Dakota Digital

MODEL HLY-5011

BAR MOUNT
DIGITAL SPEEDOMETER

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 loose 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

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

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" course 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.
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 will 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.

VEIW FROM BACK WITH COVER REMOVED

FUNCTION SWITCH

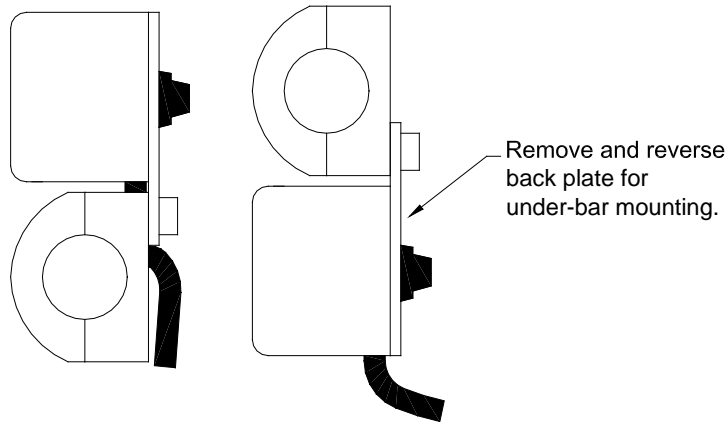SPEED HARNESS   MAIN POWER HARNESS
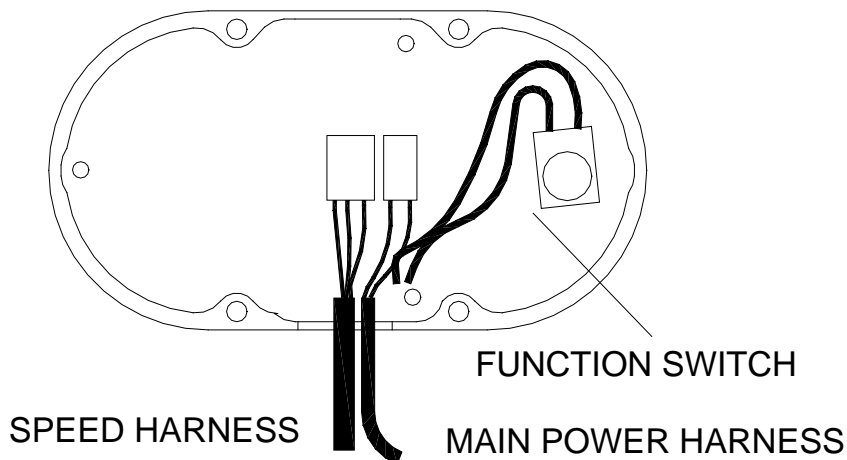
Mounting

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 35° 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.

Remove and reverse back plate for under-bar mounting.

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 is damaged.	Return gauge for repair.
Gauge lights up, but displays "Er3"	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.
	Gauge is not calibrated	Gauge must be recalibrated.
	Speed sensor is not working properly.	Test speed sensor and replace if necessary.
Speed reading is erratic or jumps around.	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-6011:	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-6017:	The transmission speed sensor mounts into the stock sensor port on most 96 and up OEM and aftermarket big twin transmissions. The sensor reads the final drive gear inside the transmission. With aftermarket transmissions or aftermarket gear sets be sure to check the sensor to gear spacing.

SEN-6018:	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-6019:	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.

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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