Before you begin	STOP! THIS KIT IS DESIGNED SPECIFICALLY FOR POLARIS ACE 2017 and newer, POLARIS ACE 900 all years, POLARIS RZR 900 / 4 900 2015 and newer, POLARIS RZR 1000 / 4 1000 all years, POLARIS RZR TURBO / 4 TURBO all years					
	IF YOUR VEHICLE IS NOT ONE OF THESE MODELS, DO NOT PROCEED.					
Where do I start?	Contact Ryco Motorsports or your local dealer for the correct kit. Please read and follow the instructions. 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.					
What tools do I need?	We've included a lot of photos for those of you who are visual and don't enjoy words. 10 mm or 5/16" socket/nut driver or flat blade screwdriver Phillips screwdriver 10 mm wrench center punch drill motor 9/32" and ½" diameter drill bit ¾" stepped drill bit Wire cutter Wire stripper Polaris pliers or flat blade screwdriver T30 Torx bit					
What's in the	Let's become familiar with the it	ems you will be installing on y	our vehicle, listed in order of			
box?	SCREW CLAMP	SCREW CLAMP COVER	TURN SIGNAL/HORN SWITCH - The TURN SIGNAL/HORN SWITCH harness connectors interface with the various components.			



SELF-CANCELING FLASHER RELAY



- 3 pin connector - No color coding

RYCO POWER, GROUND & FUSE HARNESS



4 pin connector
 GREEN color coded marking tape

BRAKE STROBE INTERFACE



- 2 pin connector
- No color coded marking tape

CABLE TIES



HORN



PARALLEL TAP



DASH MOUNTED INDICATOR HARNESS



- 3 pin connector - BLUE color coded marking tape

CLUSTER DASH INDICATOR HARNESS

POLARIS INSTRUMENT



- 3 pin connector
- BLUE color coded marking tape



- 4 pin connector
- RED color coded marking tape

REAR TURN SIGNAL HARNESS



- 3 pin connector
- RED color coded marking tape

2014 EXTENSION WIRE



LICENSE PLATE LIGHT



PLATE HOLDER



EXPANDABLE NUT AND



FLANGE BOLT and LOCK NUT





TERMINAL BLOCK ADAPTER



Installation Steps

NOTE: Where possible run new cables alongside the existing wires, and use existing cable ties/anchors where practical.

IMPORTANT: Ensure that the wiring and installed hardware do not contact moving components or hot surfaces.

1.

- Remove the front access cover.
- Remove the two screws securing the dash assembly.
- Push the dash assembly backwards to provide access to the back side of the dash.









2. Mount the TURN SIGNAL/ HORN SWITCH

NOTE: The TURN SIGNAL/HORN SWITCH should NOT have any of the cables or components installed on the harness until after the switch is installed, and the switch harness is routed behind the dash.

 Install the SCREW CLAMP and decorative SCREW CLAMP COVER on the TURN SIGNAL/HORN SWITCH as shown, with the screw mechanism on the bottom facing out.



- Secure the TURN SIGNAL/HORN SWITCH to the vehicle steering column as shown.
- Route the wires between the steering column and the tilt mechanism, and then up under the dash towards the center of the dash.





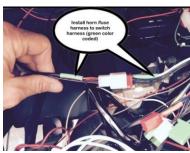
3. Connect the TURN SIGNAL/HORN SWITCH to Harnesses

IMPORTANT: <u>Match the colors of the marking tape</u> on the wires (e.g., red to red, green to green, blue to blue) when you install the components, rather than match the color of the connectors or the wires, unless otherwise directed.

- Connect the following to the TURN SIGNAL/HORN SWITCH harness:
 - o **SELF-CANCELING FLASHER RELAY** (3 pin connector with NO color marking),
 - o RYCO POWER, GROUND & HORN HARNESS (GREEN color marking), and
 - o **BRAKE STROBE INTERFACE** (2 pin connector with NO color marking).









The SELF-CANCELING FLASHER RELAY has a timing circuit that will cancel the turn signals after three minutes and thirty three seconds. The timer is reset whenever the turn signal switch is returned to the center/off position.

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.

4. 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.

