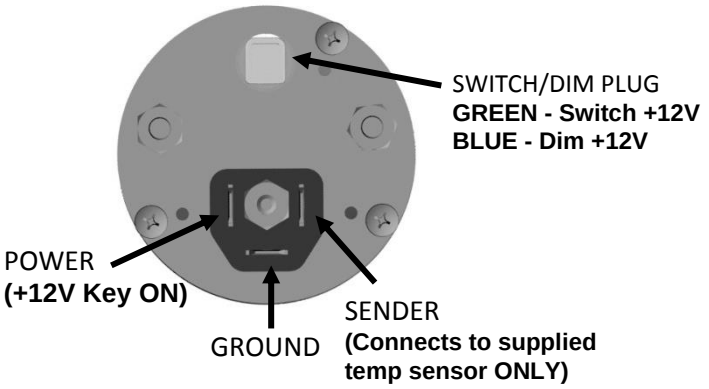
MCL-3000 SERIES OIL TEMP
PART# MCL-3K-TMP

Thank you for purchasing the Dakota Digital MCL-3K-TMP 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-TMP gauge comes with a temperature sensor that gets installed in the oil pan. 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.

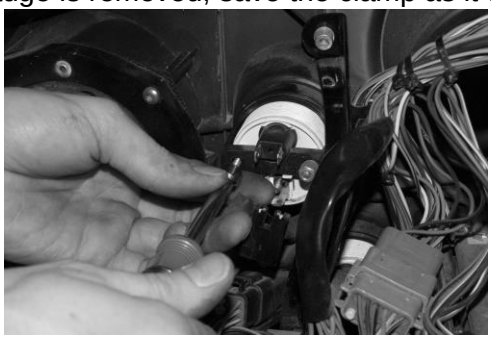
Pic of street glide with outer fairing removed

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), and 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.

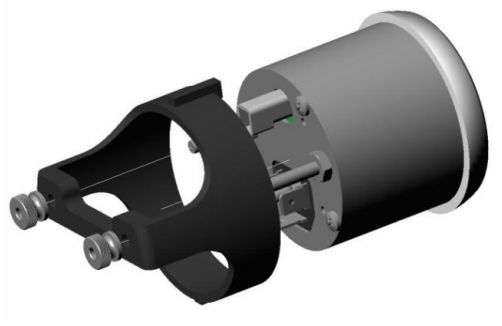


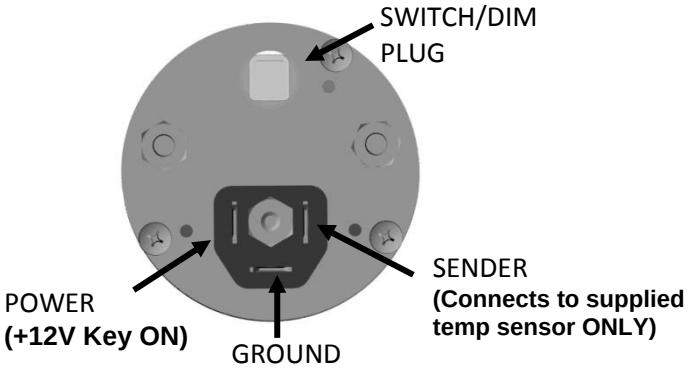
Remove the small gauge with 5/16" wrench or nut driver

Save Clamp, and reuse for install

INSTALLATION OF NEW MCL-3K-TMP 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.





WIRING

The three tab connecter toward the bottom of the back side of the MCL-3K gauge is designed to plug directly into the stock harness. This will provide the gauge power, ground, and sensor connection. If the wiring harness plug is not available, wire according to the drawing on next page. Standard ¼" 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 active high and are "triggered" when there is +12V on either wire.

