

MODEL HLY-5011

BAR MOUNT DIGITAL SPEEDOMETER

Dakota Digital

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Please read this before beginning installation or wiring.

POWER

Connect the red wire from the main harness to accessory power from the ignition switch. In addition to powering the display system.

A good quality, solid state ignition switch should be used. The contacts on a mechanical "bar" switch can bounce due to the vibration and cause the system to momentarily lose power and reset itself.

Never connect this to a battery charger alone. It needs to have a 12 volt battery connected to it. Battery chargers have an unregulated voltage output that will cause the system to not operate properly.

GROUND

The black wire is the main ground for display system. This should be connected directly to the negative cable on the battery. Connecting to a tank or frame ground can cause a weak or intermittent ground connection. A poor ground connection can cause improper or erratic operation.

SPEEDOMETER

The speed input connector plugs into the speed sensor to tell how fast you are traveling. On cable driven applications, the external sensor connects to the speedometer cable and provides the electric signal. The sensor has a 5/8" coarse thread fitting that accepts mid-80's and earlier cables directly. For newer cycles the speedometer cable will need to be replaced with one having the correct fitting.

With transmissions having the built-in electric sensor, a three-wire harness adapter connects the transmission speed sensor to the speedometer. This system will also accept most after-market inductive, Hall-effect, or ground switch sensors.

The speedometer is fully adjustable and calibration is listed below.

SPEEDOMETER CALIBRATION

The speedometer calibration is done using the function (trip) switch. The speedometer can be calibrated two different ways. The first method is to place the unit in auto-cal mode and drive exactly one mile (one km for metric). The second method is to place the unit in adjust mode and the speed reading can be moved up or down while driving.

METHOD 1, AUTOCAL

1. Make sure the key is off so the gauge is not powered.
2. Press and hold the function switch.
3. Turn the key on. With the switch still held, start the bike. The display will show "--".
4. Release the function switch. The display will switch between "AUtO" (auto cal) and "AdJ" (adjust).
5. When "AUtO" is displayed press the function switch. This will place the unit in auto calibration mode.
6. Release the function switch. The speedometer will show "--00.0".
7. Drive exactly one mile (or 1km). The speedometer display will increase as signal pulses are received from the speed sensor.
8. Press and release the function switch. The calibration value will be calculated and stored. The gauge will now restart in normal mode with the new speed calibration.

METHOD 2, ADJUST SPEED

1. Make sure the key is off so the gauge is not powered.
2. Press and hold the function switch.
3. Turn the key on. With the switch still held, start the bike. The display will show "--".
4. Release the function switch. The display will switch between "AUtO" (auto cal) and "AdJ" (adjust).
5. When "AdJ" is displayed press the function switch. This will place the unit in calibration adjustment mode.
6. Release the function switch. The speed display will flash to indicate that it is in the adjust mode. The tachometer will operate normally.
7. Drive at a known speed. Following another vehicle that is driving at a constant, known speed can do this.
8. Press the function switch. The speed reading will begin increasing until the function switch is released. The next time the function switch is pressed, the speed reading will begin decreasing until it is released.
9. Once the speedometer is reading correct release the function switch. The new calibration will be saved if no adjustments are made for 7-10 seconds.

TRIP ODOMETER

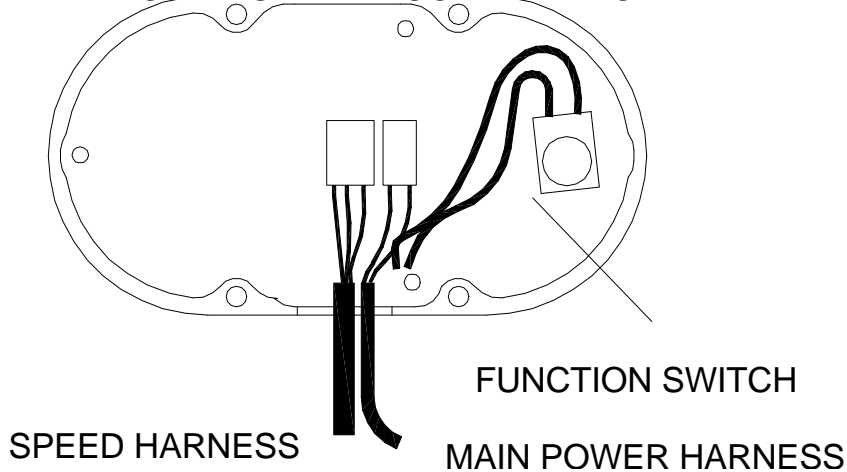
The trip odometer is activated by the push button function switch located on the back, left side of the unit. Pressing and releasing the button will toggle the display from the trip mileage to the standard speedometer reading or from the speedometer to the trip odometer. Pressing and holding the button while the trip odometer is displayed will reset the trip odometer. The trip odometer will read from 0 to 999.9 miles. While the trip mileage is displayed the unit will occasionally flash "trIP" to indicate it is in trip odometer display mode.

ODOMETER

The trip odometer is activated by the push button function switch located on the back, left side of the unit. Pressing and holding the button while the speed is displayed will cause the unit to read out the odometer mileage. The odometer will read from 0 to 99,999 miles. The speed display will first show "odo", then the thousands of miles, then the hundreds of miles.

For example, 34,792 miles would be displayed as "odo", " 34", " 792", " " and then return to the speedometer reading.

