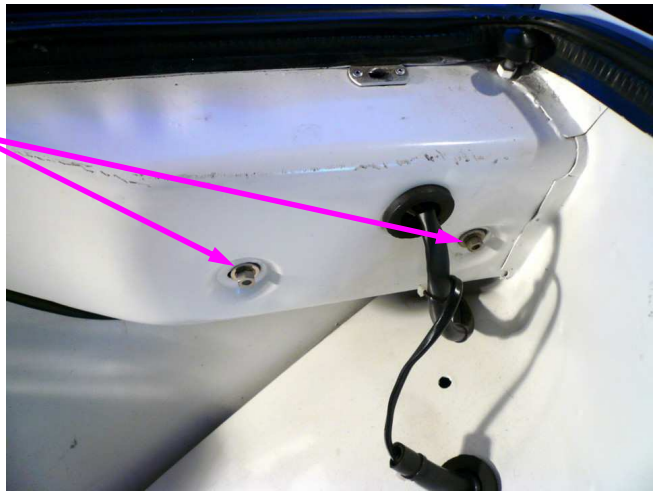
13) The LED array's are NOT designed to tolerate water ingress, make sure the lens seal properly. Take the necessary steps to improve the sealing surfaces to maintain a water-tight housing. Use silicon sealant if the gaskets are cracked or distorted. New taillight lens gaskets can be purchased from:
www.panterasbywilkinson.com

14) Install the lens, DO NOT OVER-TIGHTEN the 4 Philips head screws, equally tighten the screws in a pattern. The lenses are more than 40 years old and the plastic is brittle, over-tightening or uneven tightening will crack or break the lens.

15) Use the above procedure for either passenger or driver side taillight housings.

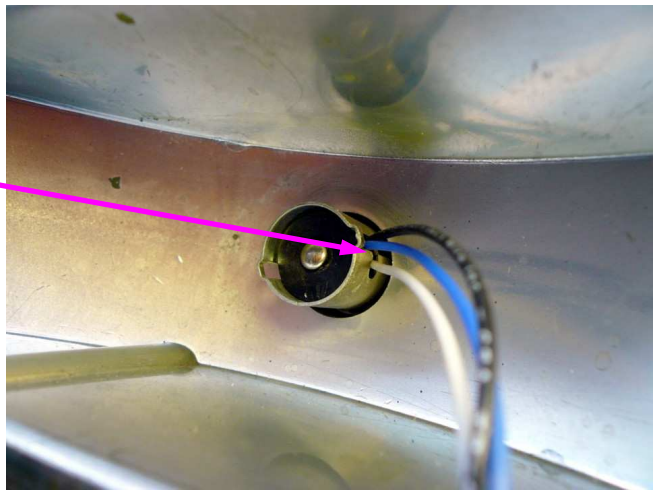
Two 6mm nuts on studs that retain the tail light housings.

[Image 1]

