Wire Harness Installation Instructions

For Installing:

Part # 30713

1974-1977 Camaro Tail Light Harness

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This harness is a direct replacement for the tail harness found in our 1974-1977 Camaro 18 circuit Chassis Harness, Painless part # 20113. Using the inline connectors and terminals supplied with this kit, this tail harness can also be used on any vehicle with a factory chassis harness or any aftermarket chassis harness, like a Painless universal chassis harness. For those simply replacing the tail harness on a 20113 harness, skip now to “1974-1977 Tail Harness Installation” page 5.

If installing this harness in a vehicle with a factory chassis harness, a factory wiring diagram may be helpful.

To apply the best crimp possible to the terminals supplied in this kit, a pair of roll over/jaw style crimpers will be needed. Painless offers a pair of these crimpers as part # 70900.

This style of crimper will roll the straps of the terminal over into the copper wire, providing a strong connection with great contact. Pliers or other styles crimpers will simply fold the terminal straps over onto the copper. While this may provide you with a good contact and possibly work, it is not the proper way.

Other tools needed will be a pair of wire strippers and a pair of crimpers used to crimp insulated terminals. This will normally be on the same tool.

Begin by examining the section label on the supplied tail harness to ensure you have the correct tail harness for your application. The section label should read “1974-1974”.

[Image: Jaw Style Crimpers]

[Diagram: Correct and Incorrect Crimping]

[Image: 1974-1977 Tail Harness]
In the trunk, locate the following 5 wires running from the front to the rear of the car:

**TAN**- This is the wire going to the fuel gauge. Universal Painless harnesses, this will be a wire with #939 printed on it.

**LIGHT GREEN**- This is a power wire for the reverse lights. Universal Painless harnesses, this will be a wire with #956 printed on it.

**BROWN**- This is a power wire from the headlight switch for the marker, tail and license plate lights. Universal Painless harnesses, this will be a wire with #927 or #929 printed on it, depending on the harness.
**YELLOW**- This is the power wire from the turn signal switch for the left turn signal. Universal Painless harnesses, this will be a wire with #949 printed on it.

**GREEN**- This is the power wire from the turn signal switch for the right turn signal. Universal Painless harnesses, this will be a wire with #948 printed on it.

There will also be dome light wires (white and orange wires) and a fuel pump wire (in aftermarket harnesses), these will remain untouched.

Begin by cutting these 5 wires about 6-12” behind the driver side marker lamp. This will be towards the front of the car, seen circled in the photo below. Do not cut more than 12” back or the new tail harness may not reach.

With the wires now cut you can remove all of the tail sockets from the vehicle, do not discard any of these factory sockets until the install of this new harness is complete.

- Strip ¼” of wire insulation from each wire that is coming from the front of the vehicle and install a silicone seal from the parts kit. (Photo 1)

- Position the terminal so the longer straps will fit around the silicone seal, while the smaller straps will cradle the exposed copper (Photo 2)

- Using the appropriate jaw, crimp the terminal onto the copper wire. (Photos 3 & 4)

- Using a larger jaw, you can now crimp the terminal to the seal. (Photos 5 & 6)
Insert the following wires into the 4 pin connector: Tan/fuel sender to PIN A, PIN B will remain empty, Light Green/reverse to PIN C, and Brown(marker lights) to Pin D.

Insert the following wires into the 3 pin connector: Yellow/left turn to PIN A, Green/left turn to PIN B, PIN C will remain empty.

Now that both connectors are connected to the chassis harness, flip the terminal position piece on each connector around the wires and click it into place.

**1974-1977 TAIL HARNESS INSTALLATION**

Plug the new Painless Tail Harness into the two connectors you have just installed onto the wires on your chassis harness. Once connected these connectors can be tucked out of sight, down into the rear quarter.

**“Driver Side Park Light”**

The driver side park light is the first connection. The park, or marker light as it is often called, is activated by a power source coming from the headlight switch. This light will illuminate any time the headlight switch is in the **PARK** or **ON** position.
The park light requires two wires to work properly. A factory style socket comes pre-installed and will have a label reading “DRVR. SIDE PARK LIGHT”. The wires spliced to this molded connector are:

**Brown**: 18 gauge wire, this is a power wire for the park or marker light function. This wire will have power anytime the headlight switch is in the Park/Tail Lights ON or Headlights ON position. This wire, along with all the other wires and splices it is associated with, can be seen in the *1974-1977 Tail Harness Power* diagram on page 3.

**Black**: 18 gauge wire, this wire provides a ground source for the park light and comes from a splice that is tied to a series of other splices that tie all the grounds in this harness together. This wire, along with all the other ground wires and splices, can be seen in the *1974-1977 Tail Harness Grounds* diagram on page 3.

- This socket requires a single filament bulb, while supplied in the kit, it can also be purchased from just about any auto parts store under part # 194.

- Looking at the back of the tail light lens, you will see the park light down in the corner. You will see that it has a keyed opening to correspond with the tabs on the socket. (as seen in the photo below). This connection, along with the next connections, may be easier to make if the lens bucket is removed from the car.

