



## MCL-3000 SERIES BOOST GAUGE PART# MCL-3K-B

Thank you for purchasing the Dakota Digital MCL-3K-B gauge for your Harley Davidson Touring bike. This gauge is designed to be a direct, plug in replacement for all touring models from 1996 and up. This is part of a six gauge package for touring models so you can add additional gauges as you choose.

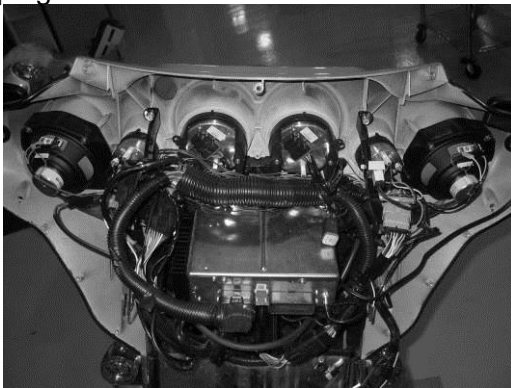
The MCL-3K-B gauge comes with a vacuum/boost pressure sensor. You must use the supplied sensor, other sensors will result in inaccurate readings.

### INSTALLATION

First read and familiarize yourself with all of the components and this manual. The first step is to remove the seat and disconnect the negative side of the battery, as with any electronic install. Once the battery is disconnected you are ready to start.

### REMOVAL OF FACTORY GAUGES

Remove the outer fairing; this will vary from model to model, please follow the service manual to expose the wiring and gauges. Don't be alarmed by the amount of wires behind the fairing, this is a direct plug in kit and these detailed instructions will guide you through it.



Pic of Street Glide with outer fairing removed

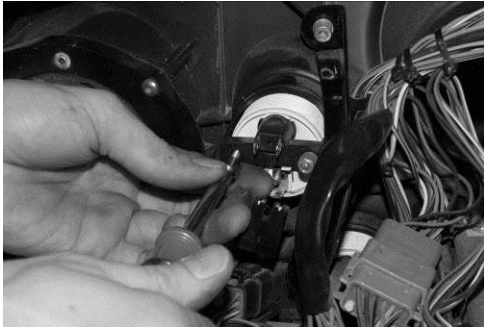


Pic of Road Glide with outer fairing removed

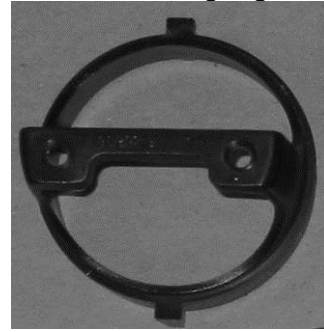
All of the small gauges, fuel, volts, oil, and air temp have two plugs. One is for illumination the other is for the gauge power, ground, and sensor signal. The illumination harness, two pins (orange and black wires), will not be reused and can hang freely inside the fairing with the bulb removed, or can be secured to the other gauge wires to clean things up. The three pin connector from the stock gauge will be used to connect the new Dakota Digital MCL-3K gauge. Unplug connectors at the back of the gauge, then remove the two 5/16" nuts holding the clamps onto each small gauge and remove the gauges.

**\*\*\*New nuts for the small gauges are included in the hardware pack DO NOT reuse the stock nuts for the new gauges; they are not the same thread.**

Once the gauge is removed, save the clamp as it will be reused with the new MCL gauge.



