



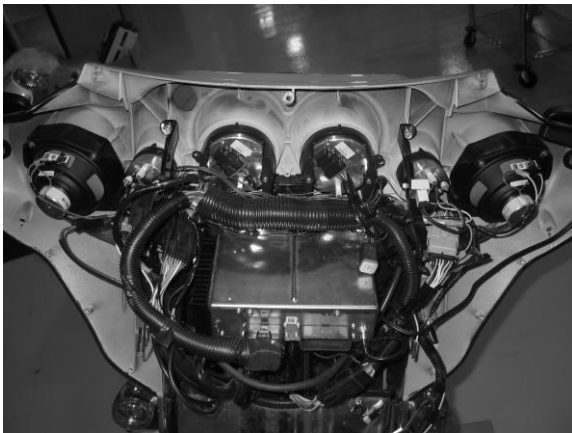
## MCL-36K-TCH

Thank you for purchasing the Dakota Digital MCL-36K-TCH gauge for your Harley Davidson Touring bike. This gauge is designed to be a direct, plug in replacement for all touring models from 2004 – 2011. This is part of a six gauge package for touring models so you can add additional gauges as you choose.

### 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.

Remove the outer fairing; this will vary from model to model, so 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 gauge and these detailed instructions will guide you through it.



Street Glide with outer fairing removed

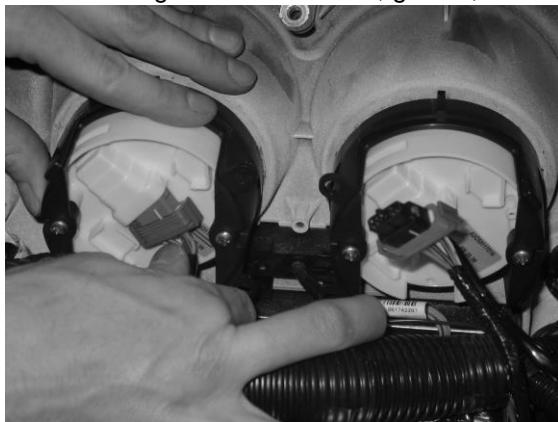


Road Glide with outer fairing removed

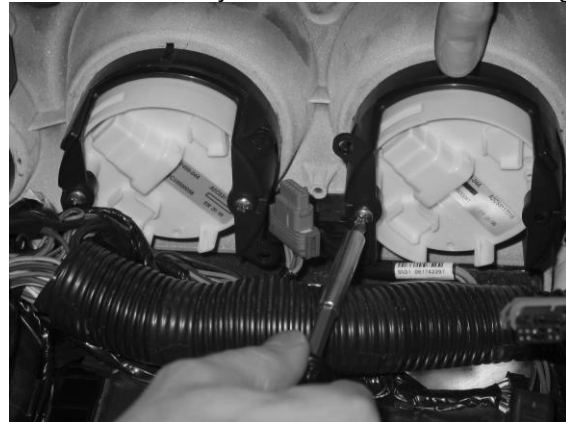
### REMOVAL OF FACTORY GAUGE

#### ULTRA FLHT & FLHX (STREET GLIDE batwing fairings)

Unplug the tachometer. Remove the screws securing the clamp that holds the gauge in place and pull it out through the front of the fairing. Save the screws, gasket, and clamp to be reused when you install the new Dakota Digital gauge.



Unplug the factory tachometer



Unscrew the clamp and remove gauge

## FLTR (ROAD GLIDE)

You will need to remove the speedometer and tachometer instrument bezel. To do this, remove two small screws on the left and right side of the bezel. Lift up on the back of the bezel and slide the tab that is under the ignition switch out from under the switch cover (see Photo A below). Unplug the gauge connections and unplug the indicator lights so the bezel can be completely removed for easier installation of the new gauge. Remove the clamp that holds the tachometer to the bezel and remove the gauge and gasket.