- Install the HORN on the support frame behind the radiator.
- Use a 10mm wrench and 10mm socket to secure the **HORN**.
- Route the RYCO POWER, GROUND & HORN HARNESS from the TURN SIGNAL/HORN SWITCH assembly, through the firewall grommet to the HORN.
- Install the two flat spade connectors to the HORN terminals.

NOTE: Either connector can be installed on either HORN terminal.



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:

- 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.
- o Splice the two RED wires together.
- Locate the vehicle master brake cylinder and hydraulic brake switch.

NOTE: The hydraulic brake switch is located on the inboard side of the master cylinder, and secures the two front brake lines to the master cyclinder.









- Push back the outer sleeve of the hydraulic brake switch wire harness to expose the wires coming out of the connector
- Install a PARALLEL TAP on the vehicle ORANGE wire.

NOTE: Check the orientation of the PARALLEL TAP connectors to ensure access for the male connector, prior to seating the PARALLEL TAP connector with pliers. You can unplug the connector to allow easier access.

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

Fold parallel tap over wire. Metal blades pierce insulation

Use pliers to snap parallel tap on wire

Insert male bullet connector into parallel tap connector

- Route the BRAKE STROBE INTERFACE wire through the grommet in the firewall.
- Connect the **BRAKE STROBE INTERFACE** to the **PARALLEL TAP** installed on the hydraulic brake switch **ORANGE** wire.





6.
Install the
Dash Indicator
Harness

If your vehicle	Use the	Go to
Has the Ride	DASH MOUNTED INDICATOR HARNESS	Step 7.
Command Display,		
Is a RZR TURBO,	NOTE : This part is NOT included in the kit, but can be	
2017 and newer,	provided separately.	
Is a RZR 4 TURBO,		
2017 and newer,	EXPLANATION : Polaris did NOT include factory turn signal indicators on these vehicles.	
	Contact your local dealer or Ryco Motorsports if you	
	want this component, and it will be provided at no	
	charge.	
Otherwise,	POLARIS INSTRUMENT CLUSTER DASH INDICATOR HARNESS	Step 8.

7. Install the DASH MOUNTED INDICATOR HARNESS

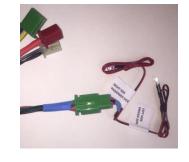
- Mark the desired locations in the dash for the two DASH MOUNTED INDICATOR HARNESS
 LED lights, where they are visible to the driver.
- Drill two 9/32" mounting holes in the dash for the indicator lights.
- Seat the rubber grommets into the drilled holes, and then carefully push the LEDs into the grommets from the rear, until the LED is flush or slightly protruding.



NOTE: Carefully insert the DASH MOUNTED INDICATOR HARNESS LEDs into the grommets to prevent damage to the wires and resistor.

HINT: A little warmth and moisture help when installing the grommets, and again when installing the LEDs into the grommets.

• Connect the **DASH MOUNTED INDICATOR HARNESS** to the 3 pin connector on the **TURN SIGNAL/HORN SWITCH** harness, matching the **BLUE** color marking tape.



• Go to Step 9.

8. Install the POLARIS INSTRUMENT CLUSTER DASH INDICATOR HARNESS

Install the **POLARIS INSTRUMENT CLUSTER DASH INDICATOR HARNESS** on 2011 and newer vehicles, <u>EXCLUDING</u> vehicles with the Ride Command Display, the RZR TURBO 2017 and newer, or RZR 4 TURBO 2017 and newer.

Disconnect the multi-pin connector from the back of the interactive digital display or the speedometer assembly (depending on the vehicle) by depressing the single locking tap on the connector, and pulling the connector away from the mating part.





CAUTION: Do not use a metal object to remove the plastic plug covering positions 6 and 7.

 Open the connector cover, and then remove and discard the plastic plugs in positions 6 and 7.

HINT: Use your fingernail to easily remove the plastic plug.

This is IMPORTANT! That's why it's underlined.

- Remove the clear pin cover on the front side of the connector by depressing the tabs on the sides of the connector.
- Install the POLARIS INSTRUMENT CLUSTER DASH INDICATOR HARNESS RED pin/wire in position 6.
- Install the POLARIS INSTRUMENT CLUSTER DASH INDICATOR HARNESS GREEN harness pin/wire in position 7.

IMPORTANT: The pins must be seated completely.

This is IMPORTANT! That's why it's underlined.