VIEW FROM BACK WITH COVER REMOVED

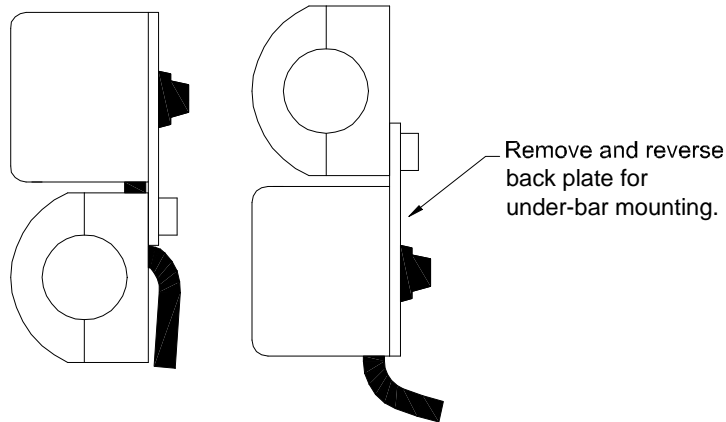


Mounting

A mounting bracket must be purchased for your application. Some of the current brackets are: BKT-5001 1" bar mount, BKT-5002 flat triple-tree mount, BKT-5003 35° triple-tree mount, BKT-5004 1-1/4" bar mount, BKT-5005 1-1/2" bar mount, and BKT-5006 1" riser bar mount. The bar mount brackets can be used for above-the-bar mounting or below-the-bar mounting. The triple-tree mounts are only available for above-the-bar mounting.

The triple-tree mounting bracket replaces the original handle bar mount. The gauge attaches to the back side of the bracket with the supplied screws.

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.



Troubleshooting guide.

Problem	Possible cause	Solution
Gauge will not light up	Red wire does not have power.	Connect to a location that has power.
	Black wire is not getting a good ground.	Connect ground to a different location.
Gauge lights up, but displays "Er3"	Gauge is damaged.	Return gauge for repair.
	Speed calibration is invalid	Gauge must be recalibrated.
Gauge lights up, but speed will only show zero.	Speed wire is not connected properly.	Check connection from speed harness to speed sensor.
	Transmission gear sensor is not sending a signal.	Check for metal filings on the sensor face or incorrect spacing of sensor to gear.
	Cable type sensor is not being turned by speed cable .	Check cable connection between sensor and transmission or front wheel. Sensor can be tested by spinning the cable with a drill.
Speed reading is erratic or jumps around.	Gauge is not calibrated	Gauge must be recalibrated.
	Speed sensor is not working properly.	Test speed sensor and replace if necessary.
	Speed sensor wire is loose or broken.	Check all wire connections and cables for breaks.
	Cable is loose or broken.	Check cable between sensor and transmission or front wheel.
	Transmission gear sensor is not working correctly.	Check for metal filings on the sensor face or incorrect spacing of sensor to gear.
	Poor ground connection.	Check ground on speedometer and sensor.
Speed reading is incorrect.	Gauge is not calibrated correctly.	Gauge must be calibrated.

WIRING

In order to ensure that there are no problems with voltage drops causing the system to shut down, a heavy duty, solid state ignition switch is recommended. Also, the black wire should be connected directly to the negative battery terminal to avoid erratic operation due to a poor ground connection.

The wire color code for the 2-wire main display system harness is as follows:

RED	+12 volt with key on
BLACK	ground (connect directly to battery)

Speedometer connection varies depending on the year and model of the cycle. Using different speed adapter kits the speedometer can read a speedometer cable, a stock electric transmission speed sensor, or an aftermarket gear-tooth sensor. Each adapter kit connects to the speedometer using the three pin connector on the back of the system, underneath the back plate.

SEN-5011: The cable adapter accepts a 5/8" thread fitting and can be mounted in a concealed location. Cycles that have a metric-threaded speedometer cable will need to have the cable modified or replaced.

SEN-5012: The adapter harness for using a stock transmission speed sensor converts the triangular connector to the in-line connector on the digital speedometer.

SEN-5018: The rear wheel sensor kit consists of a sensor mounted to the rear wheel spacer and a harness to connect it to the digital speedometer. The sensor reads the hub bolts. It will work with most softail® and rigid applications.

SEN-5019: The gear-tooth sensor kit consists of a two-terminal sensor and a harness to connect it to the digital speedometer. The sensor needs to be mounted within 1/8" of the teeth on a steel final drive gear.

WARRANTY

All DAKOTA DIGITAL instruments are warranted free of defects in material and workmanship for 3 years from the date of purchase. In the event of a problem with one of our products within the warranty period, DAKOTA DIGITAL will replace or repair the instrument at no charge. (The decision to repair or replace is solely that of DAKOTA DIGITAL. DAKOTA DIGITAL is not responsible for shipping costs of products returned under warranty or for labor charges for product installation and removal.) This warranty becomes invalid if the product is misused, altered or installed incorrectly.

For warranty coverage, you must first call to receive an RMA#. Ship the product transportation prepaid via UPS or insured Parcel Post. A copy of the original invoice or dated bill of sale along with a description of the defect is also required. Make sure that the RMA number is clearly visible on the outside of the package as well as inside on the paper work.

The above warranties, both expressed and implied, do not cover damages caused by improper installation, misuse, abuse, fire, unauthorized modifications, floods or acts of God, or reimbursement of customer or shop time. The extent of the warranty is limited only to the product and does not cover any loss or damage to vehicle, equipment, or non-DAKOTA DIGITAL products.

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 units.

Should you ever need to send the unit back for repairs, please 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 your RMA#, a complete description of the problem, your full name and address (street address preferred), and a telephone number where you can be reached during the day. **A return authorization number (RMA#) for products being return for repair is required.** Do not send any money. We will bill you for the repair charges.

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