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## Pantera Electronics LED Front Signal Light Installation Manual

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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 factory 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 can be any electronic signal flasher designed for LED lighting. A turn Signal Indicator Adapter is available when *both* front signal and tail light LED array's are installed. The front signal lights operate identically to the factory design, with the exception of the continuous operation of the day-time driving lights. The day-time driving lights are white LED arrays that are controlled by one additional wire. It can be connected to any switch and operated independently or can be connected directly to the fuse panel for continuous use as day-time driving lights. This makes the Pantera safer through better visibility. When the driving white LED array is "ON", activating parking lights automatically disables the white LED array and activates the amber LED array. When the driving white LED array is "ON", activating the turn signal automatically disables the white LED array and activates the amber LED array. After the turn is completed and the turn signal terminates the driving white LED array is automatically activated.

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

### **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 factory 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.

**Disconnect the battery by removing the negative (-)  
or ground cable from the battery terminal.**

Disassembly

- 1) Remove signal amber lens by removing 2 Philips head screws. Remove the incandescent lamp 1157 by pushing in and simultaneously turning bulb ¼ turn counterclockwise.
- 2) Locate the drainage slot in the front bottom of the parking light housing. There is a sharp edge in the drainage slot where the wires for the LED Array will past through. Use a small utility knife to remove metal from the rear top edge of the slot. Only a small amount of metal needs to be removed. [Image 1]
- 3) Remove rubber boot covering wires behind the front parking light housing. Disconnect, black, blue and yellow wire. The wire terminal can be carefully removed without damage to terminal or rubber boot. Use a silicon lubricant to slide the wires and terminal easier.

Adding the Control Wire for the Driving White LED Light Operation  
(U.S. and Canada operation, AMBER parking lights)

One of the (4) wires attached to the LED array is a white wire and does not have a connection in the Pantera wiring harness as the other color wires. This connection was designed to be powered whenever the ignition switch was in the “RUN” position to keep the white LEDs illuminated all the time while driving.

Optionally this wire can be connected to a +12V source to turn “ON” the white LED array. This can be controlled by a switch installed on the dash or in some convenient place.

For full time operation when the ignition switch is in the “RUN” position a wire needs to be installed from the fuse panel to both LED arrays.

- 1) Starting in the headlight bucket recess, push a 22 or 20 AWG white wire through the grommet into the wheel-well. (the wire can be any color, but for this installation we will use white) [Image 2 & 3]
- 2) There is a factory wire harness that follows the contour of the wheel-well rearward and passes through a firewall grommet. This grommet is behind the wiper motor housing which will have to be removed. Pull the white wire through the wheel-well following the factory wire harness. Insert the white wire through the firewall grommet. [Image 4, 5 & 6]

Note: The headlight buckets were removed for clarity of composing this installation manual. It is not necessarily required or easier with them removed.

3) Feed enough of the white wire to reach the fuse panel plus a 5" to 6".  
Crimp a piggy-back quick disconnect terminal onto the end of the white wire.  
[Image 7 & 8]

4) Fuse #12 is powered when the ignition switch is in the "RUN" position  
therefore remove any wire from Fuse #12 add it to the piggy-back terminal.  
Replace the piggy-back terminal to the location where the wire was removed  
from Fuse #12. [Image 9 &10]

#### **WHITE Parking Light Option**

For countries that do not allow amber as the parking light use this wiring  
scheme for white parking lights.

Connect the WHITE wire from the LED array to the YELLOW wire on the drivers  
side and the YELLOW/BLACK on the passenger side in the wire harness. The  
YELLOW wire from the LED array will not be used and should be insulated with  
electrical tape on both drivers side and the passenger side.

With this connection the white LEDs will not be "ON" for the driving lights but will  
be "ON" as parking lights but will be "ON" when the turn signal is used.  
The high intensity amber LED's will still be used for the turn signal indication.

#### **Wire Routing**

The WHITE wire from the LED arrays will not have to be routed from the parking  
light housings to the fuse panel since the WHITE wire will connect to the  
YELLOW wire in the harness.

