





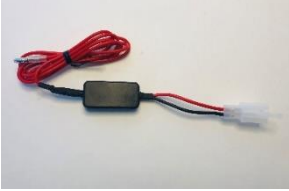




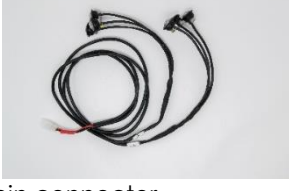










Turn Signal/Horn Kit 3103

<p>Before you begin</p>	<p>STOP! THIS KIT IS DESIGNED SPECIFICALLY FOR</p> <ul style="list-style-type: none"> • HONDA PIONEER 700, 2017 and newer, • HONDA PIONEER 700-4, 2017 and newer <p>IF YOUR VEHICLE IS NOT ONE OF THESE MODELS, DO NOT PROCEED. Contact Ryco Motorsports or your local dealer for the correct kit.</p>		
<p>Where do I start?</p>	<p>Please read and follow the instructions.</p> <p>If you are a guy and, like most of us, feel you can install this without taking the time to read the instructions, then you should ask your significant other to read them to you. I put a lot of effort into creating the instructions, and I feel bad when no one reads them. Answers to all your questions should be covered in the installation instructions. We've included a lot of photos for those of you who are visual and don't enjoy words.</p>		
<p>What tools do I need?</p>	<ul style="list-style-type: none"> • 10 mm or 5/16" socket/nut driver or flat blade screwdriver • 9/32", 1/2", 3/4", 7/8" diameter drill bit • 10 mm wrench • 3/4" step drill bit • Center punch 	<ul style="list-style-type: none"> • Wire stripper • Wire cutter • Drill motor 	
<p>What's in the Box?</p>	<p>Let's become familiar with the items you will be installing on your vehicle, in order of use.</p>		
<p>TURN SIGNAL/HORN SWITCH</p>  <p>The connectors interface with the various kit components.</p>	<p>EXPANDABLE NUT AND FLANGE BOLT (RYCO-B)</p> 	<p>SELF-CANCELING FLASHER RELAY</p>  <ul style="list-style-type: none"> - 3 pin connector - No marking tape 	
<p>RYCO POWER, GROUND & HORN HARNESS</p>  <ul style="list-style-type: none"> - 4 pin connector - GREEN marking tape 	<p>DASH MOUNTED INDICATOR HARNESS</p>  <ul style="list-style-type: none"> - 3 pin connector - BLUE marking tape 	<p>BRAKE STROBE INTERFACE</p>  <ul style="list-style-type: none"> - 2 pin connector - No marking tape 	
<p>CABLE TIE</p> 	<p>PARALLEL TAP</p> 	<p>HORN</p> 	
<p>PLASTIC SPACER</p> 	<p>FRONT TURN SIGNAL HARNESS</p>  <ul style="list-style-type: none"> - 4 pin connector - RED marking tape 	<p>REAR TURN SIGNAL HARNESS</p>  <ul style="list-style-type: none"> - 3 pin connector - RED marking tape 	



Turn Signal/Horn Kit 3103

	<p>SINGLE HOLE CLAMP</p> 	<p>TWO HOLE ADAPTER</p> 	<p>FLANGE BOLT and LOCK NUT (RYCO-C)</p> 
	<p>PLATE HOLDER</p> 	<p>LICENSE PLATE LIGHT and FLANGE NUT</p> 	
<p>Installation Steps</p>	<p>NOTE: Where possible run new cables alongside the existing wires, and use existing cable ties/anchors where practical.</p> <p>IMPORTANT: Ensure that the wiring and installed hardware do not contact moving components or hot surfaces.</p> <p>Turn the ignition key to start the engine, step on the brake pedal, and verify that the brake lights function correctly.</p> <ul style="list-style-type: none"> • If yes, continue to Step 1. • If no, adjust the vehicle brake switch until the brake lights function, and then continue to Step 1. 		
<p>1. Mount the TURN SIGNAL/HORN SWITCH</p>	<p>NOTE: The TURN SIGNAL/HORN SWITCH should NOT have any components installed on the harness until after the switch is installed, and the switch harness is routed behind the dash.</p> <ul style="list-style-type: none"> • Open the vehicle front access cover. • Position the TURN SIGNAL/HORN SWITCH and mounting bracket on the bottom of the steering wheel housing, locating the bracket such that the holes are centered on the housing. • Mark the location of the two mounting holes. • Drill two 1/2" diameter holes. • Install the two EXPANDABLE NUTS in the holes. • Temporarily mount the TURN SIGNAL/HORN SWITCH and mark an appropriate location for an access hole for the TURN SIGNAL/HORN SWITCH harness. • Remove the TURN SIGNAL/HORN SWITCH and drill a 7/8" diameter hole in the plastic on the side of the housing where the TURN SIGNAL/HORN SWITCH harness will enter the housing. • Insert the TURN SIGNAL/HORN SWITCH harness connectors through the housing hole, one at a time. • Reinstall the TURN SIGNAL/HORN SWITCH and mounting bracket on the steering wheel housing. • Route the TURN SIGNAL/HORN SWITCH harness towards the center of the vehicle. 		



