



MODEL MLX-9X00 series
HARDWIRE SPEEDOMETER/TACHOMETER
(Not for data bus or CAN bus)

Please read this before beginning installation or wiring.



IMPORTANT NOTE! This gauge has an odometer preset option that is only available one time within the first 100 miles (160 km) of operation. See ODOMETER PRESET MENU for instructions.

TABLE OF CONTENTS

Mounting	Page 2
Wiring	Page 3
Display Features	Page 8
Operations	Page 9
Setup Menu	Page 10
Setup Steps	Page 13
Trouble Shooting	Page 21
Warranty	Page 24

MOUNTING

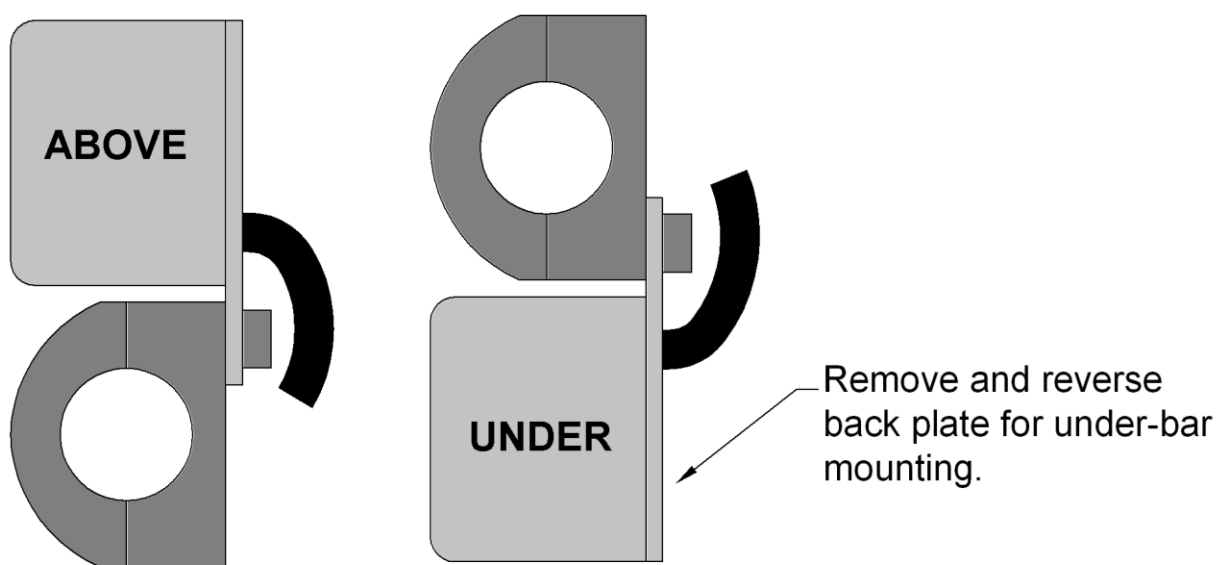
A mounting bracket must be purchased for your application.

- ✓ Any BKT-50xx series or the BKT-7020 bracket may be used.
- The bar mount brackets can be used for above-the-bar mounting, or below-the-bar mounting.
- The 35° triple-tree mounts are only available for above-the-bar mounting. The triple-tree mounting bracket replaces the original handle bar mount on certain bikes.
- The gauge attaches to the back side of the bracket with the supplied screws.
 - DO NOT attempt to clamp the gauge tabs between the two bracket halves
- The bar mount brackets have a curved front bracket and two rear brackets.
 - The longer screws attach the gauge to the back side of the bracket and the shorter screws go into the recessed openings on the rear brackets.
 - The mount fits tight and will need to be pulled together by the screws.

To mount the gauge under the bar:

1. Remove the rear plate by unscrewing the four screws.
2. Rotate the rear plate so the mounting tab is on the top.
3. Reattach the rear plate using the four screws.
4. Place bar mount bracket on the handle bars so that the recessed screw holes are on the top.
5. Using the long screws, secure the gauge to the bottom side of the bar mount bracket.

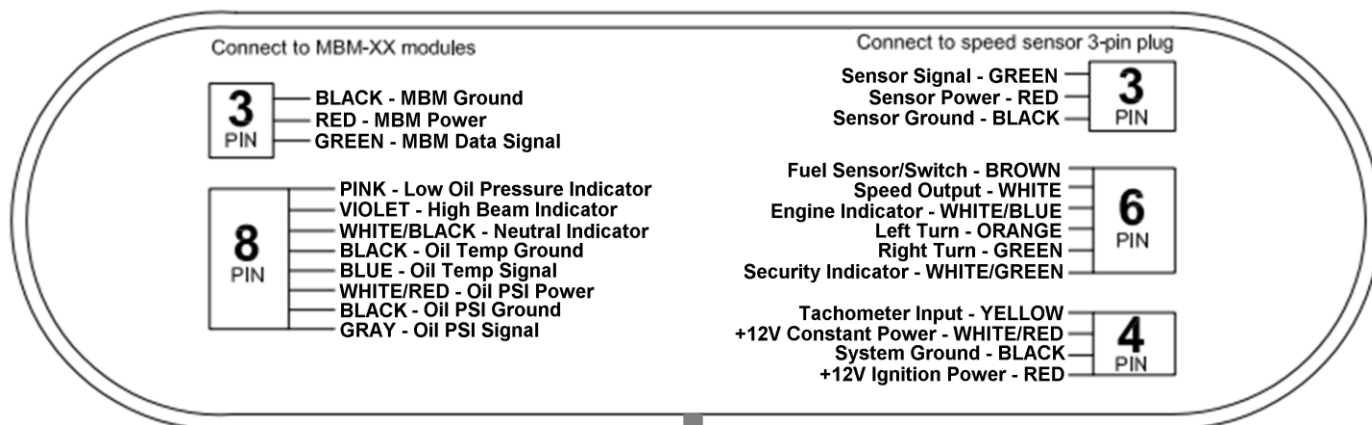
Sample diagrams for using bar mount brackets above the bar and below the bar:



Wiring

Diagrams

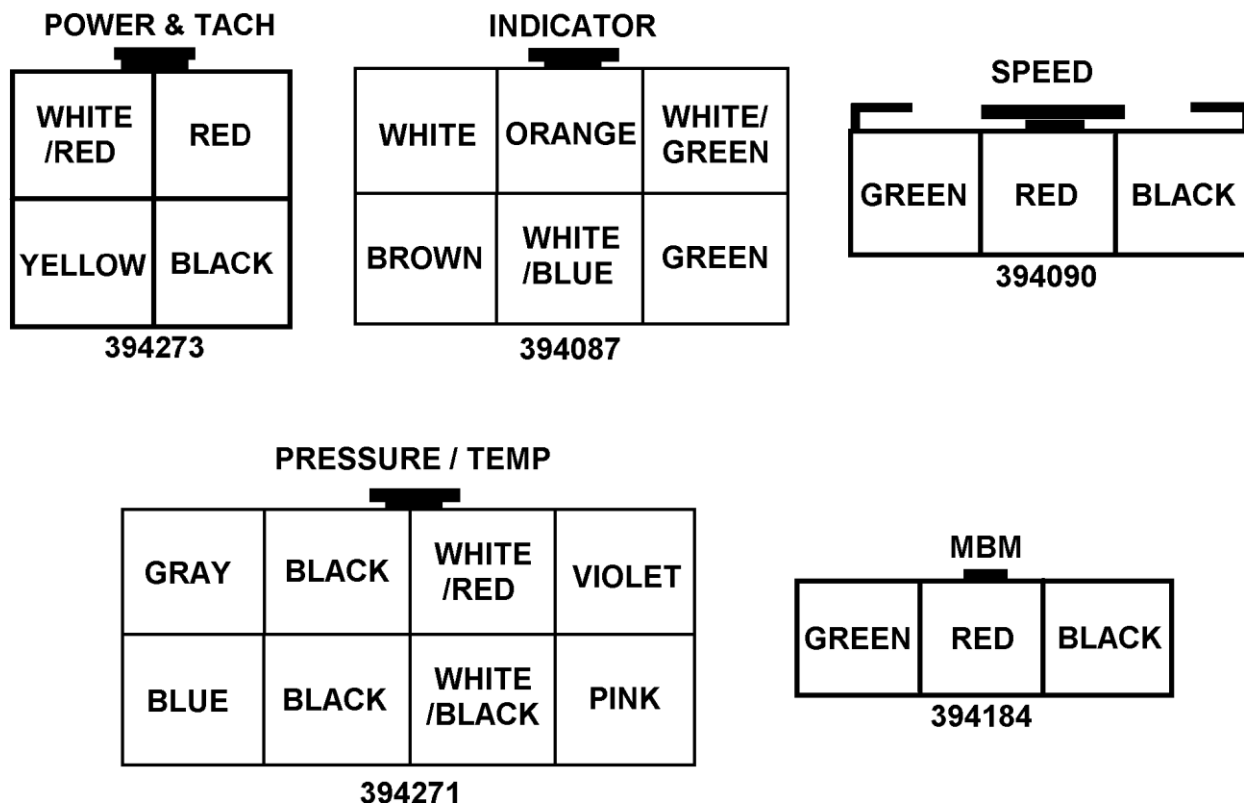
Plug layout in the back of the gauge.