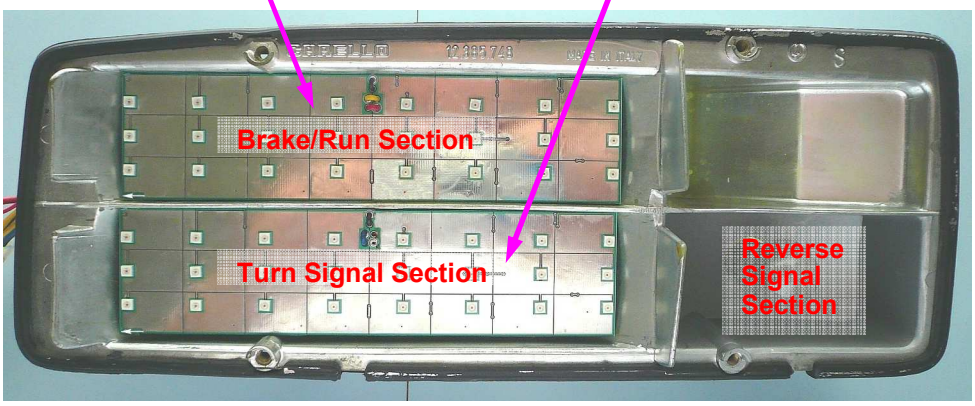


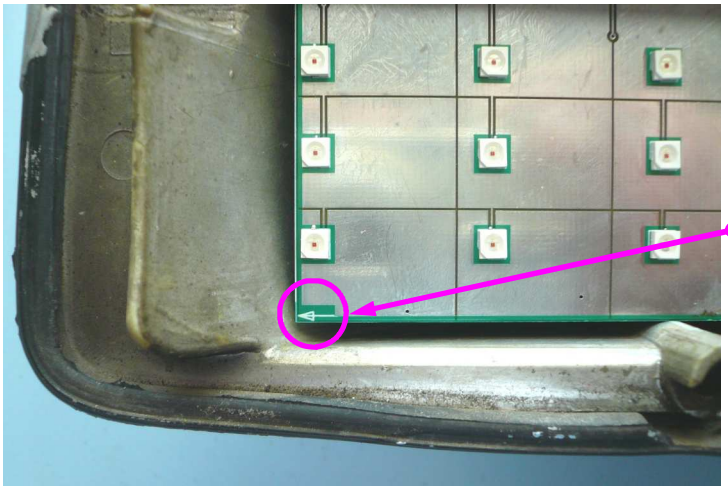
The slot in the lamp sockets is large enough to push the 2 or 3 wires of the LED Array through.

[Image 2]



Insert the Brake/Run and the turn signal section LED Arrays into the taillight housing. [Image 3]





Make sure the Turn Signal LED Array is oriented properly. This can be determined by the “arrow”. The “arrow” should point outward from center of car body.

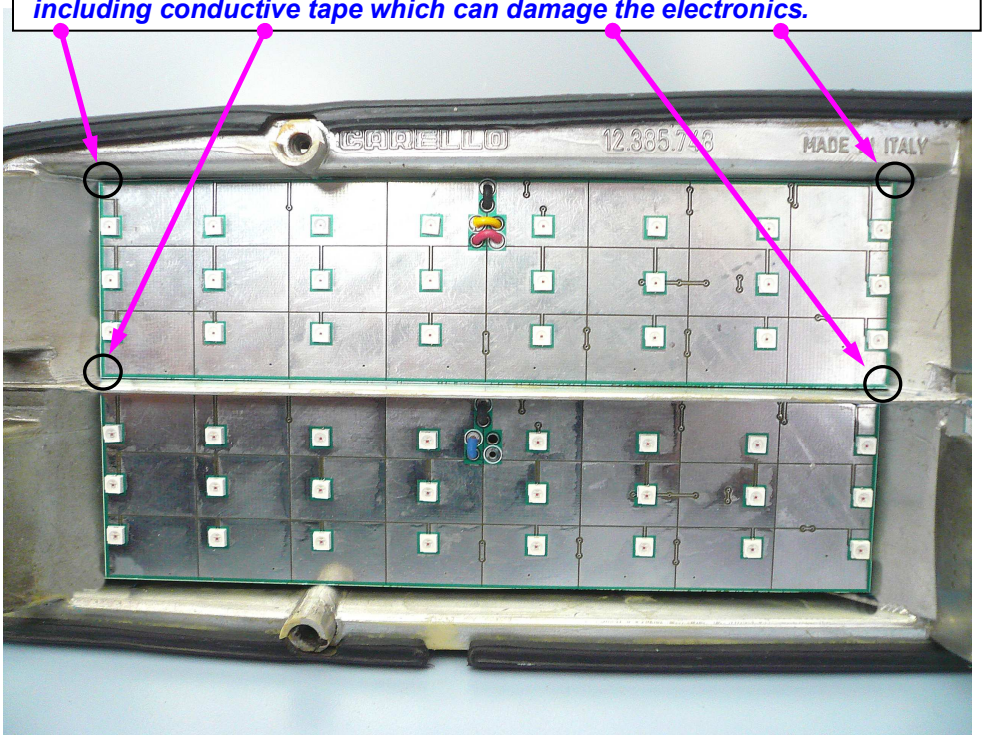
[Image 4]

Retain the LED Array with clear silicon RTV, apply in the 4 corners where the LED array contacts the metal reflector. [Image 5]