- Verify the new pins match the installation depth of the existing pins.
- Reinstall the clear pin cover.
- Route the new wire adjacent to the existing wires.
- Close the back cover.







Reinstall the connector to the interactive digital display or the speedometer assembly.



EXPLANATION: The standard instrument cluster turn signal indicator <u>double arrow flashes</u> regardless of the direction of the switch.

NOTE: On some vehicles, the dash indicators do not flash, but stay on solid when the turn signal switch is activated. After installation if you find this is the case for your vehicle and you want the indicator to flash, contact Ryco Motorsports by email or phone, and provide your shipping address. Ryco Motorsports will send you a POLARIS DASH INDICATOR DIODE ASSEMBLY, at no charge, to enable the indicators to flash. The dash diode assembly comes with instructions, and takes about five minutes to install.

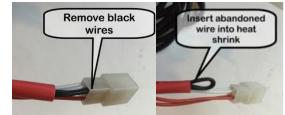
9. Install the FRONT TURN SIGNAL HARNESS

Front Running Lights 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.

If you wish to disable the running light feature,

 On the FRONT TURN SIGNAL HARNESS remove the BLACK wire in the 4 position connector.

NOTE: Use a very fine flat blade screwdriver or similar tool to depress the metal tab on the pin joining the two black wires.



- 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.
- Determine the locations of the front LEDs as desired.

HINT: 1 ½" spacing between the holes and the corner of the headlight frame, as shown, and approximately 5/8" down from the horizontal edge of the headlight frame, works well.

Mark the locations using a center punch.

NOTE: Use of a step drill is recommended.

- Drill six ¾" diameter holes, as shown.
- From the front side of the firewall, route the
 FRONT TURN SIGNAL HARNESS 4 pin connector and cables through the grommet in the
 firewall
- Connect the FRONT TURN SIGNAL HARNESS 4 pin connector to the 4 pin connector on the TURN SIGNAL/HORN SWITCH harness, matching the RED color marking tape.

NOTE: The tags on the FRONT TURN SIGNAL HARNESS are marked "L" for the driver side, and "R" for the passenger side.

- Route the FRONT TURN SIGNAL HARNESS triple LEDs to the front corners of the vehicle.
- Slide the rubber flange gaskets that are on the LEDs back onto the wires.
- Slip the LED through the ¾" 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.

HINT: A little warmth and moisture helps to slip everything together.

 Rotate the LEDs within the gasket as necessary to orient them in the same relative position

















10. Install the REAR TURN SIGNAL HARNESS

- Remove the seats.
- Remove the plastic push pins and screws securing the center tunnel.

NOTE: You don't need to remove the center tunnel, but simply lift it enough to route the rear cable from the front to the rear of the vehicle.







- From the front side of the firewall, route the **REAR TURN SIGNAL HARNESS** 3 pin connector through the grommet in the firewall.
- Connect the **REAR TURN SIGNAL HARNESS** 3 pin connector to the **TURN SIGNAL/HORN SWITCH** harness, matching the RED color marking tape.

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

- Route the REAR TURN SIGNAL HARNESS cable alongside the existing wires, where
 practical, to the rear of the vehicle.
- Secure with CABLE TIEs.

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

• Follow the applicable installation step, depending on your vehicle:

If your vehicle is	Go to		
A 2014 Polaris RZR 1000	Step 11.		
Otherwise,	Step 12.		



11. 2014 RZR 1000

- At the taillight assemblies, unplug the 3 pin connector.
- Push the sleeve back to expose the three wires for approximately 3"-4".
- Cut the vehicle ORANGE wires 2"-3" in front of the three pin connector.
- Remove 1/8"-3/16" of the wire insulation on the wire GOING to the taillight.
- Reinstall the 3 pin connector back into the taillight assembly.

How to Use the Solderless Connectors: To use the solderless connectors to connect the REAR TURN SIGNAL HARNESS wires to the vehicle ORANGE wires:

- 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.
- o Tighten the end pieces.
- Connect the REAR TURN SIGNAL HARNESS, 2014 EXTENSION WIRE, and vehicle taillight wires:
 - Attach the REAR TURN SIGNAL HARNESS BLACK wire to the BLACK 2014 EXTENSION WIRE, using the solderless connector.
 - Route the BLACK 2014 EXTENSION WIRE to the passenger side taillight assembly.
 - Attach the BLACK 2014 EXTENSION WIRE to the vehicle taillight ORANGE wire, using the solderless connector.
 - Attach the REAR TURN SIGNAL HARNESS RED wire to the driver's side vehicle ORANGE wire, using the solderless connector.
- Abandon the cut vehicle ORANGE wires **coming from the front of the vehicle**, and tuck into the protective sleeve and/or wrap with electrical tape.
- Go to Step 13.