The display gauge wire colors may not match the wire colors in your electrical wire harness. Consult a service manual to determine the color code and location of the motorcycle wires.

Wire color layout of each plug looking into the plug with the wire.

The speed plug and MBM plug are different so they cannot be plugged into the wrong spot.



Wiring

POWER / TACH 4 PIN HARNESS

RED wire	Key on ignition or accessory power
WHITE / RED wire	Constant battery power – keeps clock alive
BLACK wire	Battery ground
YELLOW wire	Tach source, coil trigger or engine computer

- ✓ Never connect the gauge to a battery charger alone
 - Battery chargers have an unregulated voltage output that can damage electronic circuits.
- ✓ A stand-alone 12-volt battery can be used.
- ✓ A battery tender can be connected to an **installed** battery and be charging the battery.

LOW VOLTAGE WARNING

- The **WHITE/RED** wire does two things, **1)** keeps the clock alive, **2)** monitors system voltage.
- When the voltage drops below the warning limit, with the engine running, a red warning message will display in one of the LCD windows, (default warning limit is 11.0V).

TACHOMETER WIRING

- The tachometer signal is obtained by connecting the **YELLOW** wire from the main harness to the negative side of the coil or to an ignition module (ICM) tach output.
 - Common coil color options for early 2000 motorcycles
 - *H-D = Yellow/Blue or Blue/Orange*
 - *Yamaha = Orange*
 - *Honda VTX = Yellow/Blue or Blue/Yellow (in headlight bucket)*
- The tachometer is adjustable for 1 to 15 cylinder settings.
- The 1-cylinder setting is used for single-fire ignition systems without a buffered tach output.
- For tach signals integrated into a vehicle wiring harness, consult a service manual to determine the color code and location of the tachometer signal wire.

INDICATOR 6 PIN CONNECTOR

WHITE / GREEN wire (-)	Security indicator (if equipped)
GREEN wire (+)	Right Turn indicator lamp
ORANGE wire (+)	Left Turn indicator lamp
WHITE / BLUE wire (-)	Engine indicator (EFI equipped)
WHITE wire	Speed output : to cruise or OEM turn signal cancelation module
BROWN wire	Fuel Input from a switch or sensor

- Based on options of the motorcycle, the following options may not be used:
 - White/Green - Security
 - White/Blue - Check Engine
 - White - Speed Output
 - Brown - Fuel
 - Cap off these wires when they are not used.
- If a fuel gauge is installed on the tank, the output cannot share with MLX-9x00 gauge.
- Fuel input does not work with thermistor sensors, nor sonar models in some V-Rods.
- Aftermarket turn signal modules are typically timer based and have no input for the **WHITE** wire.

The display gauge wire colors may not match the wire colors in your electrical wire harness. Consult a service manual to determine the color code and location of the motorcycle wires.

SPEEDOMETER 3 PIN CONNECTOR

Failure to calibrate the speedometer may cause your odometer mileage to increase very rapidly.

RED wire	Power to dedicated three wire speed sensors
BLACK wire	Ground to dedicated speed sensor
GREEN wire	Speed signal input, dedicated sensor or sharing existing sensor

- The included three-wire speed sensor harness Deutsch style plug can be used to plug direct to a Harley-Davidson 12-volt transmission sensor used from about 1996 to 2003.
 - The SEN-6017 transmission sensor, SEN-6018 rear wheel sensor and SEN-6019 universal mount sensor all plug directly into the include speed sensor harness.
 - The SEN-6011 is a two-wire sensor for older bikes with a 5/8" nuts for a cable drive speedometer,
 - Match the two sensor wires to the BLACK and GREEN for ground and signal, (no power required).
 - Some H-D motorcycles from the AMF era used a 12mm thread at the speedometer.
 - A 5/8" nut has been included to replace the 12mm nut on the speedometer cable.
 - Many cables will let the nut slide off when the cable is removed from the front wheel.
 - Metric motorcycles that have electronic speed sensors wired to the ICM – use **ONLY** the GREEN wire, and "T" into the existing speed signal wire, and share the signal. Consult a service manual for wiring.
 - **DO NOT** connect the **BLACK** or **RED** wires when tapping into a signal wire.
- Keep speed signal wires away from the tachometer lead, ignition coils and spark plug wires.

ADDITIONAL AND OPTIONAL INPUTS 8 PIN CONNECTOR

GRAY wire	Optional oil pressure sensor signal
BLACK wire (top row)	Optional oil pressure sensor ground
WHITE/RED wire	Optional oil pressure sensor power
PURPLE wire (+)	High beam indicator
BLUE wire	Optional oil temp sensor signal
BLACK wire (bottom row)	Optional oil temp sensor ground
WHITE/BLACK wire (-)	Neutral indicator
PINK wire (-)	Low oil switch indicator

LOW OIL PRESSURE SWITCH - PINK

Most motorcycles are equipped with a low oil pressure switch.

Connect the **PINK** wire to the lead from the low oil switch. Referring back to service manuals may be needed.

NEUTRAL INDICATOR - WHITE / BLACK

Virtually every motorcycle has a neutral safety switch to indicate when the transmission is in neutral.

Usually, the switch is a one terminal switch that goes to ground when in neutral.

Neutral safety switches (typically a 2-wire) are not the same and do not wire to the MLX-9x00.

Connect the **WHITE / BLACK** wire to the lead from the neutral switch. Referring back to service manuals may be needed.

HIGH BEAM – PURPLE

Most motorcycles are required to have operational head lights.

When wiring the **PURPLE** wire for high beam, be certain that you do not connect to the Low headlight power. Referring back to service manuals may be needed.

ADDITIONAL AND OPTIONAL INPUTS 8 PIN CONNECTOR - CONTINUED

OPTIONAL SENDER OPTIONS

Most motorcycles have a low oil pressure switch and have no means to monitor oil temperature. With the MLX-9X00 series, we offer optional senders to read oil pressure and oil temperature.

OPTIONAL OIL PRESSURE

To read actual oil pressure, the Dakota Digital part number SEN-1039 must be used.

Replace the existing low oil pressure switch with our SEN-1039 pressure sensor

The **PINK** "Low Oil Warning" wire will not be used with the SEN-1039, the gauge has a low-pressure warning point.

MLX-9000	SEN-1039
WHITE/RED	Red wire from sensor
BLACK	Black and bare wire from sensor
GRAY	White wire from sensor

OPTIONAL OIL TEMPERATURE

To read oil temp of the engine, the Dakota Digital part number SEN-1043 or SEN-1044 must be used.

The SEN-1043 is a one-wire sender with 1/8" NPT threads.

