3in1 Boost, Exhaust Temperature & Temperature Gauge

The following instructions are for the installation of your 3in1 Gauge. Before you begin, lay out all items and ensure there are no missing parts. If any items are missing, pleaste STOP immediately and contact GlowShift Gauges.

What's Included

- 3in1 Boost, EGT, Temp Gauge
- 1/8-27 NPT Boost Pressure Sensor with Red indicator band
- 1/8-27 NPT Exhaust Temperature Probe
- 1/8-27 NPT Temperature Sensor
- Power & Sensor Harnesses
- Mounting Gauge Cup & Bracket
- Gauge Visor

Wire Schematic

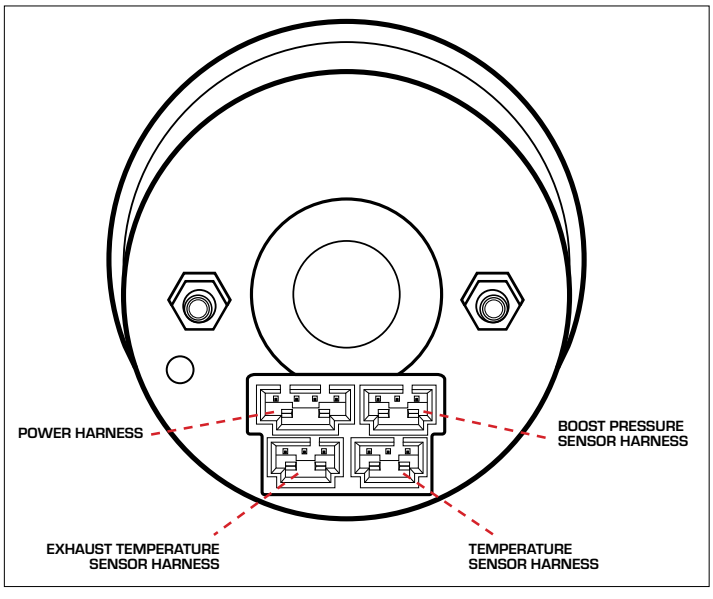
Red: 12v Constant Source (+)

White: 12v Ignition Switched Source (+)

Orange: 12v Headlight Switched Source (+)

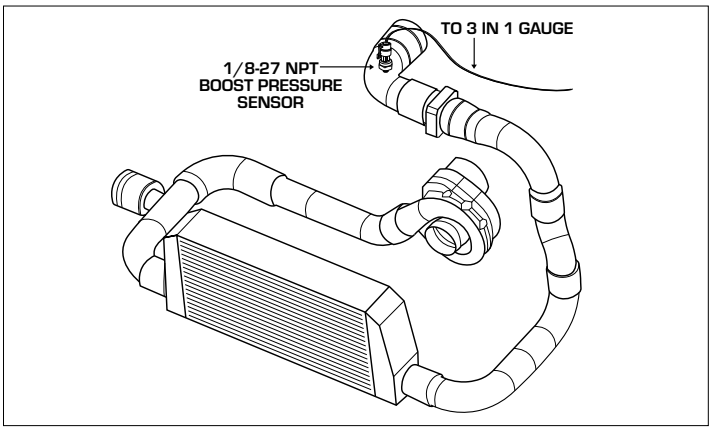
Black: Vehicle/Engine Ground (-)

WARNING **Disconnect negative battery terminals before starting any work on the vehicle.**



