



VELVAC[®]

In the Passing Lane Since 1934

Blind Spot Detection System "BSD"



USER Guide

VDS 2.0, 3.0 & 3.0D

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DISCLAIMER & WARNINGS

Every effort has been made to ensure the accuracy of all information in this User Guide. However, Velvac makes no express or implied warranty or representation based on the enclosed information. Velvac reserves the right to alter the equipment specifications and descriptions in this publication without prior notice. Any errors or omissions may be reported to Technical Support at 800.783.8871.



Do not rely on the BSD system solely. The system is not intended to be a replacement for safe and diligent driving. Its a supplement to the Standard vehicle mirrors and should not be relied on to guarantee that a vehicle is not located in a blind spot.

Lorem ip

System Limitations:

The BSD system's detection zone includes the adjacent lane on either side of the vehicle from the mirror back to 10 feet behind the rear bumper.

The system may have reduced accuracy when the vehicle equipped with the system is traveling less than 20mph. Drivers should not rely upon the system when traveling below 20 mph.

The system may not provide adequate warning for vehicles approaching at a large speed differential relative to the speed of your vehicle.

The system does not adjust its detection zone when a trailer or vehicle is being towed.

Movement of the mirror heads may cause the system to become out of calibration and therefore unable to accurately detect vehicles. If the mirror heads are moved you must recalibrate immediately to ensure proper operation of the system. See the recalibration section for information on how to recalibrate your mirrors.

The system does not detect narrow objects such as bicycles, people, pets, or other roadside features.

The system may not function properly in inclement weather conditions such as fog, heavy rain, or snow.

The system will not reliably operate when the camera lens is obstructed.

The system has reduced accuracy when backing up. Drivers should not rely upon the system when backing up.

The system may detect vehicles following your vehicle on sharp curves or roundabouts, resulting in false positives.

P/N 2500265

Release Date: 6-30-2023

R2

About

Velvac's Blind Spot Detection System "BSD" is a smart camera based system using computer vision technology to achieve object detection. The vision detection software installed has been developed to understand what probably is a motor vehicle. If the system detects a motor vehicle in the blind spot on one or both sides, then the icon in the respective mirror flat glass will illuminate to warn the user.

Powered By



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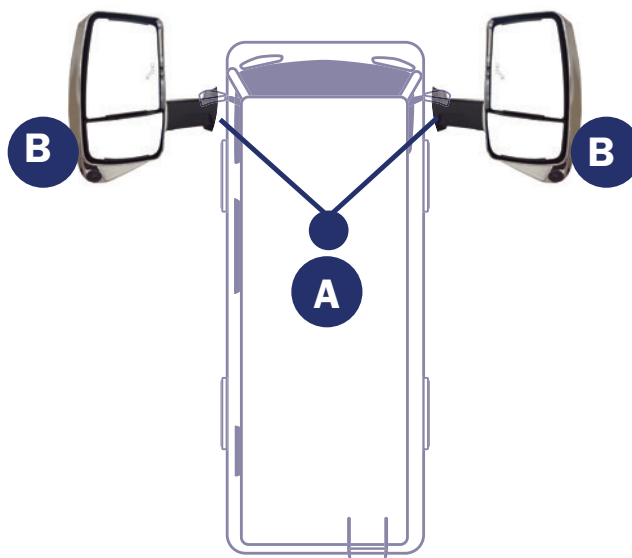
System Main Hardware

A. “VDS” Video Data Server

Provides computer vision to process video from cameras in the left and right mirrors.

B. Mirrors with Cameras

Left and right mirrors have built-in cameras and in-glass indicator icons.



Getting Started



Powering On the BSD System

"Turn the ignition to the on position"



LED Lights will turn on for a short period of time then back off as part of normal start up.

System has completed initialization and is now active.