Turn Signal/Horn Kit 3103

2. Connect the Components to the TURN SIGNAL/HORN SWITCH Harness

IMPORTANT: Match the colors of the marking tape on the wires when you install the components (e.g., **RED** to **RED**, **GREEN** to **GREEN**, **BLUE** to **BLUE**), rather than match the color of the connectors or the wires.

Connect the following to the **TURN SIGNAL/HORN SWITCH** harness:

- **SELF-CANCELING FLASHER RELAY** (3 pin connector with NO marking tape),
- **RYCO POWER, GROUND & HORN HARNESS** (4 pin **GREEN** marking),
- **DASH MOUNTED INDICATOR HARNESS** (3 pin **BLUE** marking), and
- **BRAKE SWITCH INTERFACE** (2 pin with NO marking).



NOTE: Do NOT connect the front or rear turn signal harness to the TURN SIGNAL/HORN SWITCH at this time.

- Secure the **TURN SIGNAL/HORN SWITCH** harness to a cross member using a **CABLE TIE**.

NOTE: The SELF-CANCELING FLASHER RELAY can be bundled and secured with a CABLE TIE to the TURN SIGNAL/HORN SWITCH harness.

Self-Canceling Flasher Relay Feature: The SELF-CANCELING FLASHER RELAY has a timing circuit that will cancel the turn signals after a few minutes. The timer is reset whenever the turn signal switch is returned to the center/off position.

3. Install the BRAKE STROBE INTERFACE

Brake Strobe Feature: Whenever the service brake is applied, the brake lights strobe six times in the first second, and then remain on at full intensity until the brake pedal is released.

If you wish to disable the strobe feature, alter the BRAKE STROBE INTERFACE:

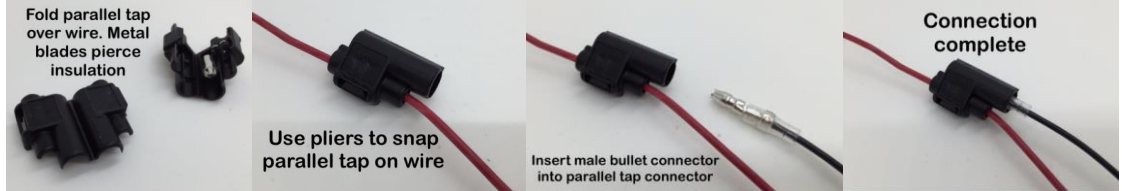
- On the BRAKE STROBE INTERFACE cut the BLACK ground wire, or remove the BLACK ground wire from the 2 pin connector.
- Cut the two RED wires going into the BLACK cylindrical component.



4.

NOTE: Check the orientation of the PARALLEL TAP connectors to ensure access for the male connectors, prior to seating the terminal with pliers.

How to Install a PARALLEL TAP: The wire colors may not match your application but are for illustration.



- Locate the wires leading to the vehicle brake switch.
- Trace the wires from the vehicle brake switch to the two pin connector.
- Install a **PARALLEL TAP** on the vehicle brake switch **YELLOW/GREEN** wire on the switch side of the two pin connector.
- Route the **BRAKE SWITCH INTERFACE** wire from the **TURN SIGNAL/HORN SWITCH** harness.
- Connect the **BRAKE SWITCH INTERFACE** wire to the **PARALLEL TAP** installed on the vehicle brake switch **YELLOW/GREEN** wire.

5. Install the HORN

IMPORTANT: Do not attempt to adjust the HORN or remove the center mounting nut that attaches the HORN to the horn mounting bracket.

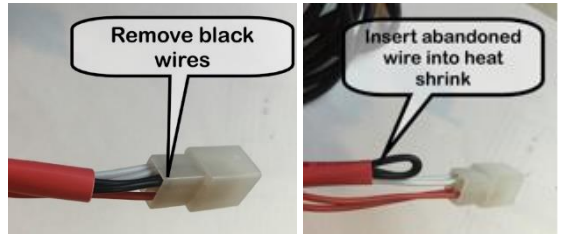
- Position the **HORN** in the desired location.
- Drill a 6mm (1/4") diameter hole in the plastic under the hood.
- Using the **PLASTIC SPACER** mount the **HORN** using the provided **FASTENER, FLAT WASHER** and **LOCK NUT**.
- Route the **RYCO POWER, GROUND & HORN HARNESS** from the **TURN SIGNAL/HORN SWITCH** harness to the **HORN**.