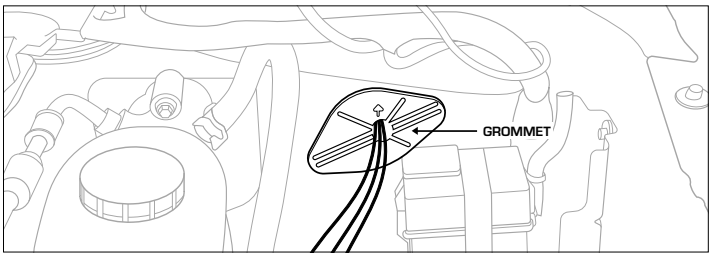
Boost Gauge

1. Determine the location in which you will install the Boost Pressure Sensor with the Red Indicator Band. In some applications a Boost Adapter can be used and in others you may have to drill and tap the vehicle's Intake Manifold to 1/8-27 NPT. Popular adapters are listed below:
   - Intake Heater Plug Adapter for a 99-02 7.3 Power Stroke and an 01-04 Duramax
   - 3/16" Map Line T-fitting
   - Boost Bolt Adapters for 5.9L and 6.7L Cummins and GM 6.5L Detriot



2. Thread the Boost Pressure Sensor into the tapped hole or adapter and tighten with a **22mm wrench**.
3. Plug the Boost Pressure Sensor Harness into the Boost Pressure Sensor.
4. Route the Boost Pressure Harness through the firewall from the engine bay, keeping it clear of any moving parts and heat sources.

   Note: Be sure to use a grommet when routing the harness through the firewall to protect it from being cut or damaged. If one is not available you will need to drill a hole and install a grommet.



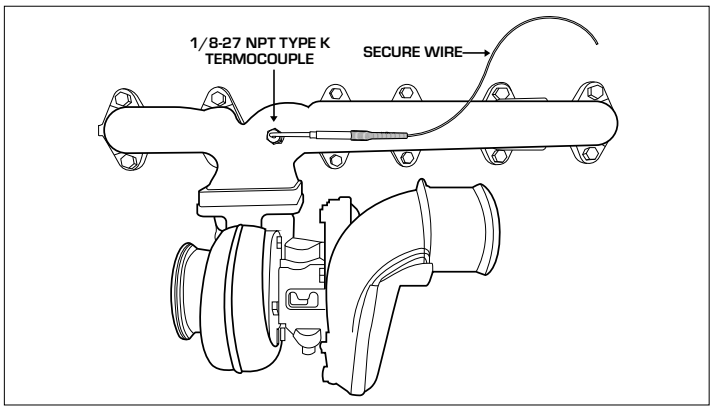
5. Plug the Boost Pressure Sensor Harness into the upper right plug on the back of the 3in1 Gauge.

Exhaust Gas Temperature Gauge (EGT)

We recommend installing the probe pre-turbo for the most accurate readings. Locate a flat portion on the Exhaust Manifold. Make sure to find a location on the manifold where all exhaust ports flow into one pipe before the turbo.

1. Use a punch to mark the location for drilling. Some vehicles may require removal of the Inner Fender Well, or they may need to be raised by a lift for easier access.

   Note: Some aftermarket Exhaust Manifolds may already include Exhaust Probe Ports, eliminating the need for drilling.



2. Starting with a **1/8" Drill Bit**, drill a hole at the marked location stepping up to a size **"R" Drill Bit**.
3. Use Cutting Oil to tap the drilled hole to 1/8-27 NPT. Take caution and tap a little at a time, backing the tap up and clearing any shavings that could possibly get in the way.
4. When you are done tapping, clean out all of the shavings inside the manifold or pipe using a magnet and a shop vacuum.
5. Brush Silver Grade Anti-Seize onto the threads of the Exhaust Temperature Probe Fitting and thread into the tapped hole. Tighten using a **14mm wrench**.
6. Install the Exhaust Temperature Probe into the manifold, ensuring the tip of the probe is roughly halfway inside the manifold, and tighten using a **14mm wrench**.
7. Plug the Exhaust Temperature Sensor Harness into the Exhaust Temperature Probe Connector.
8. Route the Exhaust Temperature Sensor Harness through the engine bay and firewall. Using a grommet, keep it clear of any moving parts, heat sources and kinks.