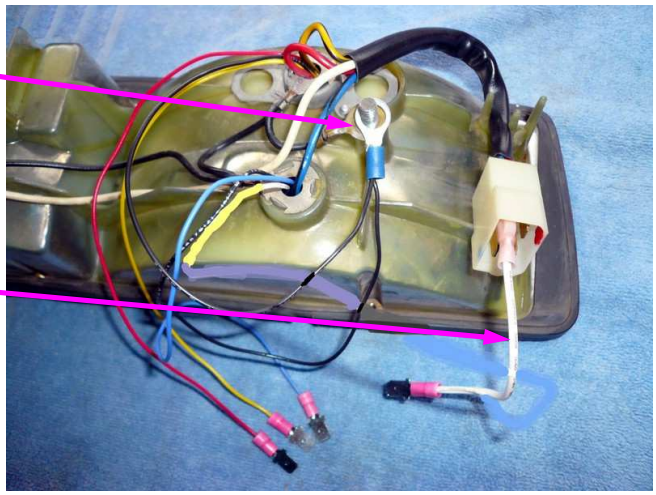
Use an amount of RTV equivalent to the black circles in the image.

Do NOT use more RTV than the size of the areas shown. (black circles) The acid in the RTV will damage the electronics.

Do not substitute the clear silicon RTV with other mounting schemes including conductive tape which can damage the electronics.

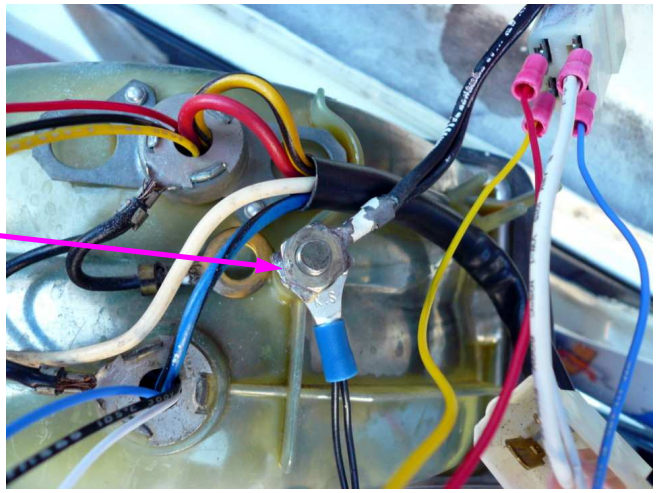


The original ground lug and LED array BLACK wires with lug. [Image 6]



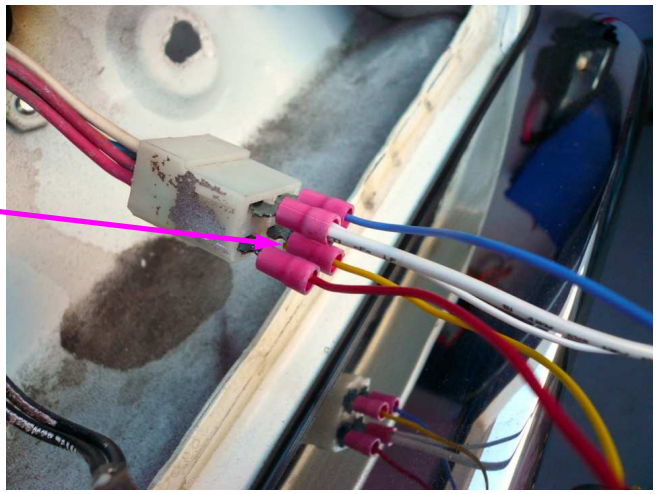
Note: If you are not installing the PE LED reverse light then you will need to make an extension wire for the WHITE wire.

Use a male and female quick disconnect for the extension. [Image 7]



Ground wire from chassis installed with nut, replace lamp housing in Pantera with (2) 6mm nuts.