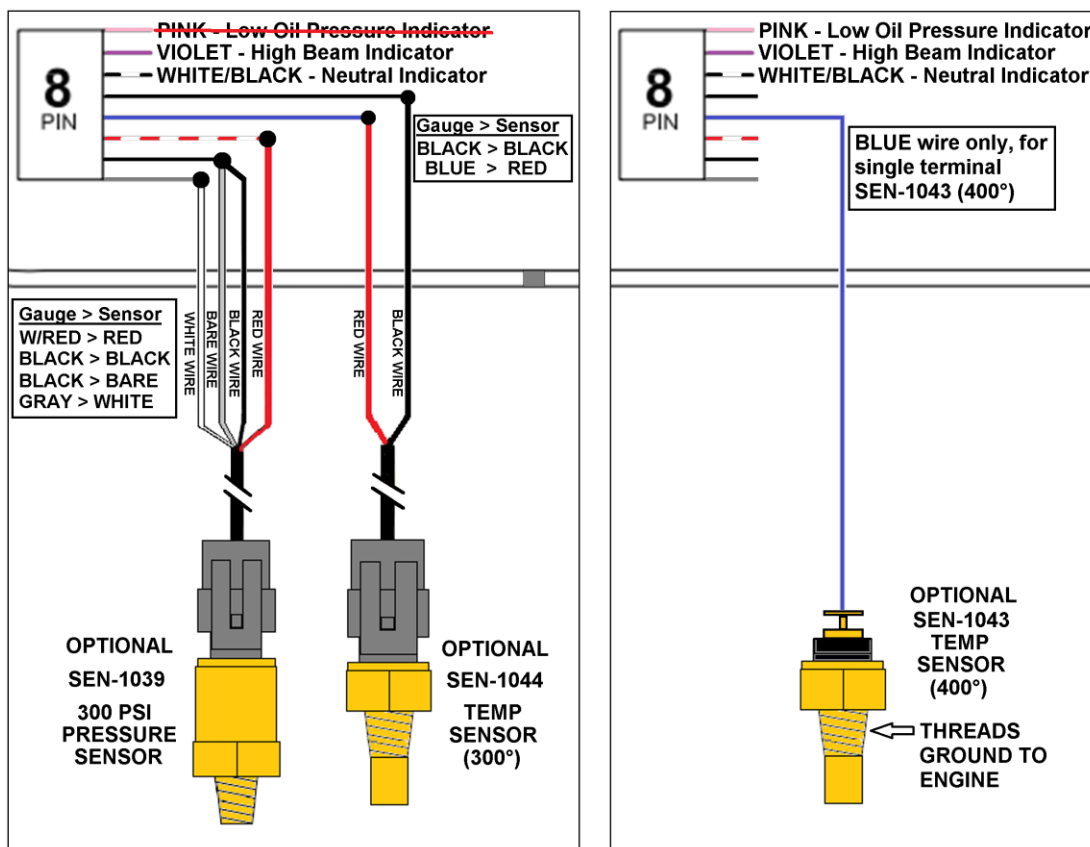
- Connect the terminal on the end of the sender to the indicator harness BLUE wire.
- Because this sensor grounds through its body, ensure sure the sender threads are able to make a metal-to-metal threaded connection to complete the ground.

The SEN-1044 is a two-wire sender with 3/8" NPT threads.

- The black lead is an internal ground to the sensor so thread sealant may be used.

Either sensor needs to be mounted to the oil pan or oil reservoir.

MLX-9000	SEN-1044 (300°)	SEN-1043 (400°)
BLUE	Red wire from sensor	To top terminal with spade connector
BLACK	Black wire from sensor	Not used – cap off



WIRING COLOR CODE FOR GAUGE:

MLX-9000 4-wire	Stock HD® harness color** (1996-2003)	Function
BLACK	BLACK	ground (connect directly to battery negative)
YELLOW	PINK* or BLUE/ORANGE of front coil	tachometer signal
RED	ORANGE/WHITE	+12 volt with key on
WHITE/RED	ORANGE (in some bikes)	Constant fused +12V battery power
MLX-9000 6-wire	Stock HD® harness color** (1996-2003)	Function
GREEN	BROWN	Right Turn indicator
WHITE/BLUE	BLACK/YELLOW	"ENGINE" indicator
BROWN		Fuel level sensor or switch
WHITE/GREEN	BROWN/VIOLET	Security system indicator
ORANGE	VIOLET	Left Turn indicator
WHITE	WHITE/GREEN	Output speed signal (to stock TCM)
MLX-9000 8-wire	Stock HD® harness color** (1996-2003)	Function
PINK	GREEN/YELLOW	Low oil pressure indicator
WHITE/BLACK	TAN	Neutral indicator
BLACK		Optional oil temp sensor ground
BLUE		Optional oil temp sensor signal
VIOLET	WHITE	High beam indicator
WHITE/RED		Optional oil pressure sensor power
BLACK		Optional oil pressure sensor ground
GREY		Optional oil pressure sensor signal

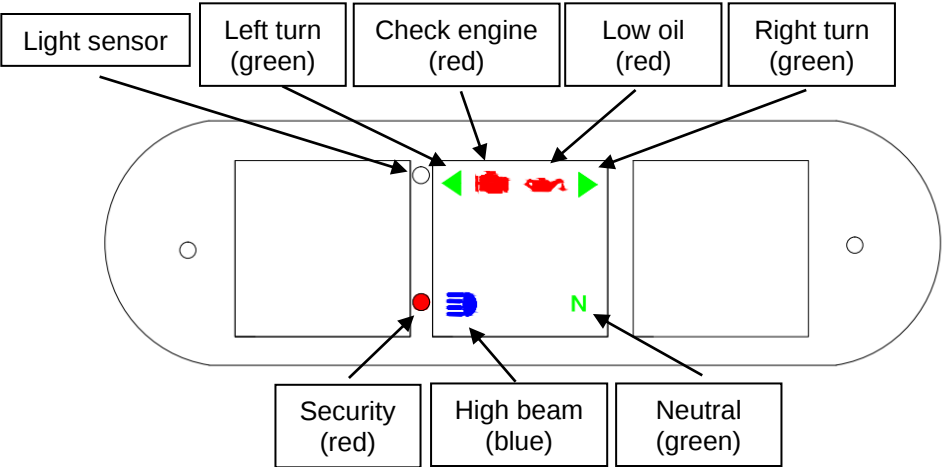
**Bikes that do not have a pink wire will need to wire Yellow to either Blue/Orange of front coil, or Yellow/Blue of rear coil.*

***The HD® wire colors provide are for reference, please consult service manual for verification.*

****Not all HD® motorcycles will have all the listed wire colors.*

System features

INDICATORS

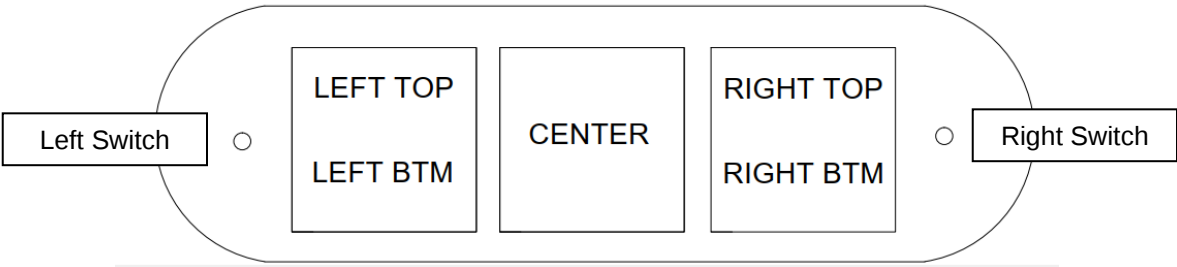


INFORMATION DISPLAYS

There are 5 reading locations available to display information. They are labeled LEFT TOP, LEFT BTM, CENTER, RIGHT TOP, RIGHT BTM, respectively.

The center location has 3 selectable readings that can be displayed, speed, tach or gear, (*configured in setup).

The other locations can show any of the information readings listed below. See switch operation on page 9.



Right or Left side display readings	Description
ODOMETER	Odometer reading (0-999,999)
TRIP A	Trip A odometer reading (0-9999.9)
TRIP B	Trip B odometer reading (0-9999.9)
SERVICE (when enabled)	Distance to next service (0-7500.0 or ---- when "SERVICE DUE")
TRIP HR	Hours gauge has been on with engine running HH:MM (00:00 to 99:59)
SPEED km/h	Alternate speed unit conversion
RPM	Digital or Bar RPM reading (0-15,990)
OIL TEMP (with optional sender present)	Engine oil temperature
OIL PSI (with optional sender present)	Engine oil pressure
VOLTS	System voltage
GEAR/CLOCK	Gear position and 12 hour clock display
FUEL	Digital or bar displayed when using sender
Performance readings (optional)	
HIGH MPH	High speed recall
0-60 TIME	0-60 mph time in seconds
Quarter mile speed/time	Speed at end of ¼ mile (trap speed) and ¼ mile time from standing start
HIGH RPM	High RPM recall
Center display readings	
MPH/km/h	Speed
RPM	Digital or Bar RPM reading (0-15,990)
GEAR	Gear position
MBM (Motorcycle Bus interface Module)	
MBM displays (optional)	Readings for connected modules will be in outer displays

Operation, Clock Set, Service Reset

FUNCTION SWITCHES

The function switches seen on the face of the gauge serve multiple purposes.