- Insert the lamp socket of the Painless harness into the park light housing and turn ¼ turn to lock the socket in place. The use of needle nose pliers may be needed in order to reach the opening in the lens since it is so far down into the corner. The longer socket that was used by GM during actual production of these vehicles is no longer available.

**“Left Turn/Brake/Tail Light”**

This connection will have a section label reading “L. TURN/BRAKE TAIL LIGHT” and a three wire socket pre-installed. The three wires found in this socket are:
Yellow: 18 gauge wire, this wire is the turn signal power as well as the brake light power. This wire will have interrupted switched power from the turn flasher any time the left turn signal is activated and interrupted battery power from the hazard flasher any time the hazard switch is in the ON position. This wire will also have battery power anytime the brake pedal is pressed. This wire can be seen in the 1974-1977 Tail Harness Power diagram on page 3.

Brown: 18 gauge wire, this is a power wire for the tail light function. This wire will have power anytime the headlight switch is in the Park/Tail Lights ON or Headlights ON position. This wire, along with all the other wires and splices it is associated with, can be seen in the 1974-1977 Tail Harness Power diagram on page 3.

Black: 18 gauge wire, this wire provides a ground source for the Turn/Brake/Tail Light and comes from a splice that is tied to a series of other splices that tie all the grounds in this harness together. This wire, along with all the other ground wires and splices, can be seen in the 1974-1977 Tail Harness Grounds diagram on page 3.

This socket requires a dual filament bulb, while supplied in the kit, it can also be purchased from just about any auto parts store under part # 1157. The turn signal will be the brighter of the two filaments.

With the bulb in place, insert the socket into the lens. Tuning the socket ¼ turn will lock it in place. Notice the keying on the bucket and the socket will only allow the socket to be installed one way.

“Reverse Light”

This will be the lens closest to the center of the car, lens with the clear center. This connection will have a section label reading “LEFT REVERSE LIGHT” and will have a two wire socket pre-installed. The two wires in this socket are:

Light Green: 18 gauge wire, this wire will provide power to the reverse or back up lights. This wire receives power from the reverse switch and will have power anytime the shifter is in the REVERSE position. This wire can be seen in the 1974-1977 Tail Harness Power diagram on page 3.

Black: 18 gauge wire, this wire provides a ground source for the reverse light and comes from a splice that is tied to a series of other splices that tie all the grounds in this harness together. This wire, along with all the other ground wires and splices, can be seen in the 1974-1977 Tail Harness Grounds diagram on page 3.

This socket requires a single filament bulb, while supplied in the kit, it can also be purchased from just about any auto parts store under part # 1156.

With the bulb in place, insert the socket into the bottom of the lens. Turning the socket ¼ turn will lock it in place. Notice the keying on the bucket and the socket will only allow the socket to be installed one way.
Now that the driver’s side light sockets have been installed, the harness will be routed along the top of the trunk to the center of the vehicle and then to the passenger side. Use the factory harness clips to secure the harness in place.

“License Plate Lights”

The plate lights are the next connections needing to be made. These lights are tied to the rear marker lights and will illuminate the license plate during low light conditions when the headlight switch is on.

The wires in the Painless harness for this function will have labels reading “PLATE LIGHT”. These two wires will have lamp sockets pre-installed, they are:

**Brown**: 18 gauge wires, these are power wires for the license plate light function. These wires will have power anytime the headlight switch is in the Park/Tail Lights ON or Headlights ON position. This wire, along with all the other wires and splices it is associated with, can be seen in the 1974-1977 Tail Harness Power diagram on page 3.

**Black**: 18 gauge wires, these wires provide a ground source for the license plate lights and comes from a splice that is tied to a series of other splices that ties all the grounds in this harness together. This wire, along with all the other ground wires and splices, can be seen in the 1974-1977 Tail Harness Grounds diagram on page 3.

- This socket requires a single filament bulb, while supplied in the kit, it can also be purchased from just about any auto parts store under part # 194.

- Install the plate light sockets into the plate light lenses, turning ¼ turn to lock them in place.
“Ground”

The ground connection in the Tail Harness will tie all of the grounds found in the Tail harness to a common ground source. One wire, marked with a section label reading “GROUND”, makes up this connection. This wire will have a ring terminal pre-installed, this wire is:

**Black:** 10 gauge wire, this wire provides a ground source for the Tail harness from a splice that is tied to a series of other splices that ties all the grounds in this harness together. This wire, along with all the other ground wires and splices, can be seen in the 1974-1977 Tail Harness Grounds diagram on page??.

- Connect this black ground wire to a good clean chassis ground source, like one of the mounting bolts for the trunk latch or to the factory location on the trunk latch bracket, seen circled in the photo of the factory harness.

“Fuel Sending Unit”

The fuel sending unit connection will be a one wire connection. This wire will send a resisted ground source from the fuel level sending unit inside the fuel tank, up to the fuel gage on the dash. This resistance is based off how much fuel remains in the tank, which causes the needle on the gauge to move between empty and full.