Turn Signal/Horn Kit 3103

	<ul style="list-style-type: none"> Install the two flat spade connectors to the HORN terminals. <p>NOTE: Either connector can be installed on either HORN terminal.</p>
<p>6. Install the DASH MOUNTED INDICATOR HARNESS</p>	<ul style="list-style-type: none"> Mark the desired locations in the dash for the two DASH MOUNTED INDICATOR HARNESS LED lights, where they are visible to the driver. Drill two 9/32" mounting holes in the dash for the indicator lights. <p>HINT: A little warmth and moisture help when installing the grommets, and again when installing the LEDs into the grommets.</p> <p>NOTE: Carefully insert the DASH MOUNTED INDICATOR HARNESS LEDs into the grommets to prevent damage to the wires and resistor.</p> <ul style="list-style-type: none"> Seat the rubber grommets into the drilled holes, and then carefully push the LEDs into the grommets from the rear, until the LED is flush or slightly protruding.
<p>7. Install the FRONT TURN SIGNAL HARNESS</p>	<p>Front Running Light Feature: The front turn signal LEDs are running lights, and illuminate at 60% intensity when the vehicle ignition is on, and then flash at full intensity when the turn signals are activated.</p> <p><u>If you wish to disable the running light feature,</u></p> <ul style="list-style-type: none"> On the FRONT TURN SIGNAL HARNESS remove the BLACK wire in the 4 position connector. <p>NOTE: Use a very fine flat blade screwdriver or similar tool to depress the metal tab on the pin joining the two black wires.</p> <ul style="list-style-type: none"> Push the pin out of the 4 position connector, and tuck the pin into the red heat shrink or tape it out of the way. <p>CAUTION: Note the location of the headlight support on the back side of the body plastic on the outboard side of the headlight. Remove the headlight support to avoid drilling through the headlight support.</p> <ul style="list-style-type: none"> Determine the desired locations of the three front LEDs on the outboard side of the headlights. <p>HINT: 1¼" - 1½" spacing between the LEDs works well.</p> <ul style="list-style-type: none"> Mark the locations using a center punch. <p>NOTE: Use of a step drill is recommended.</p> <ul style="list-style-type: none"> Remove the headlight support to avoid drilling through the headlight support. Drill three ¾" diameter holes for each set of front turn signal LEDs. Connect the FRONT TURN SIGNAL HARNESS 4 pin connector to the TURN SIGNAL/HORN SWITCH harness, matching the RED marking tape. <p>NOTE: The tags on the FRONT TURN SIGNAL HARNESS are marked "L" for the driver's side, and "R" for the passenger side.</p> <p>HINT: A little warmth and moisture helps to slip everything together.</p> <ul style="list-style-type: none"> Route the FRONT TURN SIGNAL HARNESS triple LEDs to the front corners of the vehicle. Slide the rubber flange gaskets on the LEDs back onto the wires.





Turn Signal/Horn Kit 3103

- Slip each LED through the applicable 3/4" diameter hole, fold the flange gasket and push it through the hole.
- Install the flange gasket into the hole, with the flange of the gasket towards the front of the vehicle.
- Insert the LED into the flange gasket with a gentle pulling and rocking motion, to seat the LED into the gasket.
- Rotate the LEDs within the gasket as necessary to orient them in the same relative position.



8. Install the REAR TURN SIGNAL HARNESS

- Connect the **REAR TURN SIGNAL HARNESS** 3 pin connector to the **TURN SIGNAL/HORN SWITCH** harness, matching the **RED** marking tape.

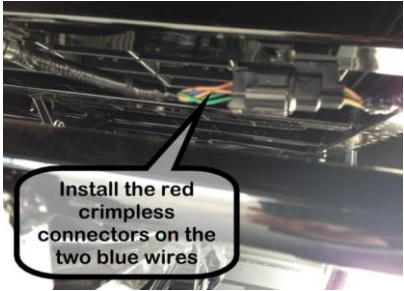
NOTE: Only the two outside pins of the REAR TURN SIGNAL HARNESS 3 pin connector is used. The rear turn signal circuit utilizes the existing vehicle ground.

- Remove the seats and the center tunnel cover.
- Route the **REAR TURN SIGNAL HARNESS** from the front of the vehicle to the rear of the vehicle on the passenger side.
- Secure with **CABLE TIES**.