Pre-Drive Tips

1. Ensure camera lenses are free of obstructions
2. Ensure that the mirror head is positioned properly (see recalibration section for direction)

How it Works

Detection Zone

The system detects vehicles in the blind spot zone which consists of one adjacent lane on either side of the vehicle and **from the mirror back to 10 feet behind the rear bumper.**

The Blind Spot Detection System is trained to detect Department of Transportation (DOT) approved motor vehicles.

Items Detected:



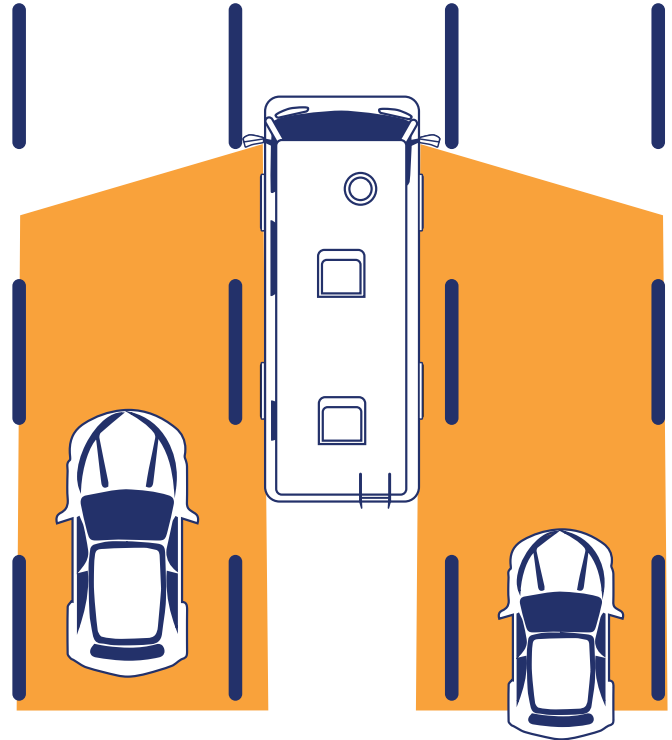
Motorcycles



Cars



Trucks



Items NOT Detected:



Pedestrians



Bicycles



Pets

Note:

Always use the interior and exterior mirrors and when possible look over your shoulder when changing lanes. To help avoid injuries, NEVER use Blind Spot Detection as a replacement for using the interior and exterior mirrors or looking over your shoulder before changing lanes. BSD is not a replacement for careful driving.

How it Works - Cont.

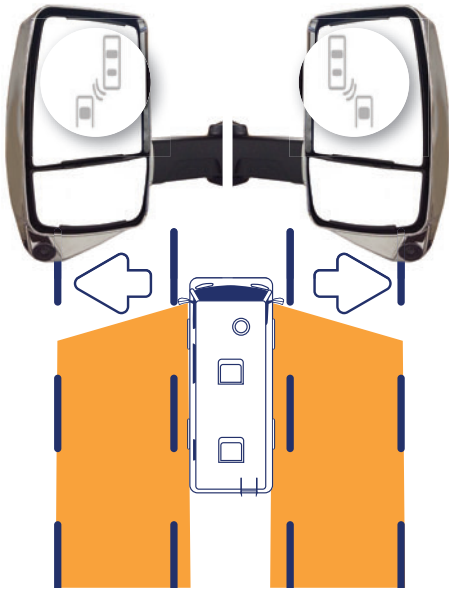
Safety Alerts

The **BSD** system notifies a driver if a vehicle is in the blind spots along either side of your vehicle by using the cameras in the mirrors. When a vehicle is seen by the camera it will turn the icons **ON** in the corresponding mirrors. If a turn signal is on at the time the camera detects a vehicle in your blind spot, the icons will blink on and off until the turn signal is turned off.

Certain conditions can trigger false alerts. The **Blind Spot Detection** system is not meant as a replacement for normal driving practices but rather to be used as a tool to assist the driver.