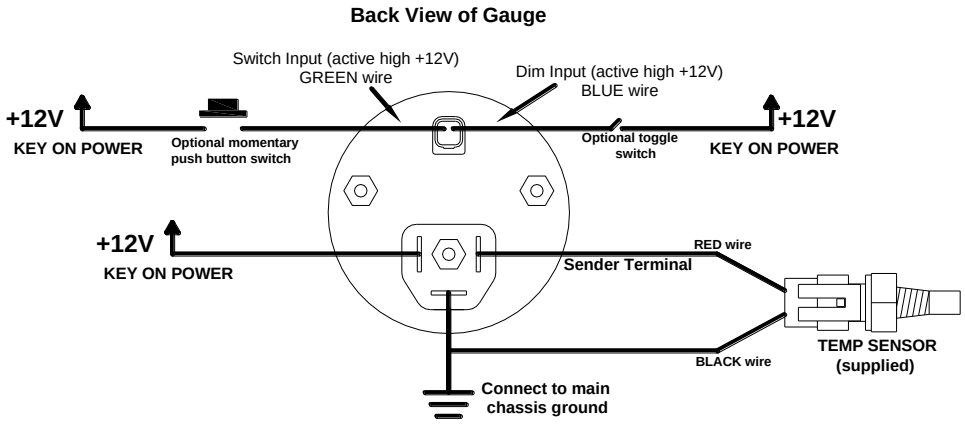
BLUE Wire (Dim Input)

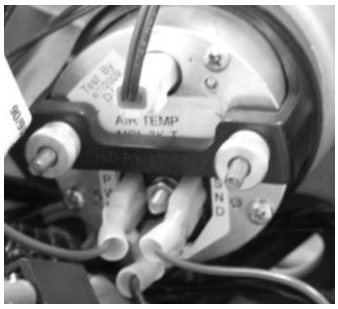
The BLUE wire is used for optional night time dimming function. When this wire is held high, +12V, the gauge will dim to about ½ brightness.

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)

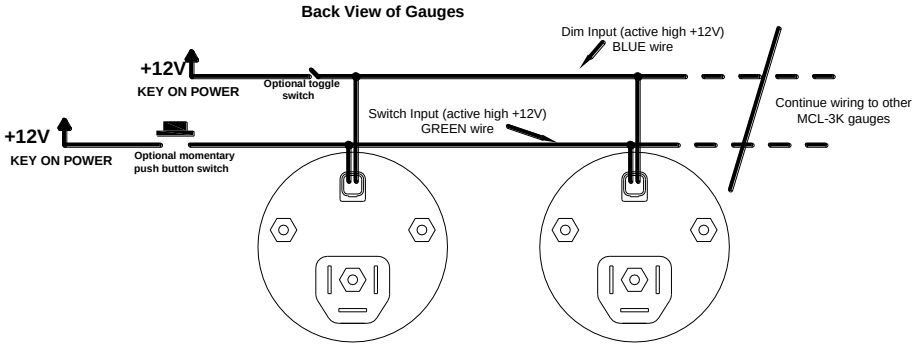




Connection shown with optional spade terminals

If you are installing multiple MCL-3K gauges, 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.



OIL TEMPERATURE SENSOR INSTALLATION

To complete the wiring the new temp sensor must be installed. Since this kit can work on 96 – up models, an adaptor bushing and O-ring are supplied for older Evolution style engines. Follow the steps below for your application.

Evolution Engines

The supplied temp sensor will need to be used with the included brass adaptor bushing(1/2" straight to 3/8 NPT). You will need to use the supplied adaptor and install it in place of the oil drain plug. The new adaptor and sensor will now be the drain plug and will have to be unplugged and removed for oil changes. The factory O-ring is used to seal the adaptor to the pan and should be replaced at each oil change. First install the new O-ring, and thread the sensor into the adaptor. Once the sensor is tight it should be about flush with the end of the adaptor bushing, see photos next page.