12. 2015 and newer vehicle

- On the rear driver's side of the vehicle, above the clutch assembly, locate the rear taillight 4 pin connector.
- Push the sleeve back to expose the four wires for approximately 3"-4".
- Cut the vehicle ORANGE wires 2"-3" in front of the 4 pin connector.
- Remove 1/8"-3/16" of the wire insulation on the vehicle ORANGE wires going to the taillights.

NOTE: The two center wires on the 4 pin connector are ORANGE, but if you look close, one has a BLACK or WHITE tracer stripe.

How to Use the Solderless Connectors: To use the solderless connectors to connect the REAR TURN SIGNAL HARNESS wires to the vehicle ORANGE wires:

- Unscrew the solderless connector end piece, and slip it over vehicle ORANGE wire.
- Start to screw the end piece back in place, and push the vehicle ORANGE wire so it is seated in the solderless connector.
- o Tighten the end pieces.
- Connect the REAR TURN SIGNAL HARNESS and vehicle taillight wires:
 - Attach the REAR TURN SIGNAL HARNESS BLACK wire to the vehicle ORANGE wire with BLACK or WHITE tracer stripe, using the solderless connector.
 - Attach the REAR TURN SIGNAL HARNESS RED wire to the vehicle solid ORANGE wire, using the solderless connector.
- Abandon the cut vehicle ORANGE wires coming from the front of the vehicle, and tuck into the protective sleeve and/or wrap with electrical tape.





13. Install the LICENSE PLATE LIGHT and PLATE HOLDER

IMPORTANT: DO NOT overtighten the nut on the LICENSE PLATE LIGHT. The LICENSE PLATE LIGHT body is aluminum, and the threads can be stripped quite easily.

- At the taillight connector, on either the driver's or passenger side, install a PARALLEL TAP connector on the vehicle RED/YELLOW wire and BROWN wires.
- Plug the 3 pin connector of the Polaris taillight assembly harness back into the taillight.

NOTE: The LICENSE PLATE LIGHT will tie into the PARALLEL TAP connectors.

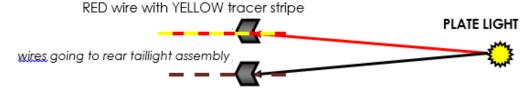
- Position the LICENSE PLATE LIGHT in the upper plastic, above the exhaust heat shields.
- Drill a 1/4" diameter hole for the **LICENSE PLATE LIGHT**, similar to the location as shown in the center photo below.







- Install the LICENSE PLATE LIGHT so that it will shine directly down.
- Secure the LICENSE PLATE LIGHT with the provided FLANGE NUT.
- Route the LICENSE PLATE LIGHT wires to the PARALLEL TAPs installed on the RED/YELLOW wire and BROWN wires.
- Connect the LICENSE PLATE LIGHT RED wire to the vehicle RED/YELLOW wire.
- Connect the LICENSE PLATE LIGHT BLACK wire connects to the vehicle BROWN wire.



BROWN wire

- Position the PLATE HOLDER in the desired location.
- Mark the location of the two mounting holes, i.e., the top corner holes for the RZR 1000 and RZR Turbo, and the lower corner holes for the ACE and RZR 900.
- Drill two ½" diameter holes in the vehicle's body plastic.
- Install the two rubber 6mm **EXPANDABLE NUTs** in the ½" holes, with the flange portion outboard.
- Using the two provided FLANGE BOLTS, secure the PLATE HOLDER and license plate to the vehicle's body.
- Finish securing the license plate to the **PLATE HOLDER** using the two **FLANGE BOLTS** and **LOCK NUTS**.

14. 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.



EXPLANATION: In model years 2015 and early 2016 the accessory terminal on the terminal block is not tied to the ignition switch.

If your vehicle is model year	Go to
2016	Step 15.
2015	Step 16.
Otherwise,	Step 17.