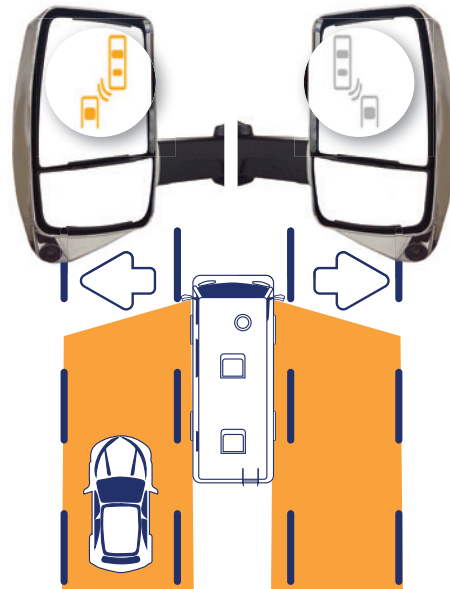
No vehicle in the blind spot

Icons are off



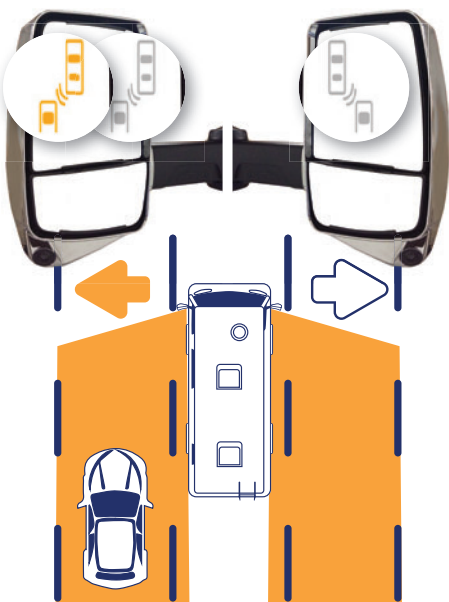
Vehicle is in the blind spot

Icons are on



Vehicle is in the blind spot and turn signal is on

Icons will flash on and off continuously



Limitations:

Blind Spot Detection is not a replacement for careful driving. Conditions which may contribute to reduced accuracy include:

1. Ice, dirt, or other obstructions on the camera lens.
2. Inclement weather conditions such as fog, rain, or snow.
3. When the vehicle equipped with the system is traveling less than 20mph.

How it Works

A manilla tag with QR codes is provided along with a user guide. The codes on the tag are scanned with a smart phone or tablet camera.

Note:
When using android products instead of apple products, please turn off cellular connectivity before scanning the codes.

FRONT OF TAG

A. Wi-Fi QR Code with Serial I.D.

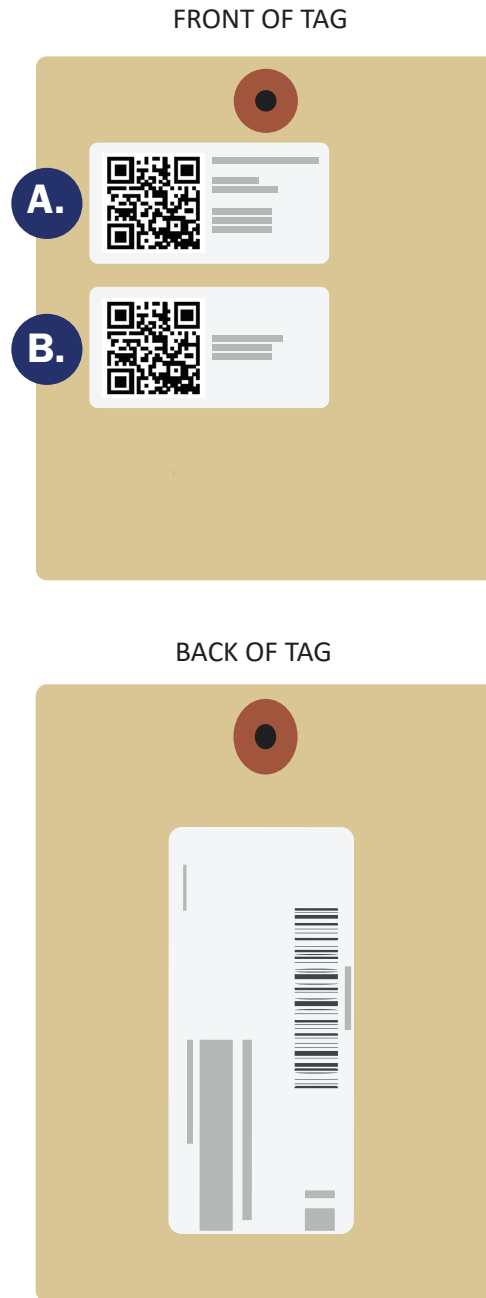
Always Scan this code first and verify you have connected to the Road-iQ Wifi. You can also manually enter the Wi-Fi password which is also printed on the QR code label.