   Note: Be sure to use a grommet when routing the wire through the firewall to protect it from being cut or damaged. If one is not available you will need to drill a hole and install a grommet.
9. Plug the Exhaust Temperature Sensor Harness into the lower left plug on the back of the 3in1 Gauge.

Temperature

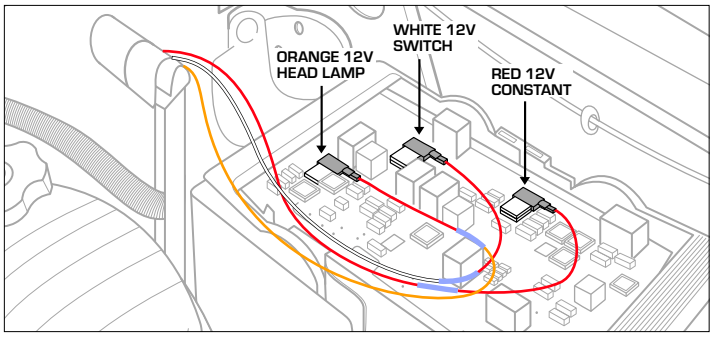
There are several different ways to connect a Temperature Gauge to your vehicle. In some cases an adapter is needed to adapt the 1/8-27 NPT Sensor to what you want to monitor. Please take a look at www.GlowShift.com for available adapters including Thread Adapters, Test Port Extenders and T-Fittings. This can be used to measure Transmission Temperature, Oil Temperature, Water Temperature and Differential Temperature. For more detailed information please go to page #4 for more information.

1. To install the Temperature Sensor, start by applying Teflon tape to the Temperature Sensor threads. Install the 1/8-27 NPT Temperature Sensor to your vehicle's system using one of the above methods that will work best for your application. Tighten the sensor using a **14mm wrench**.
2. Plug in the Temperature Sensor Harness into the Temperature Sensor.
3. Route the Temperature Sensor Harness through the engine bay and firewall using a grommet, keep it clear of any moving parts and heat sources.
4. Plug the Temperature Sensor Harness into the lower right plug on the back of the 3in1 Gauge.
5. Before starting the vehicle be sure to refill the system following the manufacturer's recommended procedures.

Gauge Wiring

1. With your 3in1 Sensor Harnesses all connected, plug in the power harness and place the gauge in the mounting location.
2. In order to test for power, reconnect the Negative Battery Terminal.
3. It may be necessary to remove the Vehicle Trim and/or Kick Panels in order to gain access to the vehicle's Fuse Box.
4. Using a test light, locate a Constant 12-Volt Power Source in the vehicle's fuse panel that receives 12-Volt Power when the ignition is turned off. You can splice into the circuit or use an optional Expandable Circuit. Connect the **Red Wire** of the gauge to the Constant 12-Volt Power Source.
5. Repeat the same step for the **White Wire** of the gauge to locate an Ignition Switched 12-Volt Power Source. This source should not have any power with the key turned off and have 12-Volts with the key turned on.
6. Connect the **Orange Wire** of the gauge to the positive Headlight Switch Power Source using a Splice Connector, either in the fuse box or at the switch itself.

   Note: Make sure the connection source does not dim. If the voltage is reduced when you lower the Dimmer Wheel it will cause the gauge to flicker from not having enough voltage.



7. Locate a clean, reliable grounding source and connect the **Black Wire** from the gauges.
8. After all wiring is complete, turn the vehicle's key to the "On" position and confirm that your gauges illuminate.
9. Press the **COLOR** Changing Button on your gauge and scroll through the 10 Color options as well as Color Change and Color Fade option: this will allow you to have the Gauge Face change between all of the colors automatically.
10. Turn on the headlights to ensure that the gauges are dimming.
11. Start vehicle and check for leaks, and top off any fluids if necessary.
12. Reinstall any panels that may have been removed.
13. Test drive your vehicle to ensure all gauges are functioning properly.

    Note: The Boost Gauge will only read while under a load. Make sure to drive the vehicle in order to check the operation of the Boost Gauge.