NOTE: Ensure the wiring does not contact moving components or hot surfaces.

IMPORTANT: You MUST cut the vehicle wires, and connect to the **RED** and **BLACK** wires on the REAR TURN SIGNAL HARNESS. If you splice into the wires, rather than cut the wires, it will not function properly.

- At the rear of the vehicle locate the vehicle wire harness leading to the rear taillight assemblies.
- Locate the 6 pin connector and then remove the tape and cover on the taillight side of the connector to expose a couple of inches of wire.
- Locate the two **BLUE** wires leading to the taillight assemblies.
- Cut the **BLUE** wires approximately 2-3" in front or behind the connector.
- Strip approximately 1/8" – 3/16" of the wire insulation from each of the **BLUE** wires going to the taillight.



How to Use the Solderless Connectors:

- Unscrew the solderless connector end piece, and slip it over the wire of the component to connect.
- Start to screw the end piece back in place, and push the wire of the component being connected, so it is seated in the solderless connector.
- Tighten the end pieces.



Connect the **REAR TURN SIGNAL HARNESS** to the vehicle taillight **BLUE** wires using the solderless connectors:

- Attach the **REAR TURN SIGNAL HARNESS** **BLACK** wire to the **RIGHT** taillight vehicle **BLUE** wire.
- Attach the **REAR TURN SIGNAL HARNESS** **RED** wire to the **LEFT** taillight vehicle **BLUE** wire.
- Abandon the cut vehicle **BLUE** wires **COMING FROM THE FRONT OF THE VEHICLE**, and tuck the ends back into the factory wire harness sleeve and/or tape over with electrical tape

NOTE: If you connect the REAR TURN SIGNAL HARNESS wires to the **BLUE** wires coming from the front of the vehicle, the rear turn signals and brake lights will not function.



Turn Signal/Horn Kit 3103

9. Install the LICENSE PLATE LIGHT and PLATE HOLDER

If installing on a...	Then use the two...
Pioneer 700 (i.e., 2-seater),	1 1/4" diameter SINGLE HOLE CLAMPS .
Pioneer 700-4 (i.e., 4-seater),	1 1/2" diameter SINGLE HOLE CLAMPS .

- Using the two **SINGLE HOLE CLAMPS** position the **PLATE HOLDER** at the desired location on the right side of the vehicle.



EXPLANATION: The LICENSE PLATE LIGHT can be installed either:

- As one of the four license plate bolts, or
- In the TWO HOLE ADAPTER where the light will shine on the license plate.

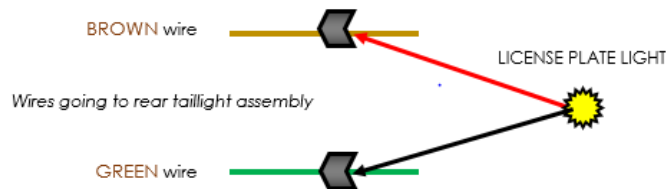
NOTE: Use one of the FLANGE BOLTS and LOCK NUTS (RYCO-C) to secure the TWO HOLE ADAPTER to the PLATE HOLDER.

IMPORTANT: Use the FLANGE BOLT provided with the LICENSE PLATE LIGHT. DO NOT OVERTIGHTEN. The LICENSE PLATE LIGHT body is aluminum, and the threads can be stripped quite easily.

- Finish securing the license plate to the **PLATE HOLDER** using the two **FLANGE BOLTS** and **LOCK NUTS (RYCO-C)**.

NOTE: Check the orientation of the PARALLEL TAP connectors to ensure access for the male connectors, prior to seating the terminal with pliers.

- Locate the **BROWN** wire (i.e., 12V DC, taillight) and **GREEN** wire (i.e., ground) leading to the rear taillight assembly.
- Install a **PARALLEL TAP** connector on the **BROWN** wire and **GREEN** wires, referring to "How to Install a PARALLEL TAP" in Step 3 as needed..
- Route the **LICENSE PLATE LIGHT** wires to the **PARALLEL TAPS** installed on the **BROWN** wire and **GREEN** wires.
- Connect the **LICENSE PLATE LIGHT RED** wire to the **BROWN** wire.
- Connect the **LICENSE PLATE LIGHT BLACK** wire to the **GREEN** wire.