B. System Validation QR Code

This code is scanned by the Factory when installing a BSD system for the first time. This code should only be used by trained dealership / service centers to prevent the system malfunctioning.

BACK OF TAG

BSD System Part Number



A duplicate set of these QR codes / labels can be found adhered to the back of this User Guide.

Recalibration Process

The Mirrors are installed and aligned at the Factory. It's not uncommon for the mirrors to be accidentally rotated out of alignment after leaving the factory.

For the BSD system to work correctly the mirrors need to be in the correct aligned position.

FOLLOW THE STEPS BELOW TO RECALIBRATE YOUR MIRROR HEAD POSITION

Notes:

When using android products instead of Apple products, please turn off cellular connectivity before scanning the codes. Apple iphone or tablets have QR code readers built into the Camera. You may need to download a QR code reader application for android products.

Step 1:

Vehicle Should be Running

Connect to the VDS Wi-Fi Network

Using the QR code reader on your phone or tablet, scan the Wi-Fi code located on the back page of this User Guide. Goto your settings app and select Wi-Fi and look to see if a blue check mark is appearing next to your specific Road-iQ network indicating you are connected. It can take up to 1 minute to connect.



Step 2:

Connect to Calibration Tool

Using the QR code reader on your phone or tablet, scan the Calibration QR code too the right.

Once you are connected you will see a screen appear that looks like the images on the following page.



Recalibration Process - Cont.