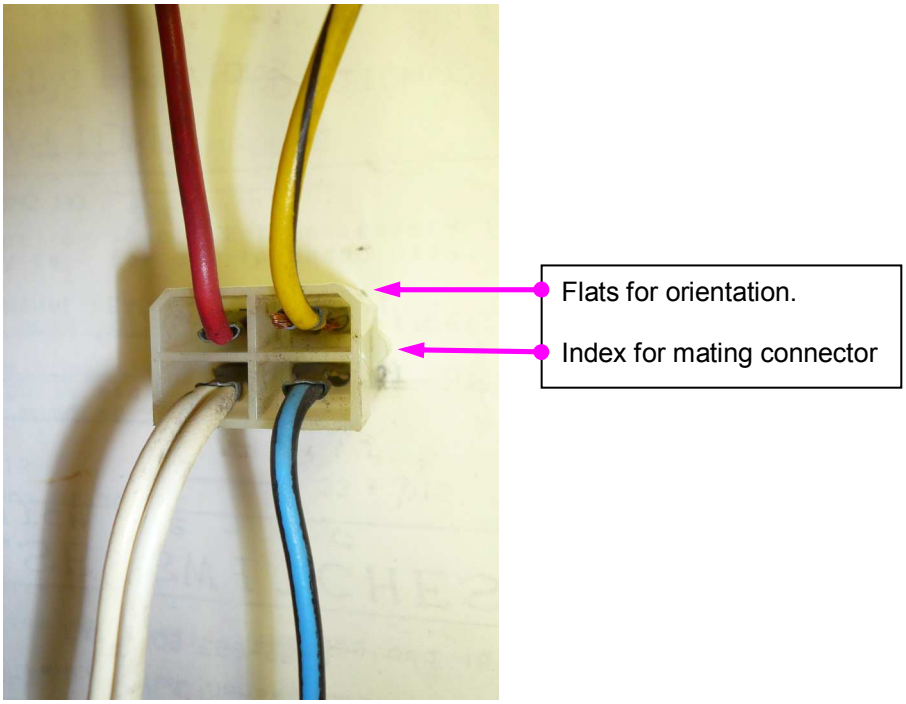
[Image 8]



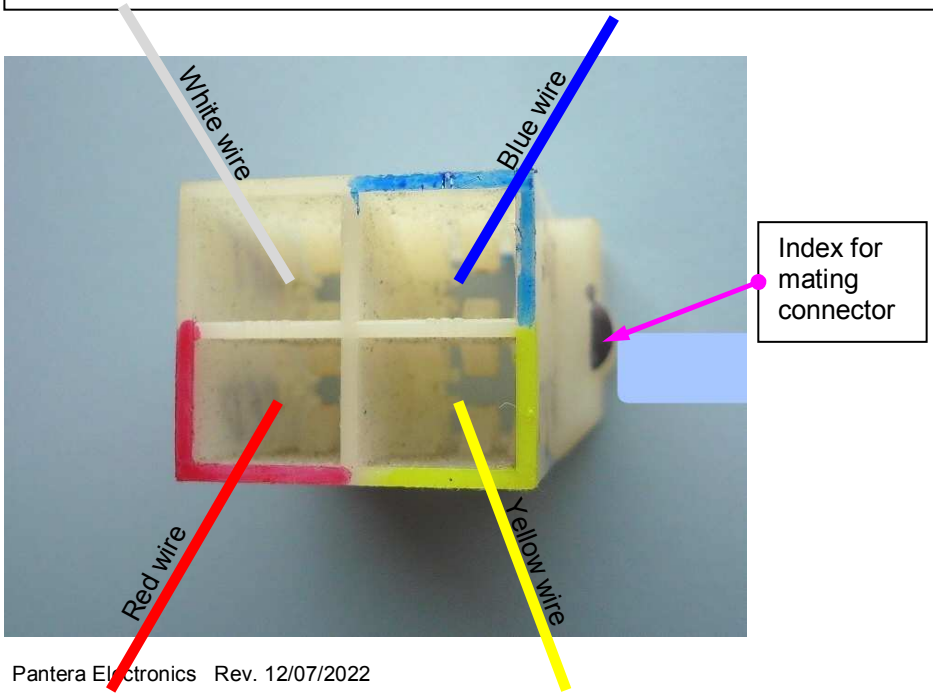
Connect the male quick disconnect connectors to match the wire colors in the Pantera wire harness.