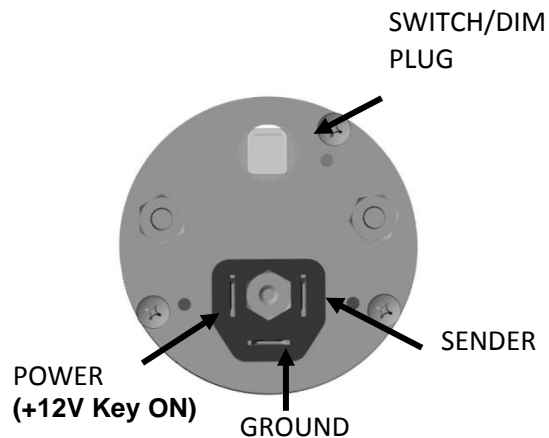
Remove the small gauge with 5/16" wrench or nut driver



Save Clamp, and reuse for install

### INSTALLATION OF NEW MCL-3K-B GAUGE

Install the new gauge into the fairing using the original clamp, along with the supplied nuts. Be sure the alignment tab on the clamp lines up with the notches in the fairing when tightening the clamp back up, flat side down.



### WIRING

Wiring the gauge will be slightly different than before as the bike doesn't have provisions for the new sensor. Use the supplied sensor and wiring to make a jumper harness from the original plug to the new BOOST gauge.

**\*DO NOT connect the factory connector direct to the gauge, use supplied wiring.**

If the wiring harness plug is not available, wire according to the drawing on next page. Standard 1/4" female spade connectors can be used to make a connection to the gauge.

The second connector toward the top of the back side of the gauge is where the supplied Switch/Dim harness connects. Both inputs are "triggered" when there is +12V on either wire.

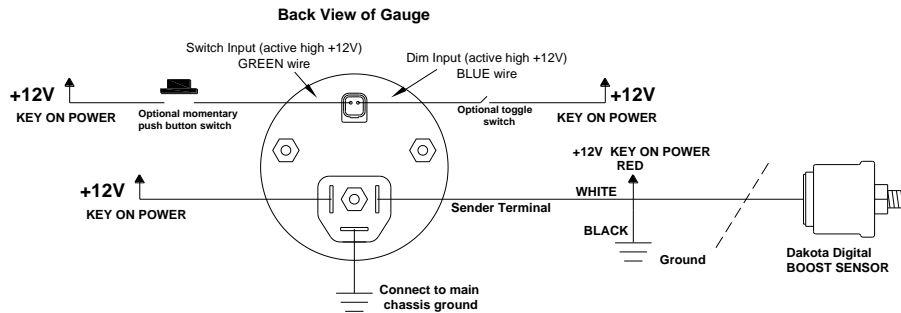
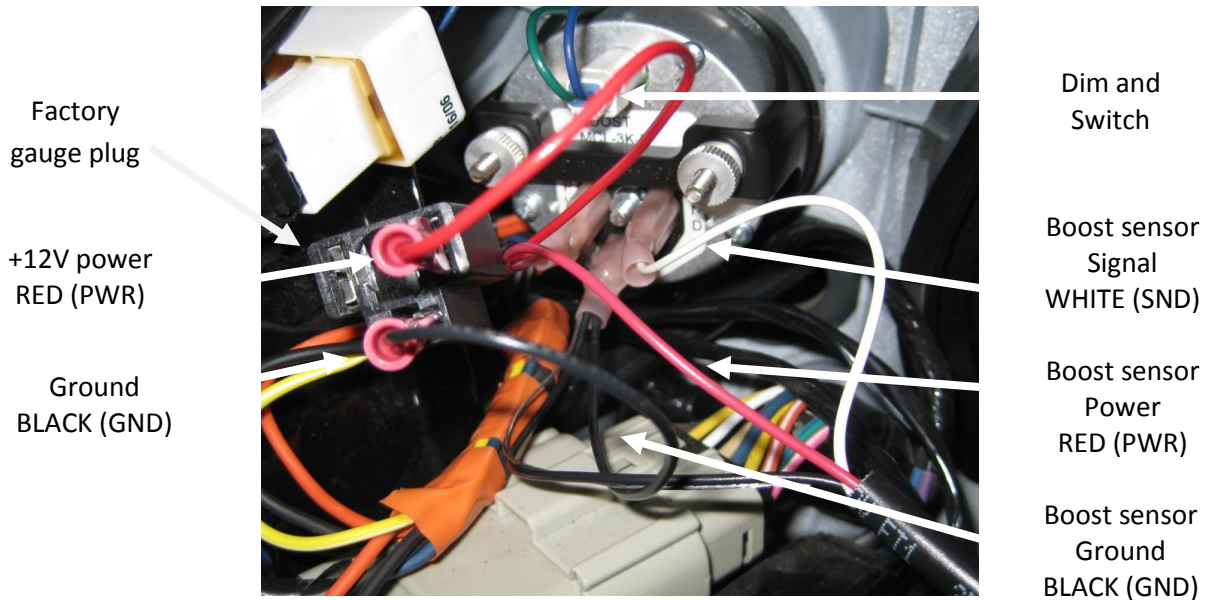
**BLUE Wire (Dim Input)**