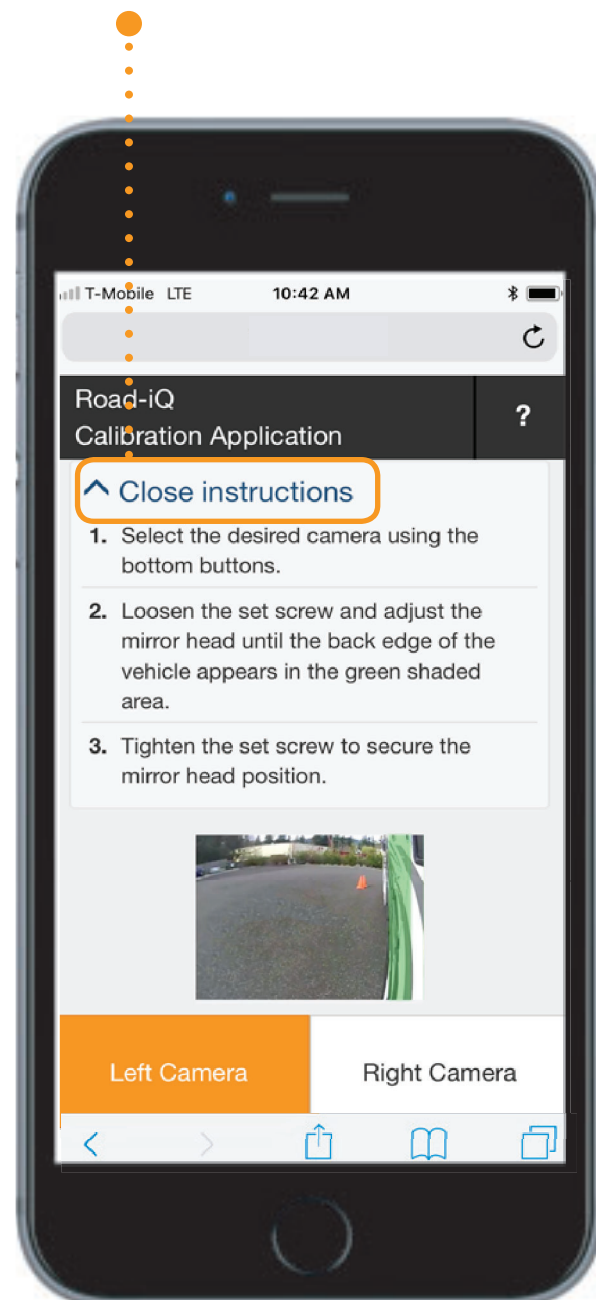
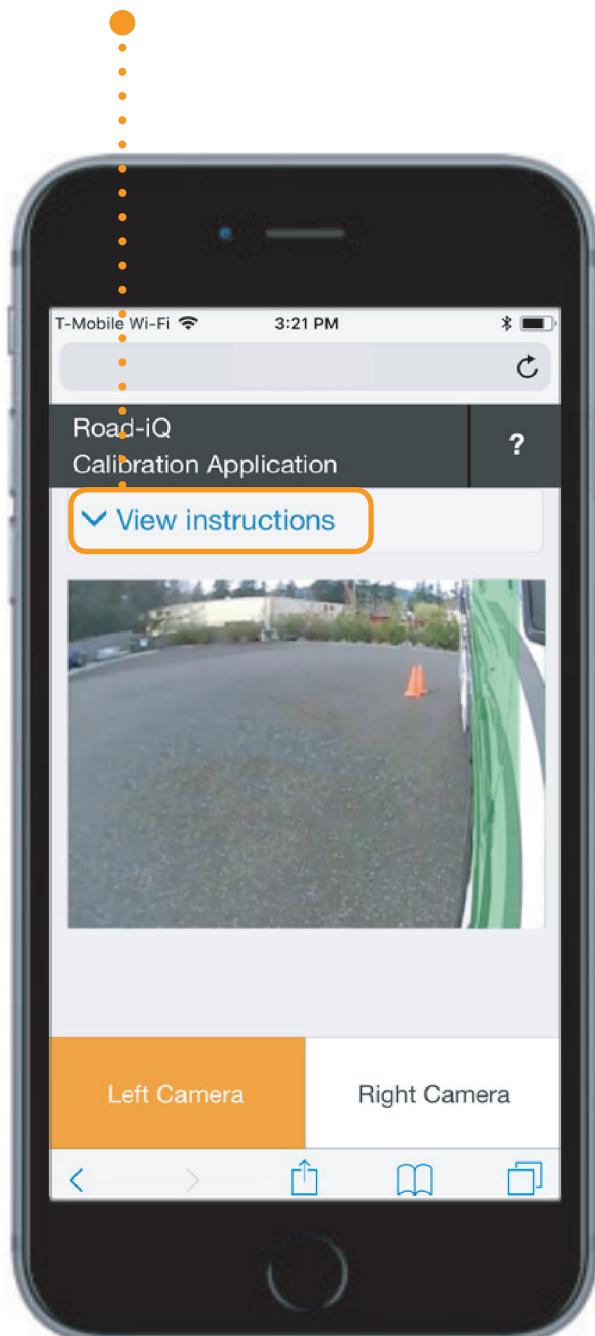
Step 3:

Calibrate your Camera Mirrors

Select "View Instructions"

The application will step you through the calibration process.