10. Connect to the Main Power

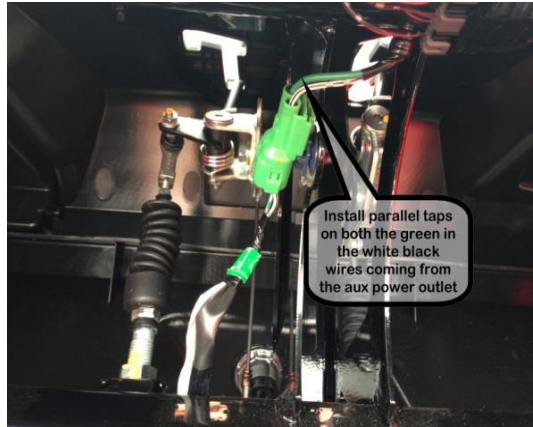
IMPORTANT: The LEDs and SELF-CANCELING FLASHER RELAY are polarity sensitive. The RYCO POWER, GROUND & HORN HARNESS **RED** fused wire **MUST** be connected to the 12 volt DC (positive side), and the **BLACK** ground wire must be connected to the vehicle ground wire.

If this is not done correctly, the horn will work, but the turn signals will not function.

WARNING: Damage to the SELF-CANCELING FLASHER RELAY may occur if the wires are installed backwards.



Turn Signal/Horn Kit 3103

	<ul style="list-style-type: none">• Ensure the ignition key is in the "OFF" position.• At the auxiliary power outlet that is mounted on the dash (i.e., the cigarette lighter outlet, for you ol' timers), trace the wires coming from the rear of the power outlet to the 2 pin connector. <p>NOTE: Check the orientation of the PARALLEL TAP connectors, to ensure access for the male connectors on the power and ground wires, when the wires are reconnected to the auxiliary power outlet terminals, prior to seating the terminal with pliers.</p> <ul style="list-style-type: none">• Remove the vehicle 2 pin connector from the back of the outlet, to facilitate the installation of the PARALLEL TAPS.• Above or below the 2 pin connector, remove the outer wrap as needed to install a PARALLEL TAP connector on the GREEN and a PARALLEL TAP connector on the WHITE/BLACK wires, as shown. <p>Connect the RYCO POWER,GROUND & HORN HARNESS to the PARALLEL TAP connectors on the auxiliary power outlet wires:</p> <ul style="list-style-type: none">• Connect the RYCO POWER, GROUND & HORN HARNESS RED wire to the vehicle WHITE/BLACK wire.• Connect the RYCO POWER, GROUND & HORN HARNESS BLACK wire to the vehicle GREEN wire.• At the auxiliary power outlet, reattach the vehicle 2 pin connector to the back of the outlet. 
11. Test	<ul style="list-style-type: none">• Double check all the connectors.• Turn the ignition key to the "ON" position.• Verify that the turn signals, four-way flasher, horn, brake, and license plate light work correctly.• Refer to the Troubleshooting Guide at the end of this document.
12. Done	<p>IMPORTANT: Ensure that the wiring and installed hardware do not contact moving components or hot surfaces.</p> <ul style="list-style-type: none">• Once all the cabling is in place and functionality is verified, double check the routing, and secure with CABLE TIES.• Bundle any extra cable length, and secure with the CABLE TIES.• Reinstall the covers and seats.



Turn Signal/Horn Kit 3103

Troubleshooting Guide							
Does It Work Correctly?	Front Turn Signals	Indicator Lights	Horn	Brake Lights	Rear Turn Signals	License Plate Light	Resolution
Scenario 1	✓	✓	✓	✓	✓	✓	Go riding!
Scenario 2	✓	✓	✓	No	✓	✓	BRAKE STROBE INTERFACE not installed correctly. Refer to Step 3.
Scenario 3	✓	✓	✓	No	No	✓	The REAR TURN SIGNAL HARNESS RED and BLACK wires were connected to the wrong ends of the cut vehicle wires. Refer to Step 8.
Scenario 4	✓	✓	✓	✓	✓	No	Ensure that the LICENSE PLATE LIGHT RED power and BLACK ground wires are connected correctly (i.e. cables are not reversed). Refer to Step 9.
Scenario 5	No	No	✓	No	No	No	Ensure that the RYCO POWER, GROUND & HORN HARNESS RED main power and BLACK ground wires are connected correctly (i.e., the cables are not reversed).
Scenario 6	No	No	No	✓	✓	No	Ensure that the RYCO POWER, GROUND & HORN HARNESS BLACK ground wire is connected to a good ground.
Scenario 7	No	No	✓	✓	No	✓	If the turn signal lights illuminate but do not flash, then the SELF-CANCELING FLASHER RELAY is damaged or defective. Contact Ryco Motorsports by email or phone, provide your shipping address, and we will send you a replacement SELF-CANCELING FLASHER RELAY , at no charge, to correct the problem.

Refer to Step 10.