In the installation process on pages 6, 7, 8 and 9 is not required for the White  
Parking Light Option.

#### **Assembly**

1) Insert the LED Array into the signal light housing, centering the LED array in  
the housing. Make sure the LED array is firmly positioned against the reflector.  
[Image 11]

2) Feed the black, blue, yellow and white wire from the LED array through the  
drainage slot. Curve the wires around and in front of the LED array. Use white  
electrical tape to keep the wires in position.  
[Image 12]

3) Use Clear Silicon RTV to retain the LED array in position, apply in the 3  
places where the LED array contacts the metal reflector. Use electrical tape to  
hold the LED array in position until the Clear Silicon RTV cures. ***Do not install  
the lens until the RTV completely cures, this is usually 24 hours at room  
temperature.***  
[Image 11 & 12]

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

4) Crimp the red male quick disconnect terminal on each wire.

[Image 15]

5) Insert the LED array blue wire quick disconnect terminal in the female blue wire Pantera harness connector. Do the same for the yellow and black wires.

[Image 16]

6) Crimp a female quick disconnect terminal to the white wire from the fuse panel. Connect the white wire from the LED array to the white wire from the Fuse Panel. Use PVC tubing or electrical tape to insulate the connection. An insulated terminal was used in **Image16** and does not need additional insulation.

7) Use electrical tape or PVC tubing to insulate the terminals of each wire making sure no metal is exposed. Note that the black ground wire can be exposed since it is the same potential as the chassis. [Image 16]

8) Repeat the procedure above for the passenger side front signal light.

**Note: perform testing section before step #9.**

9) Install the clear lens making sure the wires are not clamped between the lens and housing and that the lens fits in the edge slot properly.

*The edges of the clear lenses may need to be sanded for additional clearance to fit properly in the parking light housing. [Image 18 & 19]*

***Do not over tighten the screws, the plastic can be easily cracked.***

[Image 17, 18 & 19]

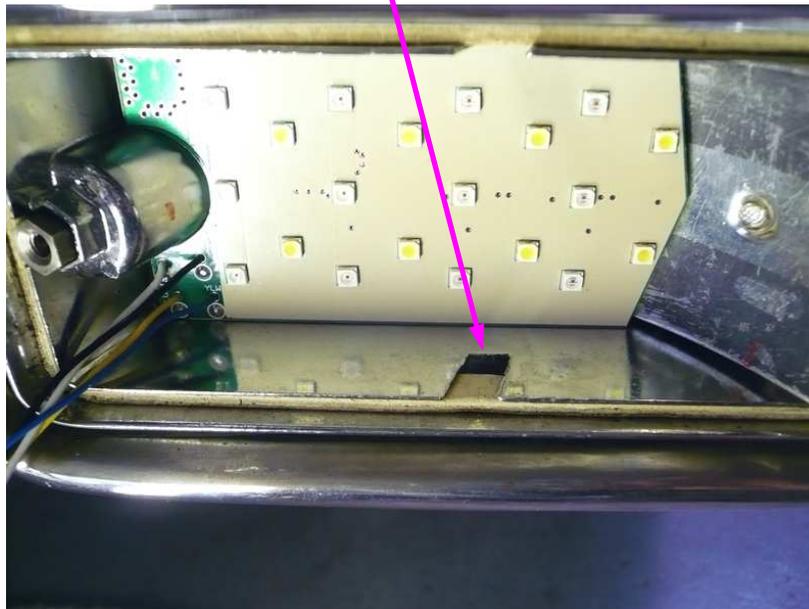
***The LED array's are NOT designed to tolerate water ingress, make sure the lenses seal properly. Take the necessary steps to improve the sealing surfaces to maintain a water-tight housing. Use clear silicon sealant if the gaskets are cracked or distorted.***

## Testing

Reconnect the negative (-) or ground cable from the battery terminal removed at the beginning of the installation.