- In normal operating mode, the switches can change what is displayed on the outer LCDs.
- They can also reset a tripmeter mileage, or performance data.
- Data will not be repeated in other screens. You will see only one clock, or one trip A, etc..
- The switches are also used to enter setup mode and step through the setup menus.

The center LCD can only be changed in setup with limited options, with speed as default.

The outer LCDs can display a variety of options as one taps either the left or right switch.

The outer LCDs are also split to show data in the upper and lower halves of each display.

A small arrow points to the half of the display that you can change what is displayed.

To move an arrow, or “focus” point, follow these steps below:

Press and hold either switch to display a bar graph labeled “MOVE LINE”. The bar will begin to fill from left to right.	MOVE LINE
When the bar graph is full, it begins to move back to the left. The words “RELEASE TO MOVE” are on the bottom of the bar. You can release the switch now, and the arrow will move.	HOLD TO SET RELEASE TO MOVE
If the arrow was pointing to a TRIP MILE screen the bar graph will look like this, with “HOLD TO CLR” at the top. You can release the switch now, and the arrow will move.	HOLD TO CLR RELEASE TO MOVE

Function switches can also clear warning messages or reset a trip mileage.

The operation is just holding the switch down until the word “RELEASE” appears above the empty bar, then you may release the button when instructed.

Warnings such as “FUEL OPEN”, or “OIL TEMP OPEN” cannot be cleared as it is a wiring fault.

Hold function switch. Bar starts to fill.	Keep holding. Bar starts to empty.	Release function switch. Release to clear.
MOVE LINE	HOLD TO CLR RELEASE TO MOVE	RELEASE

The focus arrow must be pointing to the item to clear on the outer LCD.

If a function switch is pressed while the key is in the off position, the clock and odometer will be displayed.

SETTING THE CLOCK

The clock uses a 12-hour format and can be set with the key on by holding the function switch while the focus arrow is next to the clock. If the clock is not shown, Tap either function switch until it appears; keep in mind you may need to move to another message location.

- Hold the switch until “RELEASE” is displayed -

RELEASE

; the hours will begin flashing.
- Tap switch to change the hours, hold the switch to save until “RELEASE” is displayed.
- Tap either switch to change 0 to 5 of the minutes; hold the switch to save until “RELEASE” is displayed.
- Tap either switch to change 0 to 9 of the minutes: hold the switch to save until “RELEASE” is displayed.
 - The last step will exit clock setup.

SERVICE RESET

“SERVICE DUE” may appear at start up in a red box, indicating your preselected service time is due.

In time, the screen will go back to the last display shown.

- To clear the service odometer, (after your service was completed), Tap either function switch until the highlighted “SERVICE DUE”, appears in either left or right LCDs
- When “SERVICE DUE” is displayed, hold the same function switch until “RELEASE” is displayed.
 - The Service countdown odometer will display distance after being reset.

Programming

SETUP MENU

The MLX 9000 series can also be setup using the Apple© or Android 'Dakota Digital Motorcycle' app. The gauge **MUST** be in setup before using the app, (only Android must be paired before opening the app).

The function switches are used to enter setup mode.

To enter setup, you have two options:

1. Press and hold either switch while turning the key on.
 2. Press and hold **both** switches **after** the system is already powered up.
- Tap either switch to advance through the menus below
 - ❖ **Left** switch moves down the menu - **Right** switch moves up the menu.
 - Press and **hold** to enter each menu, and to select/save.

Main Menu	Sub Menu	Description
BLUETOOTH	STATUS CHECK	Bluetooth ID and current connection status
	OFF	Disable Bluetooth connections
	SETUP ONLY	Allow Bluetooth connections only while in setup
	ALWAYS ON	Allow Bluetooth connections when key is on
	BACK	Exits Bluetooth menu
LIGHTING	COLOR THEMES	Set factory defined color themes
	SET ALL COLOR	Set all areas to one color
	DISPLAY COLOR	Set colors for primary displays
	LABEL COLOR	Set colors for all labels
	MESSAGE COLOR	Set message location colors
	BAR COLOR	Set tach/fuel bar color
	DIMMING	Set dimming method
	OFF	
	AUTOMATIC	Uses built in sunlight sensor to increase or decrease backlight
	BACK	Exits Dimming menu
	SUNLIGHT	Set sunlight brightness method
	OFF	
	NORMAL	Increases backlight intensity when in direct sunlight
	INVERT	Increases backlight intensity and changes background white and text black for highest contrast.
	BACK	Exits Sunlight menu
	RESET	Returns all colors and settings to factory default
	YES	
	NO	
	BACK	Exits Lighting menu
SPEED	ADJUST	Adjust speed reading up or down while riding
	FASTER	Increases speed
	SLOWER	Decreases speed
	BACK	Exits Speed Adjust menu
	AUTO	Ride one mile (or km) to calibrate speed
	BEGIN	Begin riding the mile
	BACK	Exits Speed Auto menu
	UNIT	Select MPH or km/h unit
	MPH	Miles per hour
	km/h	Kilometer per hour
	BACK	Exits Speed Unit menu
	SERVICE RESET	Set miles to service reset value or turn off
	PRESET ODO	Odometer preset (Can only be set within the first 100 miles)
	BACK	Exits Speed menu
TACH	INPUT	Set cylinder count and input type
	CYLINDER	
	TYPE	Select RPM signal voltage level
	12V HIGH	
	5V LOW	
	BACK	Exits Tach Input menu
	HIGH WARNING	Set high RPM warning point
	DISPLAY	Set tach display to digital or bar reading
	DIGITAL	Tach will be displayed in a digital number format
	BAR	Tach will be displayed in a fill bar format
	8,000 RPM	Maximum RPM bar size
	16,000 RPM	Maximum RPM bar size
	BACK	Exits Tach Display menu
	BACK	Exits Tach menu

Main Menu	Sub Menu	Description
OIL TEMP	UNIT ON	F° or C°
	SENDER	Select sender being used or turn off
	SEN-1043 SEN-1044	
	HIGH WARNING	Set high warning point
	TEST	Display sender resistance for troubleshooting
	BACK	
	OFF BACK	
OIL PSI	ON	Enable/Disable option oil pressure reading
	LOW WARNING	Set low warning point
	TEST	Display sender resistance for troubleshooting
	BACK	Exits Oil On menu
	OFF BACK	Exits Oil PSI menu
FUEL	ON	Enable/Disable option fuel level reading
	SENDER	
	75-10 240-33	
	SWITCH CUSTOM	PROGRAM custom fuel curve
	BACK	Exits Fuel Sender menu
	RANGE TO EMPTY ON	
	LEARN RESET BACK	Begins learning range to empty Exits Fuel Range menu
	OFF	
	DISPLAY	
	BAR	Display will show a fill bar for fuel reading
	DIGITAL	Display will show a percentage reading for fuel
	BACK	Exits Fuel Display menu
	TEST	Display sender resistance for troubleshooting
	BACK	Exits Fuel On menu
	OFF BACK	Exits Fuel menu
VOLT	LOW WARNING	Set low warning point
	BACK	Exits Volt menu
DISPLAYS	LEFT TOP	Show/hide performance readings in left top screen location
	LEFT BTM	Show/hide performance readings in left top screen location
	CENTER	Select speed, tach or gear to be displayed in center screen
	RIGHT TOP	Show/hide performance readings in left top screen location
	RIGHT BTM	Show/hide performance readings in left top screen location
	MBMS	Show connected MBM's and set warning points
	BACK	
GEAR	OFF	
	LEARN	Learn gears based on speed and RPM
	BACK	
FACTORY RESET	NO	Resets all settings except odometer to factory defaults
	YES	
VERSION		Displays software codes of each controller
EXIT SETUP		

Entering Setup

Setup can be entered by a couple of means:

- Press and hold either switch and turn the power on.
- Hold both switches at the same time **after** the power is on.
- **FOR SPEED CALIBRATION: HOLD BOTH SWITCHES AFTER STARTING THE ENGINE.**

Release the switch(s) after "RELEASE SETUP" is displayed in the bottom of the center display.