[Image 9]

Taillight Connector Wire Color Reference --- *Wire Harness Side*



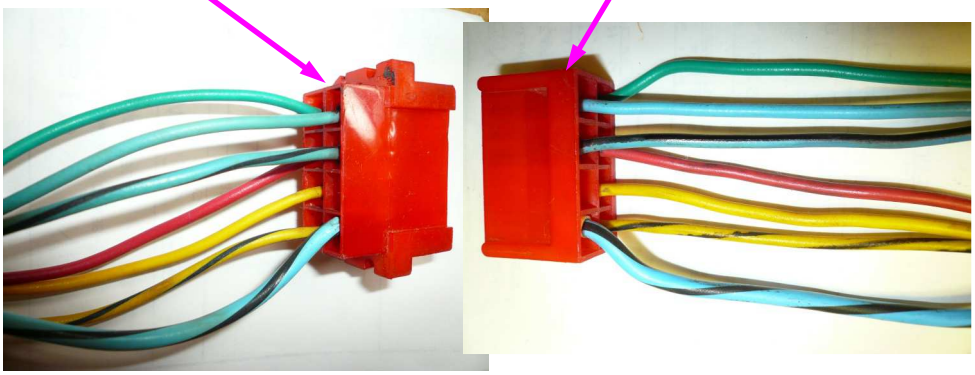
Taillight Connector Wire Color Reference --- *Taillight Side*



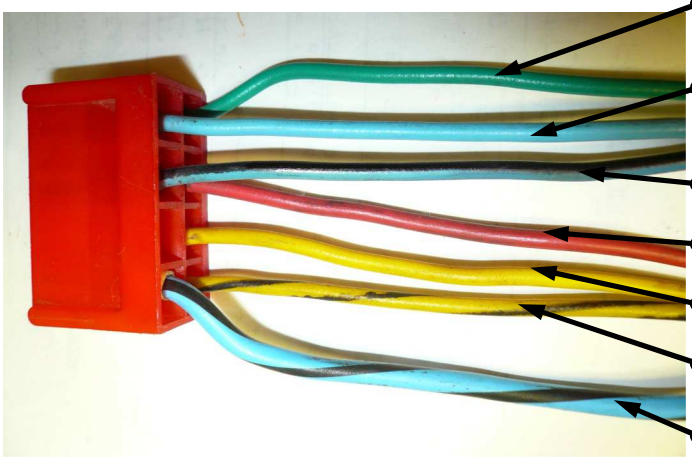
Front Harness to Rear Harness Connector Wire Color Reference

Front wire harness

Rear wire harness



Rear Harness Connector Function Reference



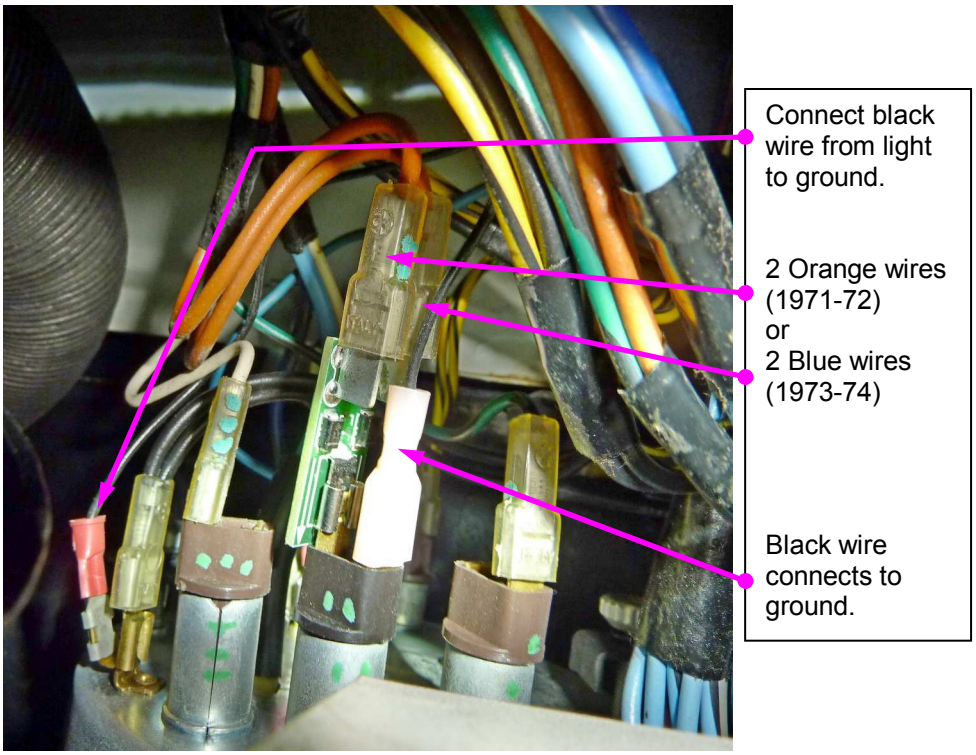
- Reverse light switch
- Right turn signal light
- Left turn signal light
- Brake light
- Right running light
- Left running light
- Condenser Fan