- 1) Turn "ON" the ignition switch to the "RUN" position with the headlight switch "OFF". Only the white LEDs should be illuminated, check driver and passenger side.
- 2) While the white LEDs are illuminated turn "ON" the headlight switch to the parking or mid-position. The white LEDs should be "OFF" and the amber LEDs should be illuminated at the low intensity.
- 3) Turn "OFF" the headlight switch and the amber LEDs should be "OFF". The white LEDs should illuminate approximately 1/2 second after the amber LEDs turn "OFF".
- 4) While the white LEDs are "ON" activate the left turn signal. The left white LEDs should turn "OFF" and the amber LEDs should flash at high intensity. Test the right turn signal and the same should be true for the right LED array.
- 5) Turn "OFF" the turn signal and the amber flashing LEDs should stop and the white LEDs should illuminate approximately 1/2 second after the amber LEDs turn "OFF".

Drainage slot in housing, remove sharp edge. [Image 1]



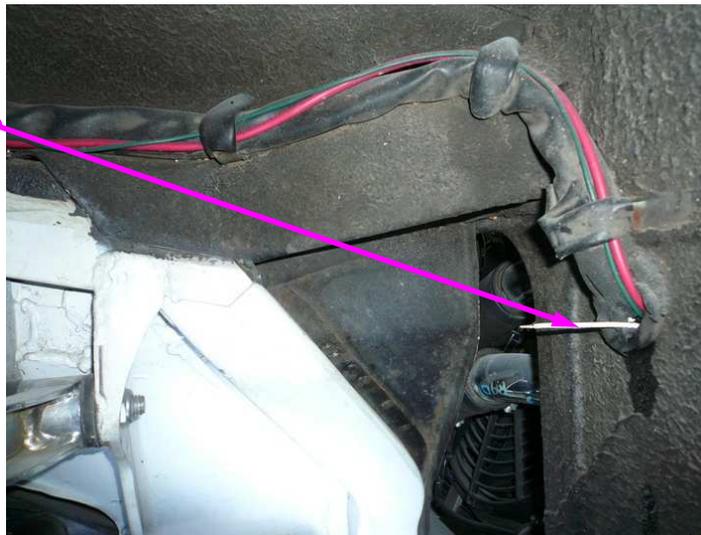
White wire leaving grommet to cross to passenger side. [Image 2]



White wire leaving grommet on passenger side. [Image 3]



White wire leaving grommet from headlight bucket compartment. [Image 4]



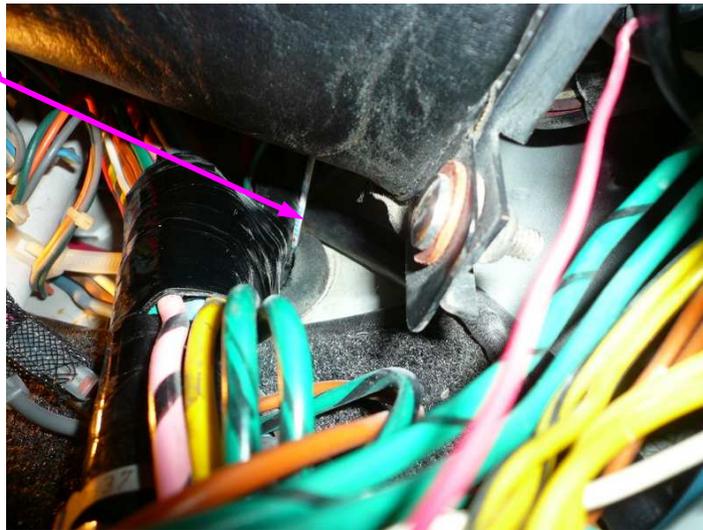
White wire following wheel well contour on passenger side. [Image 5]