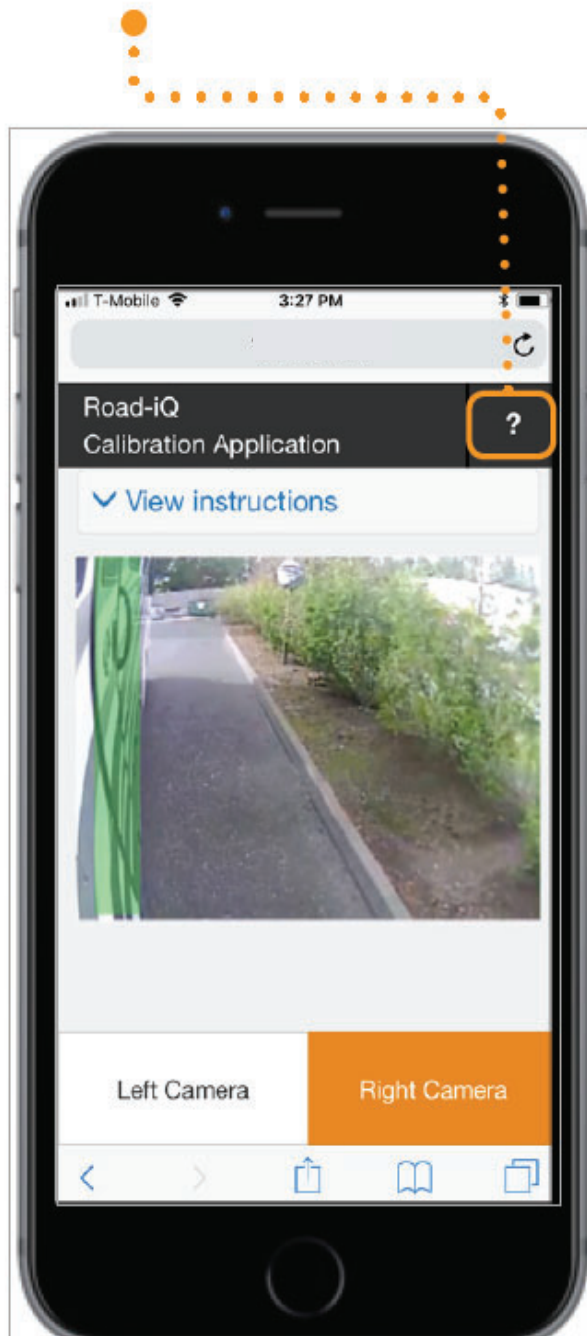
Select "Close instructions" for a better view of what the cameras are seeing.



Recalibration Process- Cont.

Note:

For additional guidance tap the question mark in the upper right corner to contact support.



Note:

It is important to note any shift in position of the mirrors as this may result in reduced accuracy of the system.

If your mirror has fixed, non adjustable mirror heads you will need to contact support to resolve your issue.

Troubleshooting

Constant Flashing Icons

The system previously worked but after powering on the vehicle, the indicator lights in the mirrors will not stop flashing until I power the vehicle off.

Solutions:

Check that both cameras are functioning correctly

1. Use your turn signals check to see if the camera images are displaying on your in-dash monitor.
2. Follow the Mirror Calibration procedure in this User Guide to reposition the cameras.

Both Icons are Solid On

Symptom:

The mirror icons are powered on at all times when the vehicle is powered on.

The mirror icons are powered by the vehicle's accessory. This ensures that the icons are not powered unless the vehicle is going to drive. Normally, when turning on the accessory, the icons will immediately illuminate, then turn off when the blindspot hardware boots up. If the hardware does not boot up, the icons will remain powered on.

Solutions:

1. Check that the system is getting power

- Attempt to connect to the Road-iQ WiFi – If the WiFi network isn't showing up that is a sign that the system has no power.
- Look at the front of the Road-iQ hardware to see if any Lights are on.
- Check the power fuse to the Road-iQ hardware to make sure it's not blown.
- Use a multi-meter to check for 12-13.8 Volts at the connector labeled "DC IN"
 - Red - constant power and connected to a fuse
 - Yellow – Accessory. Only powered on when the Accessory is enabled.
 - Black - Ground

Check that the software has booted

When powered on the BSD system should not reboot but rather stay on and detecting objects.