The BLUE wire is used for optional night time dimming function. When this wire receives +12V the gauge will dim to about 1/2 brightness.

**GREEN Wire (Switch Input)**

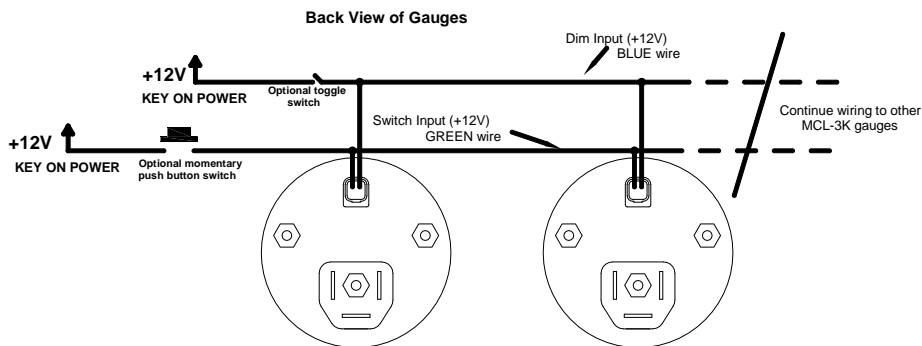
The GREEN wire is used for a switch input for entering setup. This wire can be wired to a momentary push button switch and the other side of the switch to +12V. The wire can also be stripped back and touched to +12V to enter setup and then taped off once complete.

(Wiring diagram on next page)

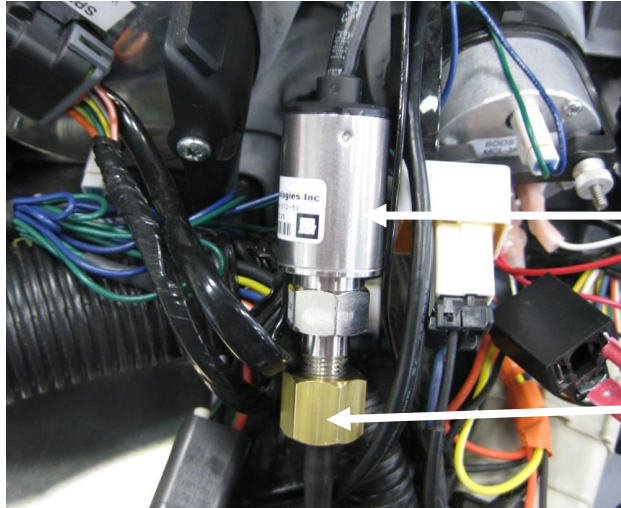


If you are replacing a gauge in a set of Dakota Digital gauges, plug the small, white, two-pin connector into the air pressure gauge just as it was on the other gauge you removed. If you are adding this gauge to the set rather than replacing one (you will have a total of 5 small Dakota Digital gauges on the bike) you will need to locate any one of the other BLUE and GREEN wires going to the other gauges in the set, cut and splice into the new harness. Match BLUE to BLUE and GREEN to GREEN. If you are installing multiple MCL-3K gauges without a Dakota Digital Speedometer, you can tie the GREEN wires together and then to one switch. The same is true for the BLUE wire, wire all of them to one switch.