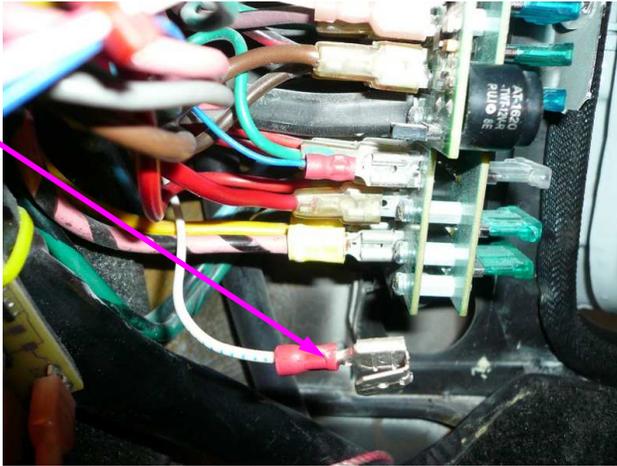
White wire leaving wheel-well through firewall grommet. [Image 6]



White wire at the fuse panel, behind glove box. [Image 7]



White wire at the fuse panel.  
[Image 8]



Add wire to the piggy-back terminal that was removed panel Fuse #12.  
[Image 9]



Insert white wire and wire removed from Fuse #12 to the fuse panel terminal.  
[Image 10]



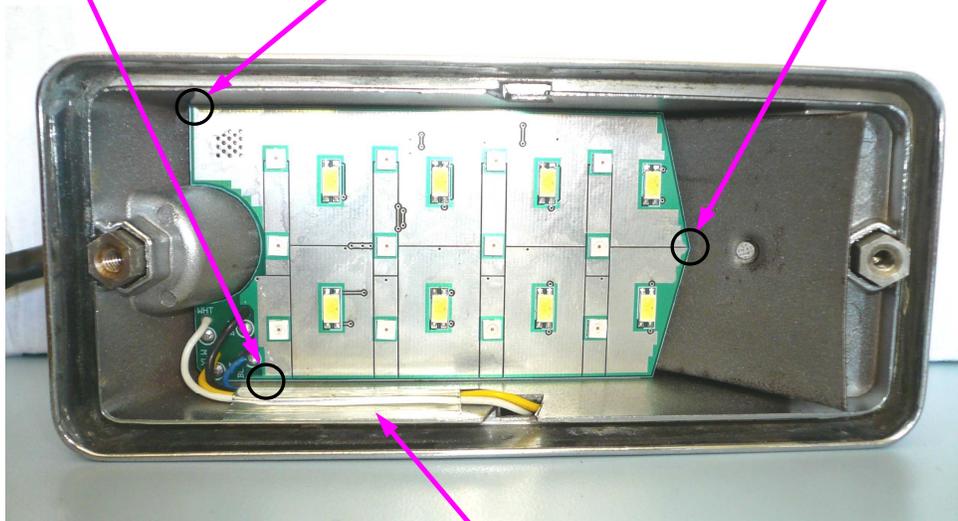
This is Clear RTV suitable for retaining the LED array in position.  
[Image 13]



Insert LED array, retain with Clear RTV, apply in the 3 places where the LED array contacts the metal reflector. Use an amount of RTV equivalent to the black circles in the image.

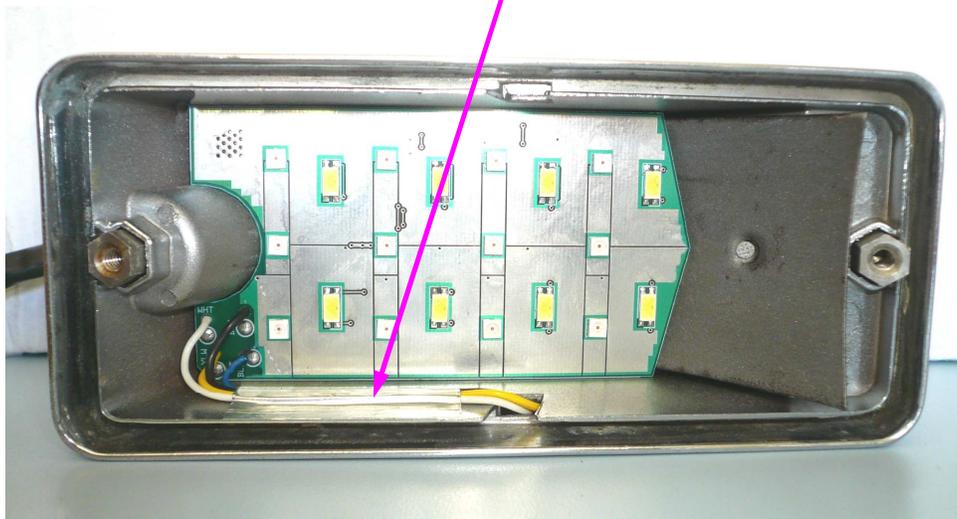
**Do NOT use more RTV than the size of the areas shown. (black circles)**