Selectable Brightness Levels

The 3in1 Gauge Series features 3 selectable brightness settings for both day and night time lighting modes. Below are the instructions on how to program each lighting mode.

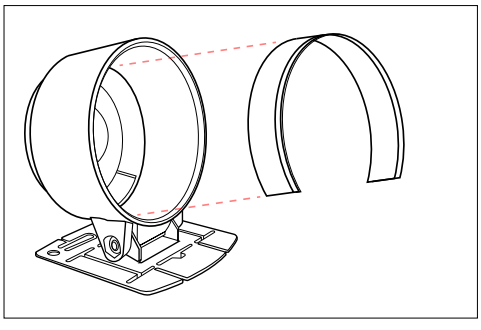
Day Mode

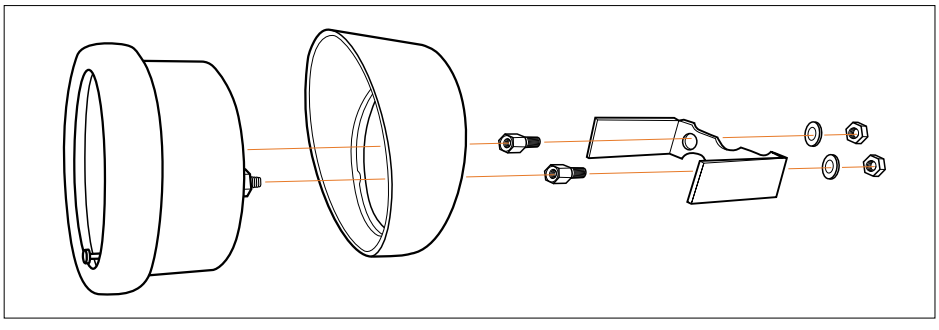
- Press and hold the button located on the gauge face until a "Day Time #" appears in the digital display.
- Press the button again to cycle through the 3 dimming modes.
- Press the button until you have selected your desired setting. Do not touch the button for 5 seconds and the gauge will save your selection.

Night Mode

- This mode is only available if the orange dimmer wire is connected and your headlights are powered.
- Press and hold the button located on the gauge face until a "Night Time #" appears in the digital display.
- Press the button again to cycle through the 3 dimming modes.
- Press the button until you have selected your desired setting. Do not touch the button for 5 seconds and the gauge will save your selection.

Additional Information





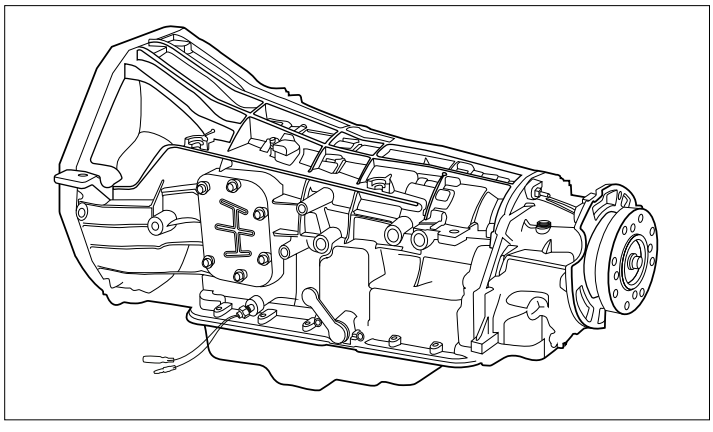
- The supplied optional gauge visor is intended to be placed on the gauge so that the thickest part is at the top, creating a cover over the gauge to help keep sun glare off of the gauge face.
- The supplied optional gauge cup is intended to be secured to a surface using double sided tape. There are several cuts in the base to assist in shaping it for installation. There is a piece of black foam tape included which is to be secured to the inner edge of the cup in order to hold the gauge in place when pressed in.
- The included mounting bracket is designed to be used on a flat universal-style mount in order to keep the gauge secure. In some cases one or both legs of the bracket may need to be modified to fit the thickness and contour of the mount. Our A-pillar gauge pods do not require the use of the mounting bracket but it can be used if you desire, and there is enough space to fit between the gauge and the gauge pod. When installing the bracket onto the gauge, make sure not to over-tighten as it could pull the rear studs on the back of the gauge and cause damage.
- Installation documents are solely to provide a guide for individuals that are mechanically and electronically able to install products. If you are unsure about the correct procedure of installation for a product, you should consult a licensed professional.