15. Model Year 2016

EXPLANATION: Determine if the accessory terminal on the terminal block is tied to the ignition switch.

- With the vehicle ignition off, using a test light or ohmmeter set to volts DC, attach the ground wire to one of the two terminal block mounting screws located on either end of the terminal block.
- Connect the other end of the test light or the positive lead on the ohmmeter to the terminal marked as "Accessory" on the terminal block.
- Does the test light illuminate or the ohmmeter show 12 V DC?
 - o If yes, go to Step 16.
 - o If no, turn the ignition to on, and repeat the test, confirming that the test light then illuminates or the ohmmeter reads 12 V DC. Then **go to Step 17**.

16. Model Year 2015 and Early 2016 (as tested)

- Locate the vehicle's ORANGE/RED and BROWN wires on the headlight switch's top two terminals.
- Install a PARALLEL TAP connector on the vehicle's BROWN and ORANGE/RED wires.
- Route the RYCO POWER, GROUND & HORN HARNESS fused wires to the back side of the headlight switch
- Connect the RYCO POWER, GROUND & HORN HARNESS BLACK ground wire to the PARALLEL TAP connector on the vehicle BROWN wire (ground).
- Connect the RYCO POWER, GROUND & HORN HARNESS RED fused wire to the PARALLEL TAP on the ORANGE/RED wire (12 volt DC).



17. Other Model Years

- Locate the terminal block on the passenger side of the vehicle in the front compartment.
- Loosen the center and passenger side terminals (marked ground and accessory).
- Loosen one of the terminal block mounting screws.
- Install the TERMINAL BLOCK ADAPTER RED wire split ring terminal under the nut on the stud marked "Accessory," and one BLACK wire split ring terminal under the nut on the stud marked "Ground."
- Install the remaining BLACK wire terminal pin under the terminal block mounting screw.
- Tighten the nuts and screw.



Go to Step 18.

- Route the RYCO POWER, GROUND & HORN HARNESS wires through the grommet in the firewall towards the terminal block.
- Connect the RYCO POWER, GROUND & HORN HARNESS BLACK ground wire to the TERMINAL BLOCK ADAPTER female bullet connector on the BLACK wire (ground).
- Connect the RYCO POWER, GROUND & HORN HARNESS BLACK RED fused wire to the TERMINAL BLOCK ADAPTER female bullet connector on the RED wire (12 volt DC).





18.	Double check all the connectors.		
Test	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.		
19.	Once all the cabling is in place and functionality is verified, double check the routing,		
Done	and secure with CABLE TIES .		
	Bundle any extra wire length and secure with the CABLE TIES.		
	Reinstall the dash, front access cover, center tunnel and seats.		



Troubleshooting Guide								
Does It Work Correctly?	Front Turn Signals	Dash Indicators	Horn	Brake Lights	Rear Turn Signals	License Plate Light	Resolution	
Scenario 1	√	√	√	√	√	√	Go riding!	
Scenario 2	√	√	√	Z ^O	No	✓	 The REAR TURN SIGNAL HARNESS RED and BLACK wires were connected to the wrong ends of the cut vehicle ORANGE wires. Refer to Step 10. BRAKE STROBE INTERFACE not installed correctly. Refer to Step 5. 	
Scenario 3	✓	No	✓	✓	✓	✓	If the Instrument Cluster	
								Then
							Do not illuminate, Illuminate but do not flash,	 Ensure that the clear plastic cover is removed, and the pin is seated correctly. Refer to Step 8. Contact Ryco Motorsports to request a POLARIS DASH INDICATOR DIODE ASSEMBLY.
Scenario 4	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). Refer to Step 14. 	
Scenario 5	✓	✓	✓	✓	✓	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 13. 	
Scenario 6	No	No	✓	✓	No	✓	If the turn signal lights illuminate but do not flash, the SELF-CANCELING FLASHER RELAY is damaged or defective.	e Contact Ryco Motorsports by email or phone, provide your shipping address, and we will send you a
Scenario 7	No	No	√	No	No	No	If the turn signal lights do not illuminate but the horn works, the FLASHER RELAY is damaged or defective.	replacement SELF -
Scenario 8	No	No	No	✓	✓	No	 Ensure that the RYCO POWE BLACK ground wire is conne Refer to Step 14. 	ER, GROUND & HORN HARNESS ected to a good ground.