**The acid in the RTV will damage the electronics** [Image 11]

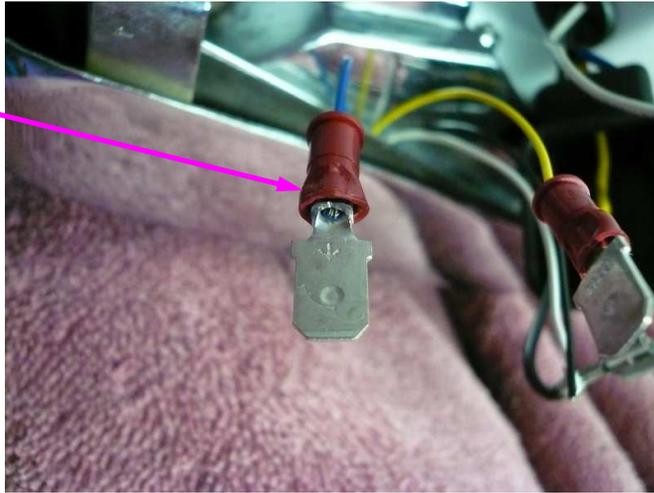


Use white electrical tape to keep wires in flat and in position.

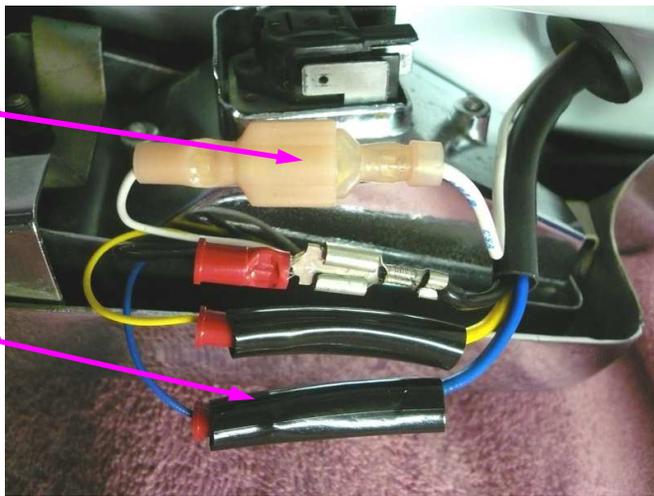
[Image 12]



Terminal crimped on wires BLACK, BLUE, YELLOW and WHITE  
[Image 15]