If you have an MCL-3K Tachometer, it will actually serve as the dimming “switch”. The BLUE wire on any of the MCL-3K Tachs will provide a +12V output for the dimming function. The gauge has a light sensor behind the lens and when the ambient light is dim or low it will “turn on” the output and supply +12V to the BLUE wire. You will not need to wire in a toggle switch if you have an MCL-3K tachometer and choose to wire it this way.



To complete the installation, thread the supplied 1/8" NPT to 1/8" vacuum line adaptor on the end of the sensor (thread sealant may be used to seal the threads). Secure the sensor to a fairing bracket or some of the wiring behind the fairing making sure it doesn't interfere with the outer fairing. Lastly, route the supplied 1/8" vacuum line to an appropriate spot to pick up boost pressure from the turbo or super charger. The supplied "T" can be used to t-into an existing vacuum line.



SEN-09-5-M  
Boost Sensor

1/8" NPT to 1/8"  
Vac. hose fitting

Elevation above sea level	inHg	PSIA
-2700	32.4	16.2
-2400	32	16
-2000	31.6	15.8
-1700	31.2	15.6
-1300	30.8	15.4
-1000	30.4	15.2
-600	30	15
-200	29.6	14.8
200	29.2	14.6
600	28.8	14.4
900	28.4	14.2
1300	28	14
1700	27.6	13.8
2100	27.2	13.6
2500	26.8	13.4
2900	26.4	13.2

Elevation above sea level	inHg	PSIA
3300	26	13
3700	25.6	12.8
4200	25.2	12.6
4600	24.8	12.4
5000	24.4	12.2
5500	24	12
5900	23.6	11.8
6400	23.2	11.6
6800	22.8	11.4
7300	22.4	11.2
7800	22	11
8200	21.6	10.8
8700	21.2	10.6
9200	20.8	10.4
9700	20.4	10.2

## GAUGE SETUP

The GREEN switch input wire, in the two pin connector, is used to enter setup. If you are only installing one or a couple Dakota Digital MCL-3K gauges set up may seem a little strange since they are designed to work as a set, however you'll simply cycle through a few screens to get to the desired gauge. The table below shows what will be on the gauge with each button press, or tapping the GREEN wire high +12V.

	Speed	Tach	Oil psi	Oil temp	Fuel	Volt	Boost
1 <sup>st</sup>	- 1 -	CL	- 1 -	- 1 -	- 1 -	- 1 -	- 1 -
2 <sup>nd</sup>	SPD	- 2 -	- 2 -	- 2 -	- 2 -	- 2 -	- 2 -
3 <sup>rd</sup>	- 3 -	ECH	- 3 -	- 3 -	- 3 -	- 3 -	- 3 -
4 <sup>th</sup>	- 4 -	- 4 -	PSI	- 4 -	- 4 -	- 4 -	- 4 -
5 <sup>th</sup>	- 5 -	- 5 -	- 5 -	F or C	- 5 -	- 5 -	- 5 -
6 <sup>th</sup>	- 6 -	- 6 -	- 6 -	- 6 -	FUL	- 6 -	- 6 -
7 <sup>th</sup>	- 7 -	- 7 -	- 7 -	- 7 -	- 7 -	VLT	- 7 -
8 <sup>th</sup>	- 8 -	- 8 -	- 8 -	- 8 -	- 8 -	- 8 -	b5t

Please note that the word "switch" in the setup instruction is in reference to the GREEN wire, you can install any momentary push button switch and use that or simply strip the wire back and hold or tap the GREEN wire to a +12V source for set up. Once setup is complete, cover the end of the GREEN wire and secure it so it cannot accidentally be shorted.