Detailed Temperature Information

Adapters are available at www.GlowShift.com

Transmission Temperature

There are four common types of Transmission Temperature Sensor installations. GlowShift recommends installing the 1/8-27 NPT sensor to a Test Port, Stock Sensor Location, Cooler Line or Transmission Pan. If the thread size does not match, or if the sensor is too long, a Thread Adapter is required:



- **Transmission Test Port:** Most vehicle transmissions come equipped with a Test Port Location. This may be located on either the driver or passenger side of the transmission near the Transmission Oil Pan. The bolt in this port should be removed and the depth of the Test Port should be verified to ensure there is a minimum of 7/8" for the Transmission Temperature Sensor to clear. If there is not enough clearance a Test Port Extender may be used in some applications.

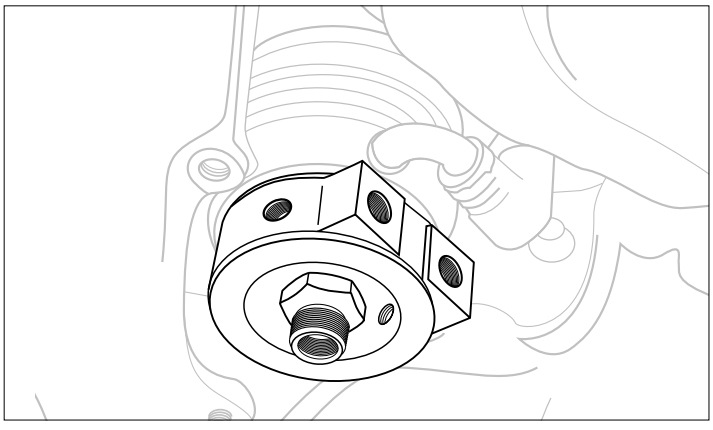
  Note: A Test Port Extender is needed on all 89-07.5 Dodge Ram trucks.

  Note: A stubby temperature sensor is required for all 4l60e transmissions.
- **Stock Sensor Location:** Use a T-Fitting (optional) to "T" off your stock sensor location. This will allow you to keep your stock sensor installed, while also allowing you to install an Aftermarket Transmission Temperature Sensor.
- **Cooler Line:** Most vehicle transmissions have two Cooler Lines. Measure your vehicle's Cooler Line to determine what size adapter will be required. Common diameters are 5/16", 3/8", 1/2", 5/8".
- **Transmission Pan:** Some aftermarket pans have an available port in order to install a temperature sensor. If a port is not available you are able to install a bulkhead adapter or you can weld in a bung.

  Note: Make sure to have a Catch Pan available to catch any lost transmission fluid.

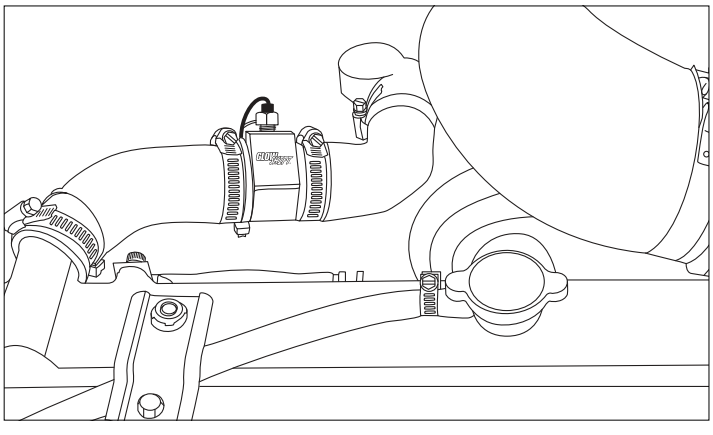
Oil Temperature

We have a few adapters available so that you can take Oil Temperature readings.



