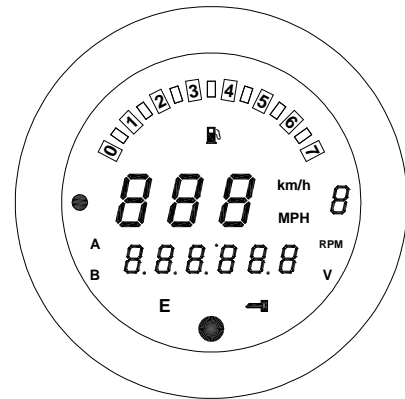# MODEL MCL-3204
3-3/8" SPEEDOMETER/TACHOMETER for 2004 – up

> **IMPORTANT NOTE!** **This gauge has an odometer preset option that is only available one time in the first 100 miles (160km) of operation. See "*Odometer preset*" for instructions.**

GAUGE SETUP AND CALIBRATION
The setup menus are entered by holding the switch in while turning the key on. The menus are as follows:

Menu	Description
d IA9	read diagnostic codes
AdJUSt	adjust calibrate speed
un It	select speed unit (MPH or km/h)
5 5Et	miles to service setting
9EAr	transmission gear display selection
PErF	turn on/off performance displays
tEMP	set temperature warning point
uJArn RPM	set RPM shift warning point
uJArn V	set low volt warning point
CL CAL	adjust clock calibration
n I9Ht	turn on/off automatic night dimming
FUEL	low fuel light setup
InFO	display gauge revision code on speedometer
-odoM	one-time odometer preset

POWER & GROUND
The gauge is a direct plug in. Constant battery power and key switched power are supplied by the stock harness along with ground.

STATUS AND WARNING INDICATORS
Several indicators are supplied on the stock wiring harness. Some of these may not be active on your motorcycle. These include the security, engine, ABS, and low fuel.

LOW VOLTAGE WARNING
When the voltage drops below the warning limit with the engine running, LO and your current voltage will be displayed. (default warning limit is 11.0V)

SPEEDOMETER & TACHOMETER
The speedometer and tachometer signals are read from the engine control module (ECM) over a data bus.
The speed can be calibrated to allow for differences in tires or gearing; calibration is discussed later.
The tach bar displays rpm x1000 with a range of 7000 rpm. The rpm can also optionally be shown on the message display.

CLOCK
The clock uses a 12 hour format and can be set by pressing and holding the switch while the clock is displayed. After the switch is held for a few seconds the hours will begin flashing. Momentarily pressing the switch will change the hours, holding the switch will move to the minute set, and the minutes will begin flashing. Momentarily pressing the switch will now change the minutes. Holding the switch will exit the clock set mode.

MOUNTING

The gauge will mount using the original housing, grommet, and screws. Unbolt the two screws from the back plate at the back of the gauge housing, then unplug the factory gauge, noting the position of the grommets. There is one grommet on the front between the gauge and housing and one on the back between the housing and the back plate. Install the Dakota Digital gauge in reverse order installing grommets and then plugging into the factory plug and securing with the two screws.

SPEEDOMETER SETUP

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 to change the menu selection.

d IA9 Diagnostics mode for checking/clearing trouble codes
- Press and release the switch until "d IA9" is displayed, then press and hold the switch until " - " is displayed.
- Release the switch. The display will show "En9 InE", "SECurE", "AbS", or "donE".
- Press and release the switch to change the selection, press and hold the switch until " - " is displayed to begin reading the stored codes for the particular system. Release the switch. The display will show the current codes, "nonE", or "no rSP".
- Press and release the switch to move to the next stored code. After all codes are displayed the module part number will be scrolled across the screen. To clear codes, press and hold the switch when "end" is displayed. Consult a service manual for trouble code descriptions.

SPEED CALIBRATION

The speed calibration is not required unless you have changed out the stock transmission, pulley, or tires.

AdJuSt Adjust
- Press and release the switch until "AdJuSt" is displayed, then press and hold the switch until " - " is displayed.
- Release the switch. The display will show "FASt" or "SLOuu". Fast will allow you to increase the speedometer reading, slow will allow you to decrease the speedometer reading.
- Press and release the switch to change, press and hold the switch to continue. The display will change to "CL" and a number from 0.75 to 1.25. This is the calibration ratio that is applied to the reading that the ECM is providing. 1.10 will be 10% faster, 0.90 will be 10% slower.

$$\frac{\text{Actual speed}}{\text{new cal ratio speedometer reading}} \times \text{current cal ratio (1.00 by default)} = \text{new cal ratio speedometer reading}$$

- Press and release the switch to change the cal ratio. When the desired cal ratio is shown, press and hold the switch to save it.

un It Speed unit
- Press and release the switch until "un It" is displayed, then press and hold the switch until " - " is displayed.
- Release the switch. The display will light up the current speed unit (MPH or km/h).
- Press and hold the switch to keep the current unit or press and release the switch to change the unit.
- Press and hold the switch until " - " is displayed to save the setting.