### To enter setup:

- Press and hold the switch while turning the key on, the gauge should light and show "dxx" (xx is the software code and may be used for tech support).
- Release the switch and "- 1 -" should be displayed. Looking at the table, above, press and release the switch and scroll through until you see "b5t" on the display; this is the screen you need to get to in order to enter the vacuum/boost setup.
- Press and hold the switch until "Ab5" is displayed in the boost gauge to jump into setup.
- Press and release the switch to toggle through the values in the table on the preceding page to select the appropriate atmospheric pressure (PSIA) for the desired elevation (typical is 14.6 or 14.8). If you know the barometric pressure in inHg, that can be used to look up the appropriate PSIA.
- When the desired atmospheric pressure is displayed, press and hold the switch until "□H I" is displayed.
- Press and release the switch to toggle through to the desired high pressure warning point, 5-35 psi. This will be the high boost warning point.
- When the desired high pressure value is displayed, press and hold the switch until "SPD" is displayed.
- Press and release the switch to toggle from "5Lo" for a slower averaged reading on the gauge, "HLd" for a peak and hold reading, or "F5t" for a faster update less averaged reading.
- When the desired update rate is displayed, press and hold the switch until "---" is displayed to save changes.
- Turn off key. Setup is complete.

## Troubleshooting guide

<b>Problem</b>	<b>Possible cause</b>	<b>Solution</b>
Gauge will not light up.	Orange wire does not have power. Black wire is not getting a good ground. Gauge is damaged.	Connect to a location that has power, check fuses. Connect ground to a different location. Return gauge for repair. (see instructions)
Gauge reading is erratic or jumps around.	Gauge signal wire is loose or broken. Poor ground connection.	Check all wire connections and inspect wire for breaks. Check ground connection on gauge, engine, and sensor.
Gauge reading is incorrect.	Incorrect PSIA selected. Sensor is damaged .	Check setup for ABS value. Verify wiring or replace sensor.
Gauge will not dim.	Blue wire (2-pin harness) is not connected correctly.	Check wiring connections. Blue wire should have 12 volts when tachometer is dim or dimming switch is on.
Gauge remains dim at all times.	Blue wire (2-wire harness) is getting power all all of the time.	Check wiring connections. Blue wire should have 0 volts when tachometer is bright or dimming switch is off.
Gauge will not enter setup.	Green wire (2-wire harness) is not connected correctly.	Check wiring connections. Green wire should have 12 volts when the switch is pressed.

## **SERVICE AND REPAIR**

DAKOTA DIGITAL offers complete service and repair of its product line. In addition, technical consultation is available to help you work through any questions or problems you may be having installing one of our products. Please read through the Troubleshooting Guide. There, you will find the solution to most problems.

**Should you ever need to send the unit back for repairs, please call our technical support line, (605) 332-6513, to request a Return Merchandise Authorization number.** Package the product in a good quality box along with plenty of packing material. Ship the product by UPS or insured Parcel Post. Be sure to include the RMA number on the package, and include a complete description of the problem with RMA number, your full name and address (street address preferred), and a telephone number where you can be reached during the day. Any returns for warranty work must include a copy of the dated sales receipt from your place of purchase. Send no money. We will bill you after repair.

## **Dakota Digital 24 Month Warranty**

DAKOTA DIGITAL warrants to the ORIGINAL PURCHASER of this product that should it, under normal use and condition, be proven defective in material or workmanship within 24 MONTHS FROM THE DATE OF PURCHASE, such defect(s) will be repaired or replaced at Dakota Digital's option.

This warranty does not cover nor extend to damage to the vehicle's systems, and does not cover removal or reinstallation of the product. This Warranty does not apply to any product or part thereof which in the opinion of the Company has been damaged through alteration, improper installation, mishandling, misuse, neglect, or accident.

This Warranty is in lieu of all other expressed warranties or liabilities. Any implied warranties, including any implied warranty of merchantability, shall be limited to the duration of this written warranty. Any action for breach of any warranty hereunder, including any implied warranty of merchantability, must be brought within a period of 24 months from date of original purchase. No person or representative is authorized to assume, for Dakota Digital, any liability other than expressed herein in connection with the sale of this product.

**⚠WARNING:** This product can expose you to chemicals including lead, which is known to the State of California to cause cancer and birth defects or other reproductive harm. For more information go to [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov)



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