- **Oil Filter Sandwich Adapter:** Fits between the oil filter and engine block, giving you 1/8-27 NPT ports in order to read the oil temperature. Please be sure to verify your oil filter size in order to get the correct adapter.
- **Oil Cooler Adapter:** Very similar to the sandwich adapter but this adapter has a diverter plate directly tied into oil cooler specific -AN10 ports that will feed and return an oil cooler, allowing you to monitor either the hot side or cold side of the cooler.

Water Temperature



We offer several different-sized Water Sender Hose Attachment adapters ranging from 28mm-46mm. Simply measure the inside diameter of your radiator hose and install in between two cut halves, securing it with the supplied hose clamps.

Differential Temperature

Some aftermarket differential covers have an available port in order to install a temperature sensor. If a port is not available, you are able to install a bulkhead adapter or you can weld in a bung.

ONE YEAR NON-TRANSFERRABLE LIMITED WARRANTY & DISCLAIMER

GlowShift Gauges, LLC ("GlowShift") warrants to the original retail consumer purchaser, and not any other purchaser or subsequent owner, that this Product will be free from defects in material or workmanship for a period of **one (1) year** from the purchase date.

For a period of **one (1) year** from the date of purchase, at no charge to the Purchaser, GlowShift will repair or replace this Product if it is determined by GlowShift to be defective. After the warranty period, the Purchaser must pay all charges for parts and labor.

Coverage under this warranty is only valid within the United States, including its territories, as well as in certain other countries. Purchasers should check our website, **www.GlowShift.com**, to determine the warranty coverage in the countries in which they are located.

GlowShift does **not warrant the installation** of the Product, which is the sole responsibility of the Purchaser. Installation should be done by licensed professionals. Improper installation may cause damage to the Product and any vehicle in which it is installed, and may cause burns and electrical injury to individuals. GlowShift's warranty does not cover any expenses incurred in removing Products that are defective or reinstalling replacement Products in their place.

During the warranty period, to have the Product repaired or replaced, the Purchaser must return the Product, freight prepaid by the Purchaser, to GlowShift (but for customers in the contiguous United States, GlowShift will pay the shipping charges if any Product fails during the first thirty (30) days after purchase). The Product must be returned in its original carton or in a similar package affording an equal degree of protection. GlowShift will return the repaired or replaced Product, freight prepaid, to the Purchaser. GlowShift does not provide Purchasers with temporary replacement units during the warranty period or at any other time.

This limited warranty is nontransferrable and will automatically terminate if the original retail consumer purchaser resells the Product or transfers the vehicle in which the Product is installed. An "original retail consumer purchaser" is a person who originally purchases the Product, or a gift recipient of a new Product that is in its original packaging and unopened.

This limited warranty is subject to all of the following terms and conditions:

TERMS & CONDITIONS

1. **NOTIFICATION OF CLAIMS; WARRANTY SERVICE:** If Purchaser believes that a Product is defective in material or workmanship, written notice with an explanation of the claim shall be given promptly by Purchaser to GlowShift. All warranty claims must be made within the warranty period, and any Products returned to GlowShift must be shipped in accordance with GlowShift's procedures (including use of RMA numbers supplied by GlowShift after notification). The repair or replacement of any Product or part thereof shall not extend the original warranty period. The specific warranty on the repaired part only (not including gauge sensors) shall be in effect for a period of ninety (90) days following the repair or replacement of that part, or the remaining period of the Product warranty, whichever is greater. GlowShift does not provide a warranty on replacement gauge sensors.