Tap the left switch to move down through the different setup menus.

Tap the right switch to move up through the different setup menus.

Press and hold either switch to enter a setup menu.

Press and hold either switch to save a selected option.

Current selections within a sub menu are denoted with an asterisk (*).

Exiting Setup

At the end of every setup section, steps must be taken to properly exit the setup and return to normal operation.

When a section in this manual says "**BACK – exit menu**", please refer to these steps.

- Tap either function switch until you see ">BACK".
- Press and hold either switch until you see "RELEASE", and release the switch.
- Some menus may require moving to ">BACK" a few times to get to the main menu
- Tap either function switch until you see ">EXIT SETUP".
- Press and hold either function switch until you see "RELEASE", then release the switch.

Setup Menus

BLUETOOTH - Bluetooth menu

- ❖ Used to reference the Bluetooth ID when pairing with an Android device.
- ❖ The app can aid in setup and also read real time data on your device.
- When ">BLUETOOTH" is displayed, hold until "RELEASE" is displayed, and release the switch.
 - Under the word BLUETOOTH the Bluetooth ID will be shown.
 - For Android users, this is the ID that you pair to, in Settings/Bluetooth, prior to opening the app.
- The Bluetooth menu options are: "STATUS CHECK", "OFF", "SETUP ONLY", "ALWAYS ON", and "BACK".
- STATUS CHECK – Press and hold until "RELEASE" to enter
 - Shows the unit is either "WAITING" for connection or "CONNECTED" with the app or "OFF".
 - Lower half of display will show Bluetooth ID.
 - Tap either button to return to the Bluetooth menu.
- OFF: turns off the Bluetooth – Press and hold switch until "RELEASE" to select.
- SETUP ONLY: Bluetooth is only active in setup – Press and hold switch until "RELEASE" to select.
- ALWAYS ON: default mode – Press and hold switch until "RELEASE" to select.
 - Allows for real time readings on your smartphone or tablet.
 - Gauge must be in SETUP mode to access the setup section of the app.
- **BACK - exits menu.**

LIGHTING - Lighting menu for color changes

- When ">LIGHTING" is displayed hold until "RELEASE" is displayed, and release the switch.
- The color menu options are: "COLOR THEMES", "SET ALL COLOR", "DISPLAY COLOR", "LABEL COLOR", "MESSAGE COLOR", "BAR COLOR", "DIMMING", "SUNLIGHT", "RESET" or "BACK".
- Since the color options are so expansive the selection process is the same in all sections.
 - Tap either switch to change the selection.
 - Hold the function switch to enter the selected setup menu, until "RELEASE", and release the switch.
 - The displays will show the available options. Tap either switch to move through the available options.
 - An asterisk* will appear next to the option indicating it's set as the current setting.
 - Press and hold to select an option, until "RELEASE" is displayed.
 - **BACK - exits menu.**
- COLOR THEMES: offers preset colors for the LCD color, label colors, message colors, tach bar, and tach warning.
- SET ALL COLOR: can set the entire gauge to one of 31 color choices.
- DISPLAY COLOR: independently sets the speed color to one of 31 color choices.
- LABEL COLOR: independently sets the MPH or km/h label color to one of 31 color choices.
- MESSAGE COLOR: independently sets the message area, color to one of 31 color choices.
- BAR COLOR: independently sets the color of the tach bar, or fuel bar, up to the warning point, to one of 31 color choices.
- DIMMING: offers two options, AUTOMATIC night dimming, or "OFF".
- SUNLIGHT: special feature to enhance viewing of the TFT LCD in *bright daylight* with a high contrast display.
This works independently from the night dimming
If enabled, this will temporarily override the color choices made, to offer a visible display during the day.
The color will revert back when the sunlight is less intense, (light overcast days can trigger this mode).
 - NORMAL: in daylight, the background will stay black and the speed and messages will turn white.
 - INVERT: in daylight, the background will turn white and the speed and messages will turn black.
 - OFF: your color choices will not change.
- RESET: This will reset all color choices and options back to original factory colors.
- **BACK - exits menu.**

SPEED - Speed setup menu

- ❖ **Speed calibration must have the engine running before continuing.**
- ❖ **Entering setup for speed calibration – two methods:**
 1. **Hold either switch in before turning the key on and then start the bike.**
[Or]
 2. **Start the bike, then hold both switches as the bike is running.**
- ❖ **The speed can always be adjusted again if changes were made to bike that alters the speed reading.**
 - Tap either function switch until ">SPEED" is displayed.
 - When ">SPEED" is displayed, hold until "RELEASE" is displayed, and release the switch.
 - The selectable options are "ADJUST", "AUTO", "UNIT", "SERVICE RESET", "ODO PRESET", and "BACK".
 - Tap either switch to change the selection. Press and hold either switch until "RELEASE" to select an option.

ADJUST Selection

- ❖ **Adjust works best if the speed is off up to about 15 or 20 (MPH or km/h), otherwise use AUTO.**
- ❖ **Adjust requires riding a known speed with a GPS, or following another vehicle at a known speed.**
 - When ">ADJUST" is displayed, press and hold either switch until "RELEASE" is displayed – then release.
 - The options will be "FASTER", and "SLOWER", to adjust the speed.
 - Tap either switch to choose "FASTER" to increase speed, or "SLOWER" to decrease speed.
 - Press and hold either switch until "RELEASE" is displayed to begin adjusting.
 - When riding a known speed, the speed will display in the upper right LCD
 - Tap either switch to adjust speed up. Tap either right switch to adjust the speed down.
 - When your speed is correct, hold the switch until "RELEASE" is displayed, release the switch.
 - Tap to ">BACK", then hold until "RELEASE" to exit. Continue going "back", until you reach the main menu.
- **BACK - exit menu.**

AUTO Selection

- ❖ **This requires riding a one-mile (or kilometer) distance, which must be determined before starting.**
 - Use a newer vehicle with a trip odometer to measure out a mile (kilometer) run.
 - This can be in town, or on the highway.
 - Stopping at lights, or stop signs, will not affect the distance calibration.
- ❖ **Auto calibration can be done over again if changes are made to the bike that affects the speed**
 - Tap either function switch to display ">AUTO".
 - When ">AUTO" is displayed, hold either switch until "RELEASE" is displayed, and release the switch.
 - The display will show ">BEGIN". You should be at the beginning of your measured distance to ride.
 - When ready to ride the distance, hold the switch until "RELEASE" is displayed, and release the switch.
 - When you see "PPM", you may ride the distance at any speed, and may stop and start.
 - The PPM numbers will increase while riding. If they remain at 000000 please check your speed sensor wiring.
 - When you reach the end of the distance, quickly Tap either switch.
 - You can ride through the end or come to a stop.
- **BACK - exit menu.**

UNIT - MPH / km/h Selection

- ❖ **It is very important to set the 'UNIT' BEFORE setting the odometer!**
 - Tap either function switch to display ">UNIT".
 - When ">UNIT" is displayed, press and hold either switch until "RELEASE" is displayed, release the switch.
 - The display will show UNIT and ">*MPH" for miles and "km/h" for kilometers.
 - MPH is default. Tap either switch to choose between MPH or km/h.
 - Hold the switch until you see "RELEASE" and release the switch.
- **BACK - exit menu**

SERVICE RESET miles or km to next service setup

- Service is a countdown odometer. The service odometer display can be disabled or can be set to count down from 500 – 7500 miles, (800 to 12,000 kilometers). If the service odometer is enabled and display reaches 0 miles/km, one LCD will display "SERVICE DUE" in red, each time the key is turned on.
- Tap either function switch to display ">SERVICE RESET".
 - When ">SERVICE RESET" is displayed, press and hold either switch until "RELEASE" is displayed and release the switch.
 - The current setting will be displayed. The default is ">*OFF", but it could be a value in miles or kilometers.
 - The miles begin at 500 and go up to 7,500 miles in 500 mile increments.
 - The kilometers begin at 800 and go up to 12,000 KM in 800km increments.
 - To change the service odometer, Tap the left switch to increase the service odometer.
 - Tapping the right switch will decrease the service odometer.
 - To save: press and hold either switch until "RELEASE" is displayed, then release the switch.
 - **BACK - exit menu.**