Photo A



Bezel removed

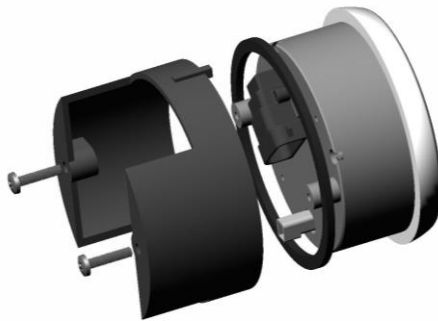


Gauges/Grommets removed

### IMPORTANT NOTE!

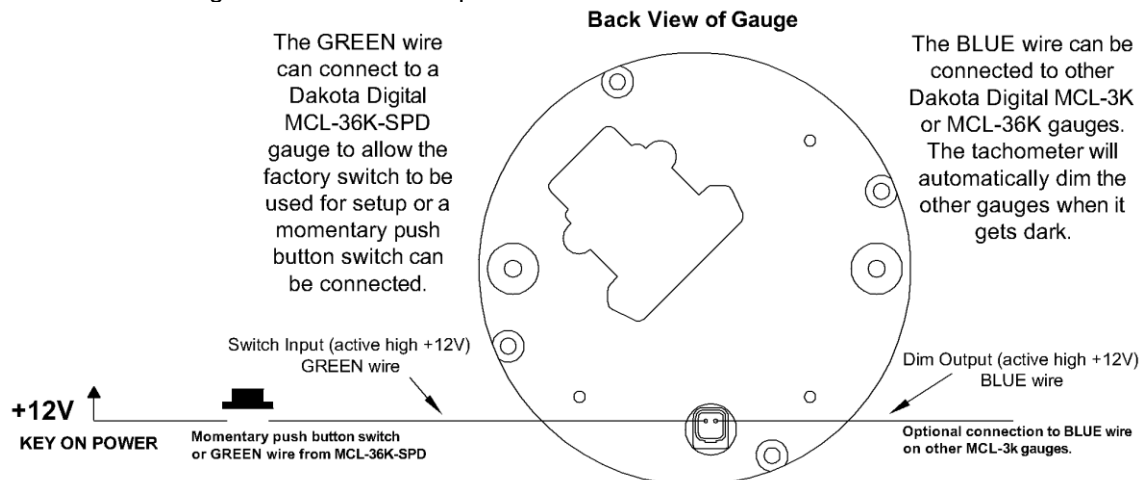
**SAVE ALL CLAMPS, GASKETS, and SCREWS FROM THE STEPS ABOVE AS THEY WILL BE USED TO SECURE THE NEW DAKOTA DIGITAL GAUGE**

Next you are ready to install the new gauge into the fairing. Install the gauge and secure using the original hardware that was removed: clamp, gasket, and screws. Be sure the alignment tab on the clamp lines up with the notches in the fairing. Some fairings may only have one notch, line up at least one tab on the clamp with the notch in the fairing, this will ensure the gauges are centered and aligned correctly.



## WIRING (plug in connections)

Plug the original tachometer connector directly into the new gauge. The BLUE wire on the small, two-wire plug can provide a dimming signal for other Dakota Digital MCL-3K or MCL-36K gauges. The tachometer has a sensor that activates the dimming feature when ambient light is low and provides +12V out on the BLUE wire. The gauge will dim to 50% intensity. The GREEN wire is used for entering setup and for changing the message screen. This can be wired to a momentary push button switch and the other side to +12V. If an MCL-36K-SPD gauge is also being installed then this can connect to the green wire from the speedometer.



## FUNCTION SWITCH

If an MCL-36K-SPD gauge is installed, then the factory speedometer push button switch is used as the main function switch, otherwise a push button switch should be connected and mounted to allow access to all of the gauge features. The function switch is used for setup and for adjusting the clock.

The function switch can also be used to change the tachometer display. If an MCL-36K-SPD gauge is also installed, be sure the speedometer is displaying the odometer to avoid resetting any of the other settings before attempting to change the tachometer. Press and hold the switch for about 4 seconds to change the tach menu. Press and hold the switch for about 6 seconds to reset the high RPM recall while it is displayed. The tachometer only has two display modes as follows:

	<u>TACH MENU</u>		
CLOCK	>	12:00	12 hour clock
HI RPM	>	0000	high RPM recall

## GAUGE SETUP AND CALIBRATION

The function switch, discussed above, is used to enter setup mode for all of the gauges. If you are only installing one or a couple Dakota Digital MCL-3K gauges, then setup may seem a little strange since they are designed to work as a set. The first step in the setup procedure is to select which gauge you are going to adjust. Each gauge will either show a number or a label. If the gauge is showing a label then that gauge will be selected to enter setup. All of the other gauges will exit setup and allow the selected gauge to be changed. To get into setup, press and hold the function switch while turning the key on. Press and release the switch to advance through the menus below, when on the desired option press and hold the switch to select setup for that particular gauge/function.