2. **EXCLUSIVE REMEDY; ACCEPTANCE:** Purchaser's exclusive remedy and GlowShift's sole obligation is to supply (or pay for) all labor necessary to repair any Product found to be defective within the repair or replacement fails to remedy the defect. Purchaser's failure to make a claim as provided in paragraph 1 above or continued use of the Product shall constitute an unqualified acceptance of such Product and a waiver by Purchaser of all claims thereto.

3. **EXCEPTIONS TO LIMITED WARRANTY:** GlowShift shall have no obligation to Purchaser with respect to any Product that is subjected to any of the following: abuse, improper use, negligence, accident, modification, failure to follow the operating procedures outlined in the user's manual, failure to follow the maintenance procedures in the service manual for the Product, attempted repair by nonqualified personnel, operation of the Product outside of the published environmental and electrical parameters, or if the Product's original identification (trademark, serial number) markings have been defaced, altered, or removed. GlowShift excludes from warranty coverage Products sold AS IS and/or WITH ALL FAULTS. GlowShift also excludes from warranty coverage any consumable items such as fuses and batteries.

All software and accompanying documentation furnished with, or as part of the Product is furnished "AS IS" (i.e., without any warranty of any kind), except where expressly provided otherwise in any documentation or license agreement furnished with the Product.

4. **PROOF OF PURCHASE; REGISTRATION:** The Purchaser's dated bill of sale must be retained as evidence of the date of purchase and to establish warranty eligibility. Registration of any Product or of this limited warranty is voluntary, and failure to register will not diminish any rights available under this warranty.

DISCLAIMER OF WARRANTY

EXCEPT FOR THE FOREGOING WARRANTIES, GLOWSHIFT HEREBY DISCLAIMS AND EXCLUDES ALL OTHER WARRANTIES, EXPRESS OR IMPLIED, INCLUDING, BUT NOT LIMITED TO ANY IMPLIED WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE, OR ANY WARRANTY WITH REGARD TO ANY CLAIM OF INFRINGEMENT THAT MAY BE PROVIDED IN SECTION 2312(3) OF THE UNIFORM COMMERCIAL CODE OR IN ANY OTHER STATE STATUTE.

LIMITATION OF LIABILITY

THE LIABILITY OF GLOWSHIFT, IF ANY, AND PURCHASER'S SOLE AND EXCLUSIVE REMEDY FOR DAMAGES FOR ANY CLAIM OF ANY KIND WHATSOEVER, REGARDLESS OF THE LEGAL THEORY AND WHETHER ARISING IN TORT OR CONTRACT, SHALL NOT BE GREATER THAN THE ACTUAL PURCHASE PRICE OF THE PRODUCT FOR WHICH SUCH CLAIM IS MADE. IN NO EVENT SHALL GLOWSHIFT BE LIABLE TO PURCHASER FOR ANY SPECIAL, INDIRECT, INCIDENTAL, OR CONSEQUENTIAL DAMAGES OF ANY KIND INCLUDING, BUT NOT LIMITED TO, COMPENSATION, REIMBURSEMENT OR DAMAGES ON ACCOUNT OF THE LOSS OF PRESENT OR PROSPECTIVE PROFITS OR FOR ANY OTHER REASON WHATSOEVER.

GOVERNING LAW: This nontransferrable limited warranty shall be governed by the law of the State of New Jersey, U.S.A., and the United States of America, excluding their conflicts of laws principles. The courts of Camden County, New Jersey, shall have the exclusive jurisdiction over any legal action with respect to this warranty.

This limited warranty gives specific legal rights. You may also have other rights that may vary from state to state or from country to country. Some states or countries do not allow the exclusion or limitation of incidental or consequential damages, so the above limitations and exclusions may not apply to you. You are advised to consult applicable state or country laws for a full determination of rights.