SPEED - Speed setup menu (continued)

PRESET ODO Odometer preset

- ❖ The odometer starts at zero, but can be preset by the customer within the first 100 miles (161 km) of riding.
- ❖ After riding more than 100 miles (161 km), the menu option will no longer be displayed.
- ❖ Correctly select the unit to be either MPH or km/h **FIRST**, as the odometer will be set in the selected units.
- ❖ The preset is in full miles or kilometers only, **no** tenths.
- ❖ The odometer preset can be reset multiple times within the first 100 miles (161 km) of riding.
- Tap either function switch to display ">PRESET ODO".
- When ">PRESET ODO" is displayed, press and hold either switch until "RELEASE" is displayed, then release.
- The current miles will be displayed (default – 000000).
 - The left most digit will be flashing (the 100,000 miles digit).
- Do start changing the odometer with the first flashing "0" unless the bike has 100,000 or more miles.
- Press and hold either button until "RELEASE" to move to the next number right.
 - Move as many times as needed to start with the correct number.
 - Example: 7,654 miles will start with the third flashing number in from the left "000000".
- **To change the flashing number.**
 - Tap the left switch to increase the number.
 - Tap the right switch to decrease the number.
- **To move to the next digit to the right.**
 - Press and hold either switch until "RELEASE" is displayed, then release.
- Repeat the process until the right most digit has been set.
- When the far-right number is flashing, **STOP – verify the odometer matches to what you want!**
 - Example: 7,654 miles should read as "007654", **NOT** "76450".
- If the odometer is **incorrect**: press and hold either switch and the display will show ">SAVE? NO".
 - The odometer will be displayed below ">SAVE? NO".
- Press and hold either switch until "RELEASE" is displayed, and release.
 - This will start the odometer preset over again with far-left number flashing
 - Turning the key off at any time will also discard any attempted odometer settings.
- If the odometer is correct: press and hold either switch and the display will show ">SAVE? NO".
 - The odometer will be displayed below ">SAVE? NO".
- Tap either switch to change the display to "SAVE? YES".
- When ">SAVE? YES" is displayed, press and hold either switch until "RELEASE" is displayed and release.
- **BACK - exit menu.**

TACH - Tachometer setup

- Tap either function switch until ">TACH" is displayed.
- When ">TACH" is displayed, hold until "RELEASE" is displayed, and release the switch.
- The selectable options are "INPUT", "HIGH WARNING", "DISPLAY" and "BACK".
- Tap either switch to change the selection. Press and hold either switch until "RELEASE" to select an option.

INPUT Signal input setup

- ❖ CYLINDER may need to be changed due to the type engine being used.
- ❖ TYPE may need to be changed for some low voltage ECM tach signals.
- When ">INPUT" is displayed, press and hold either switch until "RELEASE" is displayed, release the switch.
- The selections are "CYLINDER", "TYPE", and "BACK".
- Tap either switch to change the selection. Press and hold either switch to select it.

CYLINDER: Cylinder count setup

- When ">CYLINDER" is displayed, press and hold either switch until "RELEASE" is displayed, release.
 - The cylinder count ranges from 1 to 16. *2 cylinder is default.
 - Many dual fire ignitions on V-Twins need the cylinder set to 1.
- Tap either switch to change the cylinder count.
 - **Left** switch increases cylinder count. **Right** switch decreases cylinder count.
- Press and hold either switch until "RELEASE" is displayed, and release.
- BACK - exits menu.

TYPE Signal type setup

- When ">TYPE" is displayed, press and hold either switch until "RELEASE" is displayed, and release.
- The options are ">*12V HIGH", "5V LOW" and "BACK".
- Tap either switch to change the voltage input range.
 - 12V is for a tach signal from a coil
 - 5V is for a tach signal from an engine computer (EFI) output
- Press and hold either switch until "RELEASE" is displayed, and release.
- **BACK - exit menu.**

HIGH WARNING - (shift light) setup

- When ">HIGH WARNING" is displayed, press and hold either switch until "RELEASE" is displayed, and release.
- The display will show the current high RPM warning with a *.
- The default is *5,500 but is selectable from 2,200 to 8,200 RPMs.
 - Values change in increments of 100 RPMs.
- Tap either switch to change the RPM warning point.
 - Left switch increases the value. Right switch decreases the value.
- Press and hold either switch until "RELEASE" is displayed, and release.
- **BACK - exit menu**

DISPLAY setup

- When ">DISPLAY" is displayed, press and hold either switch until "RELEASE" is displayed, and release.
- The display will show "DIGITAL", "BAR" AND "BACK" as selectable options.
 - Upper right display will sample of the Digital or Bar readout.
- Tap either switch to change to display the RPMs in numbers, or in a bar graph.
- Press and hold either switch until "RELEASE" is displayed, and release.
- **BACK - exit menu.**

OIL TEMP - Engine oil temperature setup menu

❖ **Only valid to use when optional SEN-1043 (400°) or SEN-1044 (300°) is used.**

- When ">OIL TEMP" is displayed, press and hold either switch until "RELEASE" is displayed.
- The options are "UNIT", "ON", "OFF" and "BACK". **Factory default is "**OFF" (no temp displayed)**
- Tap either switch to change the selection. Press and hold either switch until "RELEASE" to select an option.

UNIT Temperature setup

- When ">UNIT" is displayed, press and hold either switch until "RELEASE" is displayed, and release.
- Tap either switch to select "F", "C" or "BACK".
- Press and hold either switch on the selection, until "RELEASE" is displayed, and release.

ON - Enabling Temperature Sender

- To enable oil temp, when ">ON" is displayed, press and hold either switch until "RELEASE" is displayed, and release.
- The new submenu selections will be "SENDER", "HIGH WARNING", "TEST", or "BACK".
- Tap either switch to change the selection, press and hold either switch to select it.

SENDER Temperature sender selection

- When ">SENDER" is displayed, press and hold either switch until "RELEASE" is displayed, and release.
- The display options are "SEN-1043", "SEN-1044" and "BACK".
- Tap either switch to match to the optional sender you purchased from Dakota Digital.
- Press and hold either switch on the selection, until "RELEASE" is displayed, and release.

HIGH WARNING High oil temperature warning setup

- When ">HIGH warning" is displayed, press and hold either switch until "RELEASE" is displayed, and release.
- The display will show a high temp warning (factory default ">*300").
- The high temperature warning points range from 225 to 375F, (107 to 190C).
- Tap either switch to change the change the high temp warning point.
 - **Left** switch increases temp. **Right** switch decreases temp.
 - Temps are in increments of 5 degrees.
- Press and hold either switch until "RELEASE" is displayed, and release.

TEST Resistance test

- When ">TEST" is displayed, press and hold either switch until "RELEASE" is displayed, and release.
- The display will give a resistance (ohm) reading of the sender.
 - If the display reads "OPEN", it means there is an open connection to the sender.
 - At least one message display will show 32 degrees.
 - If the sender wires are shorted the test will read a near 0 resistance.
 - At least one message will display "OIL TEMP SHORT" in red.
- To exit, press and hold either switch until "RELEASE" is displayed, and release.

BACK - exit menu.

OIL PSI - Engine oil pressure setup menu

- **Only valid when optional SEN-1039 pressure sender is purchased from Dakota Digital.**
- When ">OIL PSI" is displayed, press and hold either switch until "RELEASE" is displayed, and release.
- The options are "ON", "OFF", and "BACK". ***OFF is the default for when a low oil switch is used.**
- Tap either switch to change the selection. Press and hold either switch until "RELEASE" to select an option.

ON - Enabling Oil Pressure Sender

- To enable oil PSI, when ">ON" is displayed, press and hold either switch until "RELEASE" is displayed, and release.
- The ON option selections will be "LOW WARNING", "TEST" and "BACK".

LOW WARNING - Low oil pressure warning setup

- When ">LOW warning" is displayed, press and hold either switch until "RELEASE" is displayed, and release.
- The low-pressure options will range from 0 to 30 PSI.
- Tap either switch to change the change the low oil pressure warning point.
 - **LEFT** increases pressure warning. **RIGHT** decreases pressure warning.
 - Changes are made in 1 PSI increments.
- To save and exit, press and hold either switch until "RELEASE" is displayed, and release.