	Speed	Tach	Oil PSI	Oil Temp	Fuel	Volt
1 <sup>st</sup>	- 1 -	CL	- 1 -	- 1 -	- 1 -	- 1 -
2 <sup>nd</sup>	SPD	- 2 -	- 2 -	- 2 -	- 2 -	- 2 -
3 <sup>rd</sup>	- 3 -	ELCH	- 3 -	- 3 -	- 3 -	- 3 -
4 <sup>th</sup>	- 4 -	- 4 -	PSI	- 4 -	- 4 -	- 4 -
5 <sup>th</sup>	- 5 -	- 5 -	- 5 -	F or C	- 5 -	- 5 -
6 <sup>th</sup>	- 6 -	- 6 -	- 6 -	- 6 -	FUL	- 6 -
7 <sup>th</sup>	- 7 -	- 7 -	- 7 -	- 7 -	- 7 -	ULt
8 <sup>th</sup>	- 8 -	- 8 -	- 8 -	- 8 -	- 8 -	- 8 -

## FACTORY DEFAULT SETTINGS FOR SETUP MENUS

Below is a list of factory gauge settings and what can be adjusted in the setup menus. You can calibrate and adjust the tachometer as often as you wish, however it should only need to be set once. The only gauge that may require setting after the initial install is the Clock function on the tachometer so it is the first setup menu.

Clock Cal	0 (range -8 – 7)
Night Dimming	1 (darkest)
Display Update	3 (fastest 1/8 sec.)
RPM Warning	5500 (range 2200-9900)

## TACHOMETER SETUP

Main Menu	Sub Menu	Description
CL		set clock time
ELH	n IGHt	set night dimming level
	uPdRtE	set RPM update rate for digital readout
	uJArn	set RPM shift warning point
	GEAR	transmission gear programming

Press and hold the switch while turning the key on. Release the switch. Press and release the switch until "ELH" is displayed, then press and hold switch until " - " is displayed. The RPM display will show "5E" and the lower display will show "n IGHt". Press and release the switch to move through the different menus, press and hold the switch to select a menu option.

*Note: The tachometer calibration may require you to hold the switch while starting the bike, but only if you are going to adjust/set the GEAR programming since you will have to ride the bike. Some ignition systems may disrupt power to other circuits, when cranking, causing the gauge to reset, this is why you must hold the switch while starting if you are setting up the GEAR display. All other gauge functions and gauges can be set without running the engine.*

### CL CLOCK SETUP

The time is displayed on the smaller display below the RPM, and is the first setup menu since it is the only setting that requires change once the initial calibrations are complete.

- To set the clock, press and hold the switch while turning the key on. Release the switch.
- The RPM display should show "CL", press and hold switch until " - " is displayed.
- Release the switch. The lower display will show the current hours.
- Press and release the switch to change the hours, press and hold the switch to change to the minutes.
- Release the switch. The lower display will show the current minutes.
- Press and release the switch to change the minutes, press and hold the switch to change to the time adjust calibration.
- Release the switch. The lower display will show "CAL" and a number from -8 to 7. This allows the clock to be adjusted +/- seconds per day.
- Press and release the switch to change the CAL value, press and hold the switch to save this and exit the clock setup.

### n IGHt NIGHT DIMMING

Your display system has a dimming feature that dims the display intensity. Normally the system is at full brightness for daytime viewing. The tachometer has a light sensor that will provide a signal to the other gauges to reduce the brightness at night. The level of darkness before the gauges dim can be adjusted in the tachometer setup.

- Press and release the switch until "n IGHt" is displayed, then press and hold the switch until " - " is displayed.
- Release the switch. The update setting will be displayed. ( 1=late(darkest), 2=mid, 3=early(lightest), OFF).
- Press and release the switch until the desired setting is displayed.
- Press and hold the switch until " - " is displayed to save the setting.