Turn Signal Adapter (included with 3 terminal adjustable flashers)

The turn signal adapter is ***REQUIRED*** with 3 terminal flashers if all incandescent lamps, front and back are replaced with LED arrays. Behind the dash, at the bottom of the tachometer housing is the turn signal indicator, connected with 2 orange wires. Remove the lamp socket by pulling the socket straight back. Unplug the 2 ORANGE wires from the lamp socket and plug the Turn Signal Adapter on the lamp socket. Plug the 2 female ORANGE wires onto the male terminals of the Turn Signal Adapter.

Add a BLACK wire with the quick disconnect terminal to the turn signal indicator and connect to the ground connection on the back of the tachometer where other BLACK wires.

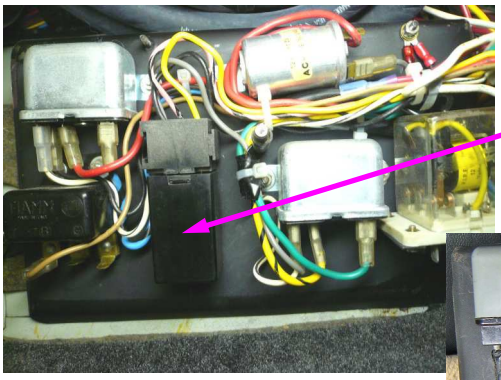
Adapter for turn signal light, connects to the orange wires from light. Add black wire from light to ground. (Tach case) [Image 10]



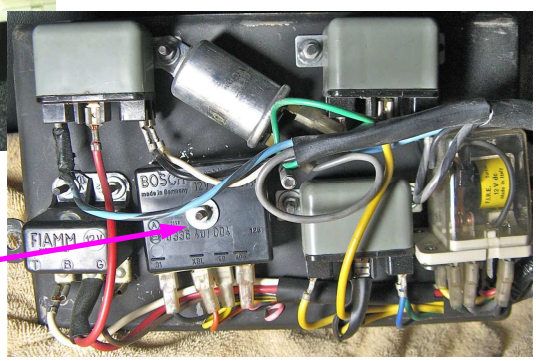
Note: If both front signal and taillights are LED conversions then a flasher designed for LED lights is necessary.

Replacing 3 Terminal Turn Signal Flashers

Locate the signal flasher in the Pantera, 1971/1972 (Pre-L) look for a metal box suspended above the passenger's side floor. Unscrew the wing nut and lower the metal box. 1973-1974 look for the signal flasher behind a door in a compartment next to the drivers side door. The original factory signal flasher is a rectangular black box about 2 inches (51 mm) long, it plugs into a socket with 3 wires, BLACK, YELLOW and PINK. Remove by unplugging the signal flasher, the socket will stay mounted on the plate. Connect the Pantera Electronics signal flasher by plugging it into the socket. Replace the metal box and tighten the wing nut.



Factory 3 terminal flasher mounted in a 1971 or 1972 Pantera.



Factory 4 terminal flasher mounted in a 1971 or 1972 Pantera.