TEST - Sensor voltage test

- When ">TEST" is displayed, press and hold either switch until "RELEASE" is displayed, and release.
- The display will give a good voltage return from the sender of 0.4 or 0.5 volts at zero PSI.
- 0.0 volts means the sensor is not connected.
 - An open power or signal wire will also display "OPEN OIL PSI" in red.
 - An open ground lead will display about 3.5 volts and a steady pressure over 200 PSI
- To exit, press and hold either switch until "RELEASE" is displayed, and release.

BACK - exit menu.

FUEL - Fuel level/switch setup menu

- ❖ *Using fuel sender - A red low warning message will be displayed when fuel reaches 10% or lower.*
- ❖ *Using fuel switch – A gas pump icon will indicate low fuel.*
- When ">FUEL" is displayed, then press and hold either switch until "RELEASE", then release the switch.
- The options to select between are "ON, OFF, and BACK"
- **ON – Enabling fuel level/switch operation**
- To enable fuel, when ">ON" is displayed, press and hold either switch until "RELEASE" is displayed, and release.
 - The "ON" option selections will be "SENDER", "RANGE TO EMPTY", "DISPLAY", "TEST", and "BACK".
 - Tap either switch to change the selection; press and hold either switch to select it.

SENDER - Fuel sender selection

- When ">SENDER" is displayed, press and hold either switch until "RELEASE", then release the switch.
- The "SENDER" options are "75-10", "240-33", "SWITCH", "CUSTOM", and "BACK".
- Tap either switch to change to the proper sender.
 - When "75-10" or "240-33" is selected, the upper right will display the current fuel level in percent.
 - When "SWITCH" is selected the upper right display will show "FUEL OK", if the tank is not low.
- Press and hold either switch until "RELEASE", then release the switch
- **BACK - exit menu**
 - **CUSTOM - is only for rare occasions if a stock sender is not being used!**
 - **Will not work with thermistor senders found in some bikes, nor "sonar" sensors in V-Rods.**
 - If CUSTOM is selected, you will be prompted to Program in the fuel sender range.
 - When ">PROGRAM" is displayed, press and hold until "RELEASE", then release the switch
 - The display will show "SET EMPTY", make sure the tank is empty.
 - With an empty tank, press and hold until "RELEASE", then release the switch
 - The display will show "SET 1/3"
 - Add fuel to 1/3 of a tank
 - Press and hold until "RELEASE", then release the switch
 - The display will show "SET 2/3"
 - Add fuel to 2/3 of a tank
 - Press and hold until "RELEASE", then release the switch
 - The display will show "SET FULL"
 - Top off the tank
 - Press and hold until "RELEASE", then release the switch.
- **BACK - exit menu.**

RANGE TO EMPTY - Distance to empty (fuel) setup

- ❖ The range to empty option will calculate an estimate of miles until empty.
- ❖ This will vary on riding conditions and will change as it continually monitors fuel usage and speeds.
- ❖ When the system is working, the DIST TO E screen will have a countdown odometer.
- ❖ When the DIST TO E odometer reaches 35 miles or 56km, it shows a "RANGE LOW" warning.
- ❖ **The process must begin with a full tank, and with the proper sender selected, (not SWITCH).**
- When ">RANGE TO EMPTY" is displayed, then press and hold either switch until "RELEASE", and release the switch.
- The options to select are "ON", "OFF", and "BACK".
- Tap either switch to select an option. Press and hold either switch until "RELEASE", then release the switch.
- If **ON** is selected, the next options are "LEARN RESET" and "BACK".
- ">LEARN RESET" will tell the gauge to learn fuel usage while riding. It can be reset again if the process failed.
 - Once the fuel tank is full, you may select "LEARN RESET".
 - Press and hold either switch until "RELEASE", then release the switch.
 - **BACK - Exit setup**
 - Cycle the ignition then you may ride until fuel is less than 25%.
 - Do not do partial refills.
 - Can ride over multiple days.
 - Only when the sender reads below 25%, you may refill the tank, to complete the process.
 - Once full again, the process will complete itself automatically.
 - Filling and refilling must be done the same way, either both times on kick stand or upright.

DISPLAY - Fuel display options

- ❖ This can change the fuel to be displayed in percentage, or in a bar graph.
- Tap switch until ">DISPLAY" is displayed, then press and hold until "RELEASE", then release.
- DISPLAY options are "BAR", "DIGITAL", and "BACK".
- Tap either switch to select an option.
 - With the arrow pointing at an option, the upper right display will show the display type.
- Press and hold either switch until "RELEASE", then release the switch.
- **BACK - exit menu.**

FUEL - Fuel level/switch setup menu (continued)

TEST - Gauge reading test

- Tap either switch until ">TEST" is displayed, then press and hold either switch until "RELEASE" is displayed.
- The display will show "FUEL TEST", and "xxx OHMS".
 - The "xxx" will be a value in numbers.
 - If not connected "OPEN" will appear.
 - If the fuel wire is shorted to ground, the test will show "0 OHMS", and the display may show "FUEL SHORTED".
 - Tap either switch to exit test mode.
- **BACK - exit menu.**

DISPLAYS - Message display option menu

- ❖ Refer to graphic on page 8 for indicator and message locations.
- When ">DISPLAYS" is displayed, press and hold either switch until "RELEASE" is displayed, and release.
- The display will show "LEFT TOP", "LEFT BTM", "CENTER", "RIGHT TOP", "RIGHT BTM", "MBMs", or "BACK".
- Tap either switch to change the selection, press and hold either switch until "RELEASE" is displayed, and release.
 - The outer LCDs have the same menu option in setup:
 - PERFORMANCE SHOW, or PERFORMANCE HIDE
 - The performance menu includes:
 - HIGH SPEED (MPH – km/h), 0-60 TIME, ¼ MILE SPEED with ¼ MILE TIME, and HIGH RPM.
 - Use the "LEFT TOP" steps below for the other corner locations as the two options are the same.

LEFT TOP message screen information

- When ">LEFT TOP" is displayed, press and hold either switch until "RELEASE" is displayed, and release.
- The selectable options are "PERFORM HIDE", "PERFORM SHOW", and "BACK".
- PERFORM HIDE: disables the five performance options to display while riding.
- PERFORM SHOW: turns on the above options, which can be toggled through while riding.
- Tap either switch to change the change the option.
- Press and hold either switch until "RELEASE" is displayed, and release.

LEFT BTM message screen information

- See LEFT TOP, above

CENTER message screen information

- When ">CENTER" is displayed, press and hold either switch until "RELEASE" is displayed, and release.
- The selectable options are "SPEED", "TACH", "GEAR" and "BACK".
- Tap either switch to change the change the option.
- Press and hold either switch until "RELEASE" is displayed, and release.

RIGHT TOP message screen information

- See LEFT TOP, above

RIGHT BTM message screen information

- See LEFT TOP, above

MBMs Display which MBMs are connected and adjust warnings

If a pressure or boost sensor is not connected or failed, the display will show "FAIL", "TOO LOW".

If no MBM is attached but the display shows a blank value, click through the displays to remove it.