5 SEt Miles to Next Service setup

The service mileage is a countdown mile meter. The service mile display can be disabled or can be set to count down from 500 – 7500 miles. If the service mileage is enabled and it gets to 0 miles it will display "5 -duE" each time the key is turned on. If the push button switch is pressed and held while "5 -duE" or "5" and a mileage is displayed, the service miles will be reset to your preset value.
- Press and release the switch until "5 SEt" is displayed, then press and hold the switch until " – " is displayed.
- Release the switch. The current setting will be displayed, "OFF" or a mileage from 500 - 7500.
- Press and release the switch until the desired setting is displayed.
- Press and hold the switch until " - " is displayed to save the setting.

n I9HL *Night Dimming*

Your display system has a dimming feature that dims the display intensity automatically at night. Normally the system is at full brightness for daytime viewing. To have the system at full brightness all of the time, go into the setup menu as described above and select "n9L" (night). Press and release the function switch to select "OFF" instead of "on".   Press and hold the function switch to save the new setting.

- Press and release the switch until "n I9HL" is displayed, then press and hold the switch until " – " is displayed.
- Release the switch. The current setting will be displayed. (On, OFF).
- Press and release the switch until the desired setting is displayed.
- Press and hold the switch until " - " is displayed to save the setting.

ᗐJᗩrn ^RPM^ *Rpm warning setup*

The rpm warning/shift point can be adjusted from 2000 – 7500.
- Press and release the switch until "ᗐJᗩrn ^RPM^" is displayed, then press and hold the switch until " - " is displayed.
- Release the switch. The current warning point will be displayed on the bar graph.
- Press and release the switch until the desired setting is displayed.
- Press and hold the switch until " - " is displayed to save the setting.

CL *Clock setup*

- Press and release the switch until "CL CAL" is displayed, then press and hold the switch until " – " is displayed.
- The display will show "CL" and a number from -8 to 7. This allows the clock to be adjusted +7 to -8 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.

9EAr *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. Subsequent shifts to sixth gear will not have the delay. 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 "9EAr" is displayed, press and hold the switch until " - " is displayed.
- The display will show "oFF", "PrESEL", "P-883-", or "LEArn". "oFF" will disable the indicator. "PrESEL" will set the indicator for an original factory transmission. "P-883-" will set the indicator for a Sportster 883 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 "LO LCH" if the engine rpm is below 1500, or "LO SPd" if the vehicle speed is below 5 MPH.
- Begin driving in 1st gear. The display should show 9EAr I and the " I " should be flashing. Drive at a steady speed until the " I " 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 2nd 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.

ᗐJᗩrn ^V^ *Voltage warning setup*

- Press and release the switch until "ᗐJᗩrn ^V^" is displayed, then press and hold the switch until " - " is displayed.
- Release the switch. The current warning point will be displayed (9.0 – 12.1).
- Press and release the switch until the desired setting is displayed.
- Press and hold the switch until " - " is displayed to save the setting.

LEᗰP *Temperature warning setup*

- Press and release the switch until "LEᗰP" is displayed, then press and hold the switch until " - " is displayed.
- Release the switch. H and number from 307F – 419F or 153C – 215C will be displayed. Whenever the temp exceeds this number the gauge will flash.
- Press and release the switch until the desired value is displayed.
- Press and hold the switch until " - " is displayed to save the setting.

*** *Default is 419 F(215C), setting it to this temp will also prevent the gauge from flashing.*

***Temp units follow the speed unit setup. MPH sets for F and km/h sets for C.*

PErF *Performance menu setup*

The performance readings can be turned on or off. When they are turned off the odometer display will only toggle through the mileage readings.

- Press and release the switch until "*PErF*" is displayed, then press and hold the switch until " - " is displayed.
- Release the switch. The current setting will be displayed (*on* or *oFF*).
- Press and release the switch until the desired setting is displayed.
- Press and hold the switch until " - " is displayed to save the setting.