Replacing 4 Terminal Turn Signal Flashers with the PE 3 Terminal Flasher

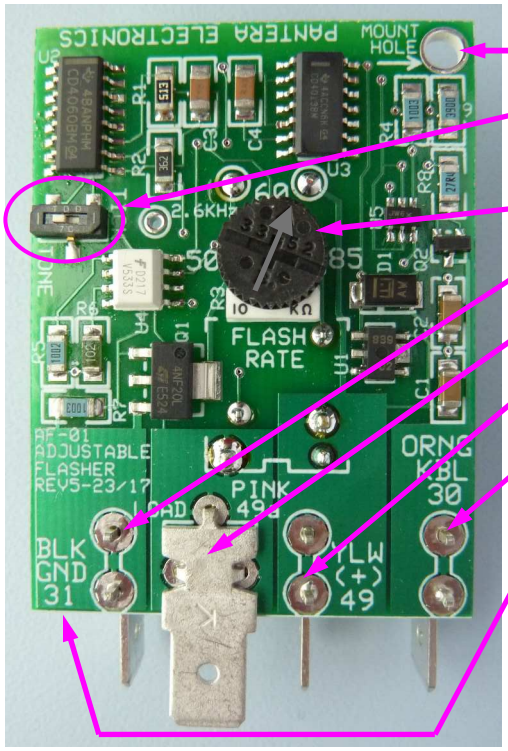
Locate the signal flasher in the Pantera, 1971/1972 (Pre-L) look for a metal box suspended above the passenger's side floor. Unscrew the wing nut and lower the metal box. 1973-1974 look for the signal flasher behind a door in a compartment next to the drivers side door. The original factory signal flasher is a rectangular black box with 4 wires, BLACK, YELLOW, PINK and ORANGE. Remove each wire individually and connect to the Adjustable Flasher matching to the color labels. The ORANGE wire from the Pantera harness will connect to the ORNG terminal from the Adjustable Flasher. (KBL)

Replace the metal box and tighten the wing nut.

Connections and Adjusting the Turn Signal Flasher

There are 2 adjustments for the flasher, one is the flash rate, one is for the type of sound. Rotate the black round disk clockwise to increase flash rate, counter clockwise to decrease flash rate. The Pantera Electronics scrolling LED turn signals were designed for a little faster than 60 flashes per minute flasher setting. There is a “60” labeled on the flasher, set the pointer on the black disk to 60. Make sure the last LED in the array illuminates before the flasher turns OFF. Adjust the rate until all LED’s in the array illuminate.

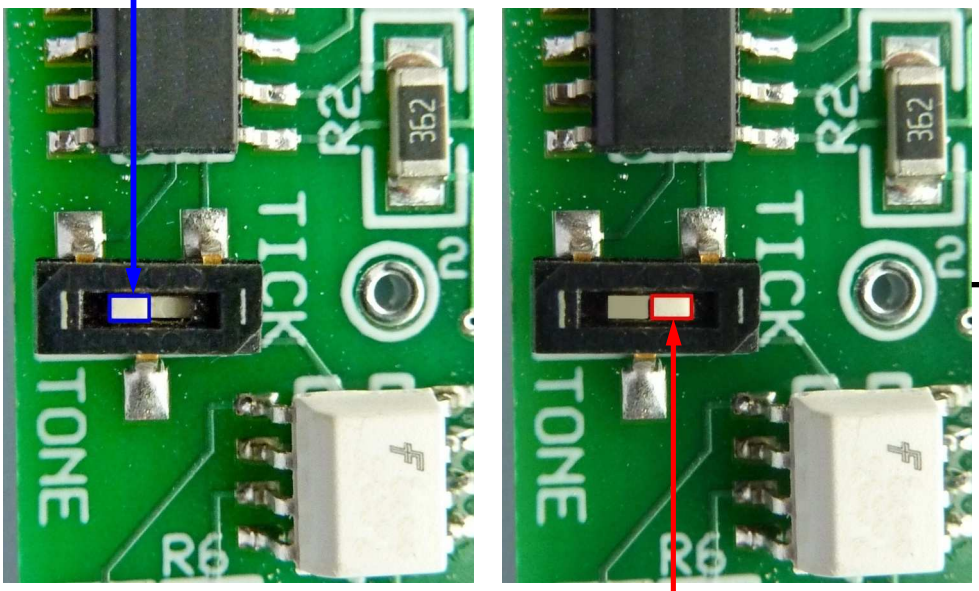
The flasher sound is set to “TONE” from the factory to change the sound slide the “TICK” position.



- Mounting hole for tiewrap.
- Sound enable in the “TONE” position.
- Adjustment for flash rate.
- BLACK, 31 (GND)
- PINK/BLACK, 49a (LOAD)
- YELLOW, 49 (+)
- ORANGE, KBL, 30 (DASH LIGHT)
- Green Power Indicator (On backside)

[Image 1]

Slide the switch to this position for “TONE”.



Slide the switch to this position for “TICK”.

Disclaimer

The products from Pantera Electronics have been designed and manufactured with the best quality components known to the engineer. The installation instructions have been written to assist the owner in the proper use and installation of the products. Pantera Electronics can not be held responsible or held liable for the interpretation or incorrect implementation of the products.