Oil temp sensor, adaptor bushing, and o-ring

EVO temp sender assembled

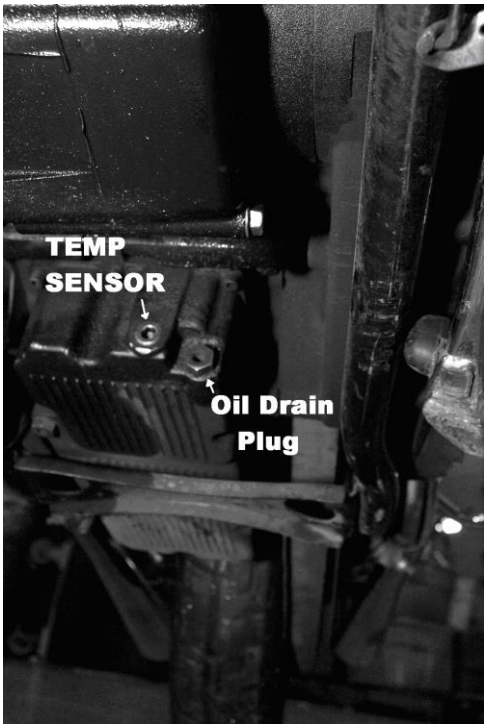
Twin Cam Engines

The supplied oil temperature sensor replaces one of the oil pan plugs in twin cam engines, and no adaptor bushing is needed.

Oil Temp sensor and harness

Now you are ready to install the sensor into the oil pan. You can do this at an oil change so you do not have to worry about losing oil, or if done quickly you should only lose a small amount of oil. First locate the allen head plug on the front bottom side of the oil pan, or the drain plug. The plug for twin cams is on the left of the oil pan drain plug that is used to drain the engine oil for an oil change. It is a 3/8" NPT allen head plug that should be flush with the oil pan. See photo for the correct plug. Wipe any road grime and oil from around the sensor so the area is clean. Use a 5/16" allen wrench to remove the plug, or a ¾" wrench for the drain plug on EVO applications. Have the sensor ready to thread in so minimal oil is lost. Tighten the new oil temp sensor with a ¾" wrench.

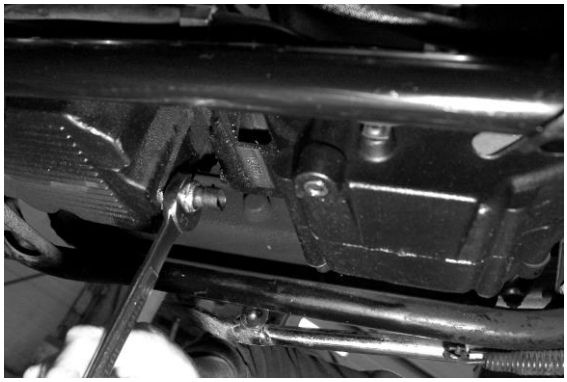
NOTE: Check oil level after installing this sensor, refill oil as needed



Bottom of oil pan

Remove 3/8”npt allen plug

Thread sender into oil pan



Tighten temp sensor with a ¾” wrench

Installed oil temp sensor and harness plug TC

Temp sensor installed as drain plug EVO

Plug in the sealed two pin connector and route the wires over to the bottom right side frame rail. Begin running the wires back and up behind the transmission and starter area to the battery box, following the wiring harness that is in place. Use zip-ties to secure the wire harness to the other wires along the frame.

Once you have the wires up through the battery box area it is recommended you remove the tank bolts to continue running the harness under the tank to its final destination behind the fairing. Use a firm wire and some electrical tape to fish the wires up the backbone under the tank(filler rod/welding wire works well for a fish tape). Once clear of the tank, follow the factory wiring harness on the right side and route wires behind the fairing and over to the oil temp gauge. **Make sure to replace and tighten the tank bolts when done.**

Remove rear tank bolt

Remove front tank bolts to loosen tank

Route wires under tank

Pull the temp sensor wires through the fairing

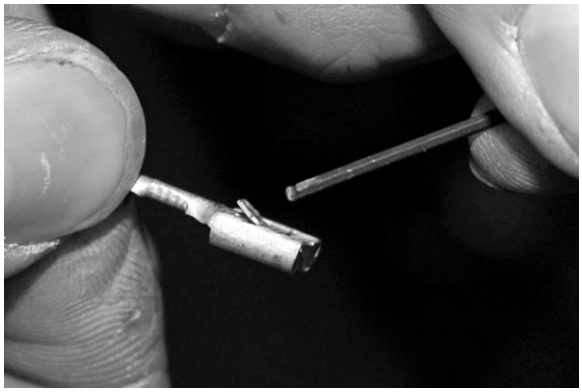
Now you will have to de-pin a couple wires to connect the temp sensor wires to the factory plug to allow a factory style plug in connection to the gauge. The pins in the connector have a small locking tab on the back flat side of the terminal seen in the picture on following page. Use a small allen wrench/pick/or small screw driver to bend and release this tab. While pushing on the tab, pull the wire gently out from the back of the connector.