The wire provided in the Tail Harness will have a section label reading “FUEL SENDER”. This wire will have a single pin black connector pre-installed, this wire is:

**Tan:** 18 gauge wire, this wire will a ground signal. It can be seen in the 1974-1977 Tail Harness Grounds diagram on page 3.

- Locate the factory wire coming through the trunk floor, just below the trunk latch. Connect the single pin connector and wire found on the Tail Harness to this factory wire, as seen here in the photo of the factory harness.
“Reverse Light”

This will be the lens closest to the center of the car, lens with the clear center. This connection will have a section label reading “RIGHT REVERSE LIGHT” and will have a two wire socket pre-installed. The two wires in this socket are:

**Light Green**- 18 gauge wire, this wire will provide power to the reverse or back up lights. This wire receives power from the reverse switch and will have power anytime the shifter is in the REVERSE position. This wire can be seen in the 1974-1977 Tail Harness Power diagram on page 3.

**Black**: 18 gauge wire, this wire provides a ground source for the reverse light and comes from a splice that is tied to a series of other splices that tie all the grounds in this harness together. This wire, along with all the other ground wires and splices, can be seen in the 1974-1977 Tail Harness Grounds diagram on page 3.

- This socket requires a single filament bulb, while supplied in the kit, it can also be purchased from just about any auto parts store under part # 1156.
- With the bulb in place, insert the socket into the bottom of the lens. Turning the socket ¼ turn will lock it in place. Notice the keying on the bucket and the socket will only allow the socket to be installed one way. This connection, along with the next couple connections, may be easier to make if the lens bucket is removed from the car.

“Right Turn/Brake/Tail Light”

The lens in the center of the tail light assembly is for the right Turn/Brake/Tail Light. This connection will have a section label reading “R. TURN/BRAKE TAIL LIGHT” and a three wire socket pre-installed. The three wires found in this socket are:
**Green:** 18 gauge wire, this wire is the turn signal power as well as the brake light power. This wire will have interrupted switched power from the turn flasher any time the right turn signal is activated and interrupted battery power from the hazard flasher any time the hazard switch is in the ON position. This wire will also have battery power anytime the brake pedal is pressed. This wire can be seen in the [1977-1977 Tail Harness Power](#) diagram on page 3.

**Brown:** 18 gauge wire, this is a power wire for the tail light function. This wire will have power anytime the headlight switch is in the Park/Tail Lights ON or Headlights ON position. This wire, along with all the other wires and splices it is associated with, can be seen in the [1974-1977 Tail Harness Power](#) diagram on page 3.

**Black:** 18 gauge wire, this wire provides a ground source for the Turn/Brake/Tail Light and comes from a splice that is tied to a series of other splices that tie all the grounds in this harness together. This wire, along with all the other ground wires and splices, can be seen in the [1974-1977 Tail Harness Grounds](#) diagram on page 3.

> This socket requires a dual filament bulb, while supplied in the kit, it can also be purchased from just about any auto parts store under part # 1157. The turn signal will be the brighter of the two filaments.

> With the bulb in place, insert the socket into the bottom of the lens. Tuning the socket ¼ turn will lock it in place. Notice the keying on the bucket and the socket will only allow the socket to be installed one way.

**“Passenger Side Park Light”**

The passenger side park light is the last connection. The park, or marker light as it is often called, is activated by a power source coming from the headlight switch. This light will illuminate any time the headlight switch is in the PARK or ON position.

The park light requires two wires to work properly. A factory style socket comes pre-installed and will have a label reading “PASS. SIDE PARK LIGHT”. The wires spliced to this molded connector are:

**Brown:** 18 gauge wire, this is a power wire for the park or marker light function. This wire will have power anytime the headlight switch is in the Park/Tail Lights ON or Headlights ON position. This wire, along with all the other wires and splices it is associated with, can be seen in the [1974-1977 Tail Harness Power](#) diagram on page 3.

**Black:** 18 gauge wire, this wire provides a ground source for the park light and comes from a splice that is tied to a series of other splices that tie all the grounds in this harness together. This wire, along with all the other ground wires and splices, can be seen in the [1974-1977 Tail Harness Grounds](#) diagram on page 3.

> This socket requires a single filament bulb, while supplied in the kit, it can also be purchased from just about any auto parts store under part # 194.
Looking at the back of the park light housing you will see that it has a keyed opening to correspond with the tabs on the socket. (as seen in the photo)

Insert the lamp socket of the Painless harness into the park light housing and turn ¼ turn to lock the socket in place. The use of needle nose pliers may be needed in order to reach the opening in the lens since it is so far down into the corner. The longer socket that was used by GM during actual production of these vehicles is no longer available.

If you have any questions concerning the installation of this harness or having trouble in general, feel free to call Painless Performance Products’ tech line at 1-800-423-9696. Calls are answered from 8am to 5pm central time, Monday thru Friday, except holidays.

We have attempted to provide you with as accurate instructions as possible, and are always concerned about corrections or improvements that can be made. If you have found any errors or omissions, or if you simply have comments or suggestions concerning these instructions, please write us at the address above, send us a fax at (817) 244-4024 or e-mail us at painless@painlessperformance.com. We sincerely appreciate your business.

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