### uPdRtE Display update setup

The display update will select how quickly the tachometer reading will respond.

- Press and release the switch until "uPdRtE" is displayed, then press and hold the switch until " - " is displayed.
- Release the switch. The update setting will be displayed. ( 1=slow, 2=mid, 3=fast).
- Press and release the switch until the desired setting is displayed.
- Press and hold the switch until " - " is displayed to save the setting.

## (Tachometer Setup Continued)

### LUARn RPM warning setup

- Press and release the switch until “LUARn” is displayed, then press and hold the switch until “ - “ is displayed.
- Release the switch. The current warning point will be displayed.
- Press and release the switch until the desired setting is displayed.
- Press and hold the switch until “ - ” is displayed to save the setting.

### GEAR Gear indicator setup

This gauge has a single digit display for gear position. The gauge can learn the gear ratios based on speed and rpm so no sensors are needed, just what you've already connected. It will work with 4, 5, 6, or 7 speed transmissions. The factory preset option will preset the indicator to work with a stock 5 or 6 speed drive train. With a stock 6 speed there will be a slight delay the first time you shift to sixth gear as the system verifies the gear. You can also program each gear position for aftermarket transmissions or if you've changed wheel size or sprocket size. To program the gear positions, begin at a section of road where you can gradually shift through all of the gears. Press and hold the switch while turning the key on and starting the engine. Once the engine is running, release the switch.

- Press and release the switch until “LCH” is displayed. Press and hold the switch until “ - “ is displayed.
- Press and release the switch until “GEAR” is displayed, press and hold the switch until “ - ” is displayed.
- The display will show “OFF”, “PRESET”, or “LEARN”. “OFF” will disable the indicator. “PRESET” will set the indicator for an original factory transmission. “LEARN” allows it to work with virtually any transmission option.
- To program each gear individually, press and release the switch until “LEARN” is displayed, then press and hold the switch.
- The message will show “LD LCH” if the engine rpm is below 1500, or “LD SPD” if the vehicle speed is below 5 MPH.
- Begin driving in 1<sup>st</sup> gear. The display should show GEAR 1 and the “1” should be flashing. Drive at a steady speed until the “1” goes steady and then changes to a flashing “2”, it should only take about 20 seconds if the speed and RPMs are steady.
  - *Optional: If the gear does not stop flashing you can manually override and jump to the next gear by pressing and releasing the switch to store the gear position quicker.*
- Shift to 2<sup>nd</sup> gear and drive at a steady speed.
- Wait until the “2” goes steady and then changes to a flashing “3”. Shift to 3rd gear.
  - *Optional: If the gears do not stop flashing you can manually override and jump to the next gear by pressing and releasing the switch to store the gear position quicker.*
- Repeat this through each gear. When you are done, come to a complete stop or press and hold the switch until the display shows “done” and then release it.
- Press and release the switch to restart the gauges in normal operation, verify the gear position by riding through each gear and seeing if positions agree.

## Tachometer Troubleshooting guide.

Problem	Possible cause	Solution
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. Connect ground to a different location. Return gauge for repair. (see instructions)
Gauge lights up, but tach will only show zero.	No data from ECM.	Check engine trouble codes.
Tach reading is erratic or jumps around.	Tach signal wire is loose or broken. Poor ground connection.  Update rate is too fast.	Check all wire connections and inspect wire for breaks. Check ground connection on tachometer, engine, and ignition system. Reset display update speed slower.
Gear indicator is always -	Gears not programmed.	Program gear indicator in setup. (see instructions)
Gauge will not dim.	Night dimming is turned off or too low.	Change "night" setting in setup. (see instructions).
Gauge remains dim at all times.	Night dimming is turn too high. Light sensor at bottom of gauge is covered.	Change "night" setting in setup. (see instructions). Make sure the lower part of the lens is not covered.
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.
Cruise Engage indicator does not work.	Loose or incorrect connection to indicator wire.	Check that the appropriate indicator wire has about 12 volts when the indicator should be off and about 0 volts when the indicator should be on.
ECM performance tune or reprogramming fails.	Stock service tools look for all stock gauges.	Unplug MCL-3006 and reprogram ECM. MCL-3006 can be plugged back in as soon as reprogramming 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](http://www.P65Warnings.ca.gov)



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