- When ">MBMs" is displayed, press and hold either switch until "RELEASE" is displayed, and release.
- The screen will display what MBM modules are attached and more than one input if it exists.
- The screen will show "NONE" if there are no MBMs present.
- Tap either switch to move through the MBMs attached.
- Press and hold either switch until "RELEASE" is displayed on the MBM setting to modify.
 - See the separate MBM manual for additional details.
- **BACK - exit menu.**

VOLT - Low voltage warning setup

- When ">VOLT" is displayed, press and hold either switch until "RELEASE" is displayed, and release.
- The low voltage warning points will range from 9.0 to 12.1 volts.
- Tap either switch to change the low voltage warning point.
- Press and hold either switch until "RELEASE" is displayed, and release.
- **BACK - exit menu.**

GEAR - Gear indicator setup

- ❖ No gear indication will show until programming is done.
- ❖ Gear readout will display with clock on the LCD location of your choice.
- ❖ The gear programming cannot take place until the speed is calibrated.
- ❖ The gauge can 'learn' the gear ratios based on speed and RPM, no additional sensors are needed.
- ❖ The gauge will work with various transmissions up to seven speed models.
- ❖ To program the gear positions, you will need a stretch of road to gradually reach highway speeds with no interruptions.
- ❖ Each gear will need the speed to be held steady, until instructed to speed up and shift up.
- ❖ **Gear learning must have the engine running before continuing.**
- ❖ **Entering setup for gear learning – two methods:**
 - 1) **Hold either switch in before turning the key on and then start the bike.**
[Or]
 - 2) **Start the bike, then hold both switches as the bike is running.**
 - Tap either switch until "GEAR" is displayed
 - Press and hold either switch until "RELEASE" is displayed, then release the switch.
 - The display will show "OFF", "LEARN", or "BACK".
 - "OFF" will turn the indicator off.
 - "LEARN" starts the learning process of speed and RPMs to calculate your gear reading.
 - To start learning gears, Tap either switch until ">LEARN" is displayed, then press and hold either switch.
 - The message will show "NO RPM" if the engine RPM is below 1500.
 - The message could also say "LOW SPEED" if the vehicle speed is below 5 MPH.
 - Begin riding in 1st gear. The display should show "WAIT 1".
 - Ride at a steady speed and steady RPM until the message changes to "SHIFT TO 2".
 - It should only take about 20 seconds if the speed and RPMs are steady.
 - *Optional: If the message continues to say "WAIT 2", you can manually override and jump to the next gear by tapping either switch to store the gear position quicker.*
 - Upshift to 2nd gear and ride at a steady speed. The display should change to "WAIT 2".
 - Ride until the message changes to "SHIFT TO 3". Shift to 3rd gear.
 - *Optional: If the message continues to say "WAIT 3", you can manually override and jump to the next gear by tapping either switch to store the gear position quicker.*
 - Repeat this through each gear.
 - When you are done, come to a complete stop.
 - You may also press and hold either switch, while riding, until the display shows "MOVE LINE", then release it.

***When downshifting, the gear position may jump up momentarily as the RPM is higher than expected.**

Also, the gear position reading may drop to "N" or a "0" when you pull the clutch in coming to a stop.

The position will begin reading as the bike begins to move forward in gear.

FACTORY RESET

- In the event you would like to start over with your settings, preferences and display locations, this will reset all settings back to the out-of-the-box configuration.
- This includes message locations, color selections and speedometer calibration but **DOES NOT** include the odometer.
- When you see ">FACTORY RESET", press and hold either switch until "RELEASE" then release the switch.
- The options will be "NO" and "YES".
- By pressing and holding on ">NO" it will exit the reset menu.
- When you select ">YES", press and hold either switch until "RELEASE" is displayed, then release the switch.
- The screen will "YES" and "RESET". Tap either switch once to return to the main menu.

VERSION

- For technical support assistance, this screen can display the model number, and the software versions loaded for the two processors.

EXIT SETUP

- Press and hold either switch to exit the setup menu and return to normal gauge operation.

Troubleshooting guide

Problem	Problem Cause	Solution
Gauge will not light up	White/Red wire does not have power Red wire does not have power Black wire is not getting a good ground Gauge is damaged	Connect to a location that has constant, battery power Connect to a location that has power with the key on Connect ground to a different location Return gauge for repair. (see page 24)
Clock resets to 12:00 with key on	White/Red wire does not have power	Connect to a location that has constant, battery power
Clock resets to 12:00 at start	White/Red is seeing a voltage drop	Charge battery, clean battery contacts
Speed remains at 00	Sensor not wired correctly Poor sensor connections Faulty sensor	See page 4 on direct sensor wiring – Metric bikes: only tap green wire to speed signal wire Soldering connections is best Perform sensor test (see page 22)
PLEASE - SET - SPEED Message	Speedometer not calibrated	Gauge must be calibrated (see page 14)
Speed is incorrect	Speedometer not calibrated	Gauge must be calibrated (see page 14)
Speed erratic or jumping	Poor wiring connections Electrical interference Sensor spacing is incorrect	Soldering connections is best Separate sensor wires away from tach wire or coils Ground gauge direct to battery Use resistive plugs and EMI shielded plug wires Hall effect sensors require a gap of 1/8" (3.2mm)
Tachometer reads 00	Yellow wire not connected properly Yellow wire on wrong coil wires Cylinder count set too high	Soldering connections is best H-D = Blue/Orange (front) or Yellow/Blue (rear) Yamaha = Orange wire between one coil and ICM Honda = Blue/Yellow or Yellow/Blue Verify cylinder count is at 1 or 2 for most bikes
Tachometer erratic or jumpy	Electrical interference Yellow wire not connected properly	Use resistive plugs and EMI shielded plug wires Soldering connections is best
Gears are not displayed with clock	Gears are not programmed	Program gears (see page 20)
Gears are not displayed after learning	LCD screen not set to display clock	Tap either button to change display to show gear/clock
Turn signals, and high beam not lighting	Poor wiring connections Connected to wrong wires	Soldering connections is best Test for positive powers of signal wires Verify colors codes from a service manual
Neutral indicator not working	Poor wiring connections Connected to wrong wire	Soldering connections is best Verify correct wire from bike service manual
Neutral indicator always on in gear	Wrong switch type	Verify it is a neutral switch, not a neutral safety switch
Low Oil indicator not working	Poor wiring connections Wrong wire used Configuration incorrect	Soldering connections is best Low oil switches get wired to Pink wire (Pressure sensors cannot be used) Set Oil PSI to OFF in setup routine
Check Engine indicator not working	Poor wiring connections EFI not sending signal	Soldering connections is best Verify EFI has output for check engine
Check Engine always on	Wire is always grounded Wrong motorcycle application	Verify wire is not accidentally going to ground Cannot read engine codes from data or CAN bus

Troubleshooting guide (continued)

Problem	Problem Cause	Solution
Oil pressure not reading	Incorrect setup Incorrect wiring LCD screen is not set to display oil PSI Poor wiring connections	When using SEN-1039, turn oil PSI ON in setup SEN-1039 uses dedicated wires, Pink is not used (page 7) Tap either button to change display to show Oil PSI Soldering connections is best Follow test procedure (see page 17)
Oil pressure warns OIL PSI FAIL LOW	Poor wiring connections of SEN-1039	Check for open connections on Red or White wires
Oil pressure reads about 200+ PSI with key on only	Poor wiring connections of SEN-1039	Check for open connection of Black Ground wire
Oil temp not reading	Incorrect setup LCD screen is not set to display oil temp	Set Oil Temp to ON in setup Tap either button to change display to show Oil Temp
Oil temp not reading correctly	Incorrect setup Improper mounting	Set oil temp sender to match type of sender used (page 17) Make sure the sender is mounted so that it is in the oil. Bushing or elbows that move it out of the oil, read high
Oil temp reads 32 all the time	Open leads from sensor	Verify temp leads are properly connected
Oil temp warns OIL TEMP SHORT	Shorted sensor wire	Verify sensor wire is not shorted to ground

Speed sensor volt tests:	Tests will probe into our wire harness. Tests will be made with the sensor connected to the gauge and the key on. Tests will be done with a volt meter and not a test light.
H-D 3-wire sensor:	Red wire should have 9-11 volts dc, slightly less than battery voltage. Black wire should show ground, 0 volts DC at all times. Green wire should vary between 0 and 5 volts DC as tire rotated very, very slowly.
Metric 3-wire sensor	Green wire only should vary between 0 and 5 volts DC as tire rotated very, very slowly. (Power and ground from gauge not used).
2-wire sensor:	Measure the voltage between the two sensor wires, or Black and Green on speed sensor plug. With the wheel spinning the voltage should be about 1-5 volts AC (make sure the meter is set to AC volts and not DC volts for this check).

Notes:

SERVICE AND REPAIR

DAKOTA DIGITAL offers complete service and repair of its product line. In addition, technical support 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.

For additional support, please visit www.dakotadigital.com. A “Product Support” link will be found at the bottom of the home page.

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 a common carrier with tracking abilities.
- Be sure to include the RMA number on the package.
- 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 contact you for payment.

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



4510 W. 61st St. North
Sioux Falls, SD 57107
www.dakotadigital.com
dakotasupport@dakotadigital.com

Phone (605) 332-6513
Fax (605) 339-4106

© Copyright 2022 - Dakota Digital