You will need to remove

BLACK	pin 2	gauge ground(bottom center location in the housing)
BLUE w/ VIOLET	pin 3	gauge signal (old air temp sensor, right location, looking at back of housing)

Insert the RED wire from the temp sensor harness into the previous location of the BLUE w/ VIOLET wire. Insert the other BLACK wire from the sensor harness with a short 3” pigtail into the BLACK wire’s previous location. Slide supplied piece of heat shrink over the pigtail and connect the spade connector on the black wire to the original gauge ground wire that was removed from the housing. This provides ground for the gauge and sensor. Heat up the heat shrink to protect the ground connection.

NOTE: See Photos on the following page for more details

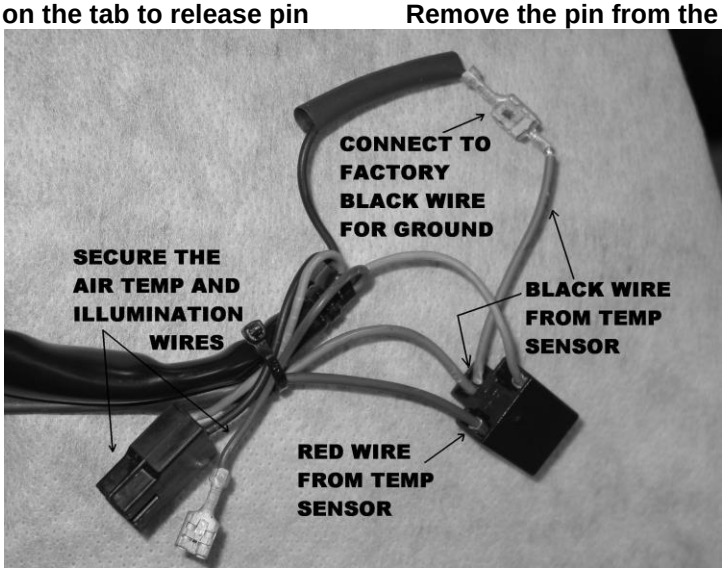


Locking tab on terminals

Using a small allen/pick release the locking tab

Push gently on the tab to release pin

Remove the pin from the connector



Oil Temp Sensor Plug Connections

GAUGE SETUP

The oil temp gauge has a user selectable high temperature warning point that can be set so the gauge will flash the reading when the temp is met or exceeded. The gauge will only read correctly with the supplied sender.

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
1st	- 1 -	CL	- 1 -	- 1 -	- 1 -	- 1 -
2nd	SPd	- 2 -	- 2 -	- 2 -	- 2 -	- 2 -
3rd	- 3 -	tCH	- 3 -	- 3 -	- 3 -	- 3 -
4th	- 4 -	- 4 -	PS1	- 4 -	- 4 -	- 4 -
5th	- 5 -	- 5 -	- 5 -	F or C	- 5 -	- 5 -
6th	- 6 -	- 6 -	- 6 -	- 6 -	FUL	- 6 -
7th	- 7 -	- 7 -	- 7 -	- 7 -	- 7 -	ULt
8th	- 8 -	- 8 -	- 8 -	- 8 -	- 8 -	- 8 -

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 “ F ” or “ C ”on the display; this is the screen you need to get to in order to enter the oil temp setup.
- Press and hold the switch until “Snd” is displayed, release the switch and the current sender selection will be displayed.
- Press and release the switch to change between Fahrenheit “F” and Celsius “C”.
- Once the correct unit is displayed, press and hold switch until “H 1” is displayed. Release the switch and a number should be displayed. This indicates high temp warning point.
- Press and release the switch until the desired warning point is displayed.
- Press and hold until “---” is displayed to save the settings.
- Turn off key. Setup is complete.

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

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