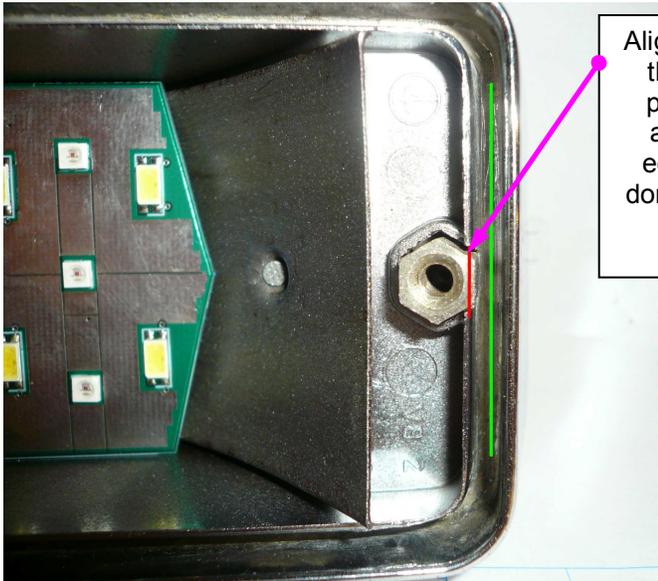
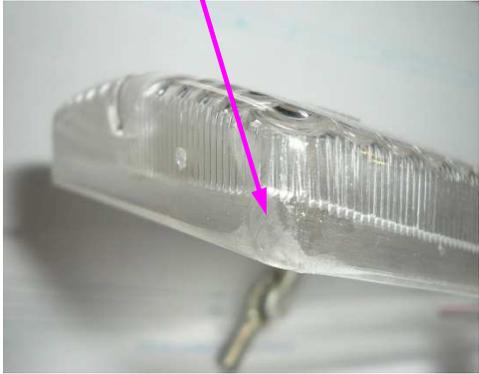
Connect the matching wire colors, Crimp a female quick disconnect terminal to the white wire from the fuse panel. PVC tubing or electrical tape to insulate the terminals from each other. [Image 16]



Transfer 2 nylon washers and screws from the amber lenses to the clear lenses. [Image17]



**Sometimes** the corners and edges need sanding. Sanding the clear lenses can be done by using a sanding disk in a electric drill. [Image18]



Align the threaded insert to the outside edge of the parking light housing to allow clearance for the edge of the lens. This is done by twisting the insert. [Image 19]

**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.

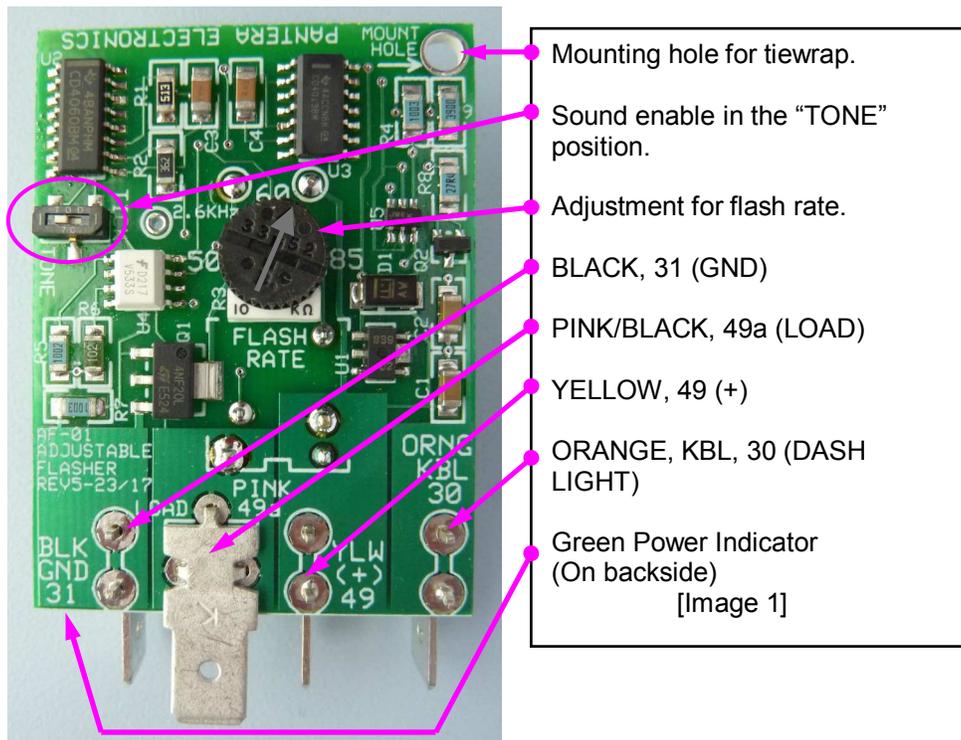
Factory 4 terminal flasher mounted in a 1971 or 1972 Pantera.