1. Connect to WiFi
2. Run the calibration Application to confirm video is being displayed and staying displayed.

Verify that the I/O connector is operating properly

1. Have a service center locate the Road-iQ box to verify. VDS normally is located in the Dash.
2. Verify the 20-pin connector is firmly seated - you may need to unplug it and replug it in.

Troubleshooting - Cont.

One Icon is on solid

Symptom:

One mirror Icon is powered on when the vehicle is powered on, the other icon functions properly.

Check that the system isn't seeing a vehicle or similar. Place your hand over the camera with the solid icon. If the icon turns off, then it is detecting an object that it perceives as a vehicle.

Check the 20 pin I/O connector to see if it is loose.

Technician Notes

Could be a loose pin in the 20 pin I/O connector

Replace the inverter board harness

Could be a bad IO port

One Icon is Off

When one blind spot icon is 'Off' and never turns on, possible explanations are

- The icon or harness is unplugged (most likely cause)
- The wiring harness is damaged
- The inverter board is damaged

Technician Notes:

Check for continuity

Check pins in 9-pin connector

Need Additional Troubleshooting Help

Visit

www.road-iq.com/helper

Limited Warranty

Subject to the terms and conditions below, Velvac warrants this product to be free from defects in material and workmanship. This limited warranty runs for one year from the date of original purchase of a new product. To obtain warranty service, please contact Customer Service at 800.783.8871. The original purchaser of the product must present the original bill of sale. The defective parts will be repaired, replaced or reimbursed at Velvac's option without charge, subject to the terms and conditions described above. Credit or replacement of defective parts is the exclusive remedy for products found to be defective under this limited warranty. All decisions made regarding this limited warranty are final. Components that are repaired or replaced are warranted through the remainder of the original warranty period only. This limited warranty is available to the original purchaser only and immediately terminates if a product is sold or otherwise transferred to a new owner.

This warranty does not cover charges for installation, labor, travel, consequential damage, loss of time, replacement transportation, or any incidental charges. Broken mirror glass is not warrantable. This limited warranty does not apply to any product which has been improperly assembled, installed or maintained, subjected to misuse, accident, abuse, or act of God (such as a flood), or which has been altered or repaired in any way by anyone other than Velvac or its authorized partners.

Any implied warranty of merchantability or fitness for a particular purpose is limited in duration to the *duration of this limited warranty*. *Some jurisdictions do not allow limitations on how long an implied warranty lasts, so the above limitation may not apply to you. To the maximum extent permitted by law, Velvac's total liability to you arising out of or in connection with this limited warranty, from the product, or from the use of or inability to use the product, is limited to the repair, replacement or refund of the price of the product, and will not be liable for any incidental, special, exemplary, or consequential damages, including loss of data or profits, whether any liability or claim is based on warranty, contract, tort (including negligence), product liability, or any other legal theory, and whether or not Velvac has been informed of the possibility of such damage, even if a limited remedy set forth herein is found to have failed of its essential purpose. Some jurisdictions do not allow the exclusion or limitation of incidental or consequential damages, so the foregoing limitation or exclusion may not apply to you.* This limited warranty gives you specific legal rights, and you may also have other rights which vary from state to state.

User Agreement Terms

Please visit www.road-iq.com/terms for the User Agreement Terms

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Always Scan the Wi-Fi QR First before scanning the Calibration QR

Wi-Fi QR Code

Wi-Fi QR Code
Apply Here

Calibration QR Code

Calibration QR Code
Apply Here

Validation QR Code

Validation QR Code
Apply Here

**Dealership / Service Centers
Use Only**

BSD System Part Number
Apply Here