FUEL *Low fuel light setup*

- Press and release the switch until "*FUEL*" is displayed, then press and hold the switch until " – " is displayed.
- The display will show "*OFF*", "*dYn*"(2004-2008 Dyna), "*SPo*"(Sportster), or "d09" (2009-up Dyna). 2004-2008 Dyna should be used if there is a stock fuel gauge and it is 2008 or older. If it has a stock fuel gauge and it is 2009 or newer use 2009-up Dyna. Sportster should be used when there is only a low fuel switch. Press and release the switch to change to the desired setting.
- Press and hold the switch until " - " is displayed to save the setting.

odoM *Odometer preset*

The odometer can be preset by the customer within the first 100 miles. Once the odometer has more than 100 miles, the menu option will no longer be displayed. Make sure you have correctly selected the units to be either MPH or km/h first. The odometer will be set in the selected units. Once you have preset the miles you cannot change it again.

WARNING!!: *This only allows setting odometer to the <u>nearest mile</u>. <u>Do not use tenths!</u> For example a mileage of 65432.1 should be set to "065432" using this method. If the tenths digit is used, the odometer will read 10 times too high.*

- Press and release the switch until "*- odoM*" is displayed, then press and hold the switch until " - " is displayed.
- The current miles will be displayed with the left most digit flashing.
- Press and release the switch to increment the digit. Press and hold the switch to move to the next digit to the right.
- Continue until the right most digit has been set. Press and hold the switch and the speed display will show "*no*".
- Press and hold the switch while "*no*" is displayed to go back and continue changing the odometer display. Turn the key off to cancel any changes.
- Press and release the switch to change to speed display to "*YES*". Press and hold the switch while "*YES*" is displayed to save the current odometer reading.

FUNCTION SWITCH

The function switch on the side of the dash panel allows access to all of the mileage, rpm, and performance information. Pressing and releasing the function switch toggles through the different displays. Press and holding the switch will reset the current display. The display sequence is as follows:

ODOMTR	>	000000	odometer mileage
TRIP A	>	A 000.0	trip meter mileage A
TRIP B	>	B 000.0	trip meter mileage B
SERVIC	>	5 0000	miles since last service (if programmed)
KPH	>	::::::	metric speed conversion (to mph if metric unit is selected)
VOLTS	>	00.0 V	displays voltage to gauge
* HI SPD	>	HI 00	high speed recall
* 0-60 T	>	60 00.0	0-60mph time (0-100kph)
* QUARTR	>	25 00.0	quarter mile time
* QT MPH	>	25 00	quarter mile speed
CLOCK	>	12:00	12 hour clock
* HOURS	>	Hr 0.0	re-settable hour meter
RPM	>	0000 RPM	rpm reading in alpha display
* HI RPM	>	H 0000	high rpm recall
TEMP	>	000 F	temperature reading, "C" if metric

The 0-60 and ¼ mile timers are zeroed by pressing and holding the switch while that timer is displayed. The timer will not restart until the speed reaches zero and you start driving again.

Display functions with a '*' in front of them are only shown with performance readings turned on.

Troubleshooting guide

Problem	Possible cause	Solution
Gauge will not light up.	Orange/White wire does not have power.	Inspect and repair stock harness.
	Brown/Gray wire does not have power.	Inspect and repair stock harness.
	Black wire is not getting a good ground.	Inspect and repair stock harness.
	Gauge is damaged.	Return gauge for repair. (see instructions)
Clock resets when key is off.	Brown/Gray wire does not have constant power.	Inspect and repair stock harness.
Gauge lights up, but speed will only show zero.	No data from ECM.	Check engine trouble codes.
	Sensor is not sending a speed signal.	Check wiring and test sensor.
Speed reading is incorrect.	Gauge is not calibrated correctly.	Gauge must be calibrated (see instructions).
Gauge lights up, but tach will only show zero.	No data from ECM.	Check engine trouble codes.
Gauge will not dim.	Auto dimming is disabled.	Check setting under "night" menu.
Gauge remains dim at all times.	Light sensor is covered.	Make sure the bottom center of the gauge lens is clean and not obstructed.
Security indicator does not work.	Loose or incorrect connection to indicator wire.	Inspect and repair stock harness.
Temperature reading does not show up.	Run switch is not on.	Run switch must be on to get temperature data from ECM.
Low Fuel Indicator does not operate.	Indicator is turned off.	Change setting under "FUEL" menu. (see SETUP section)
	Gauge is set for wrong setup type.	Change setting under "FUEL" menu. (see SETUP section)
	Fuel sender or gauge is not working.	Inspect and repair stock components.

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.

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