### Replacing 4 Terminal Turn Signal Flashers

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.



### 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. [Image 1 and 2]

Image [1] Slide the switch to this position for "TONE".

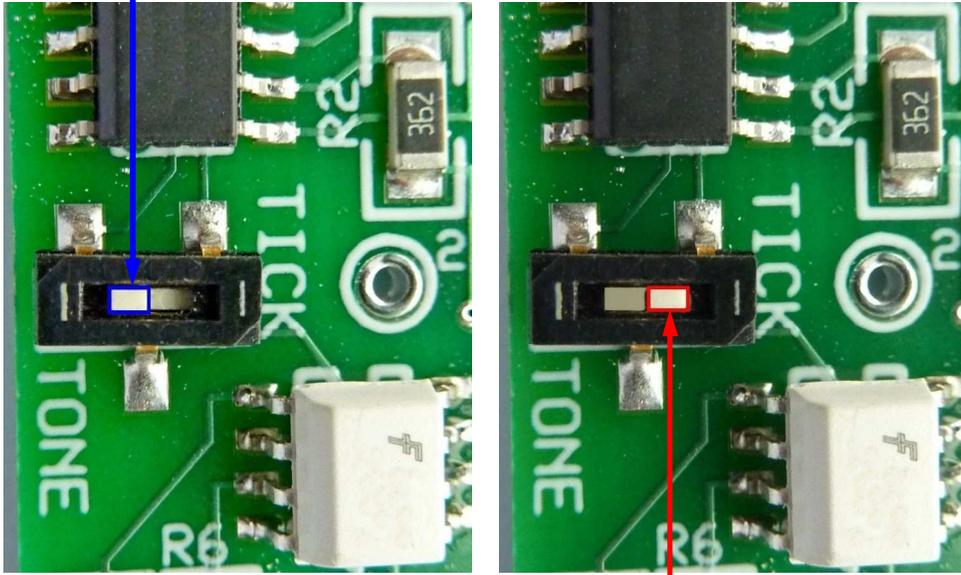


Image [2] Slide the switch to this position for "TICK".

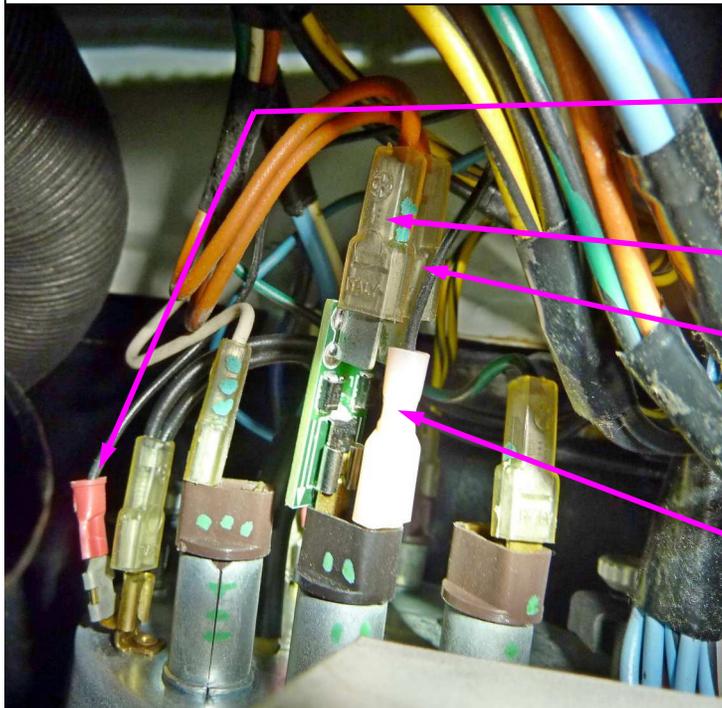
Turn Signal Adapter (only needed with 3 terminal flashers)

The turn signal adapter is only required 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]



Connect black wire from light to ground.

2 Orange wires (1971-72)  
or  
2 Blue wires (1973-74)

Black wire connects to ground.

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.