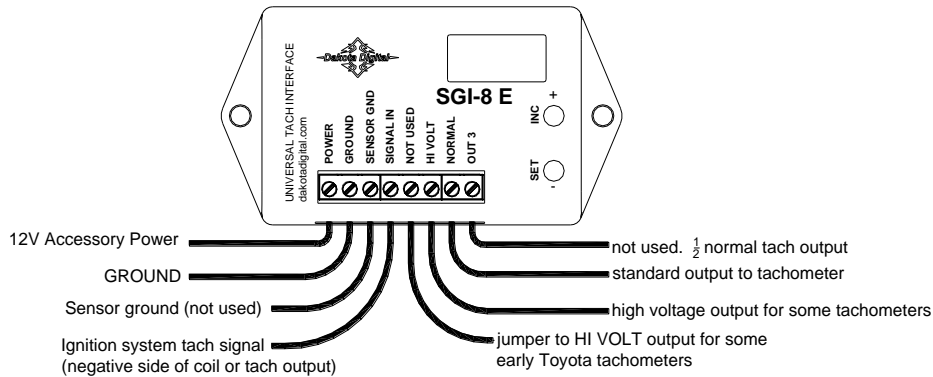## SGI-8 E
TACHOMETER SIGNAL INTERFACE UNIT

This unit can recalibrate an ignition system tachometer signal. Adjustment is done by setting the cylinder count for the incoming engine signal (1-16) and the cylinder count for the outgoing gauge signal (1-16). Fine adjustment can also be done to make corrections to the gauge needle reading.

12V Accessory Power

GROUND

Sensor ground (not used)

Ignition system tach signal
(negative side of coil or tach output)

not used. $\frac{1}{2}$ normal tach output

standard output to tachometer

high voltage output for some tachometers

jumper to HI VOLT output for some
early Toyota tachometers

If the NORMAL output does not drive your tachometer, use HI VOLT.

Setup

out: set output (gauge) cylinder count. 1 – 16 allowed. (Fine cal is set to 1.00)
A 2000 RPM signal will be generated reflecting the current cylinder count for gauge testing.

In: change input (engine) cylinder count. 1 – 16 allowed. (Fine cal is set to 1.00)

$5\,I9$: change between 5V low voltage "LO" and 12V normal "HI" signal types.

1. Begin with the key off.
2. Press and hold the SET switch while turning the key on. The display will show the current version code.
3. Release the SET switch. The display will show " In".
4. Press and release the INC switch until the desired setup option is displayed: In, out, $5\,I9$, End.
5. Press and release the SET switch to select the setup option.
6. Press and release the INC switch to change the setting. Press and release the SET switch to save it.

Setup example:
If you have a factory 6 cylinder tachometer and are now using an 8 cylinder engine, set the engine cylinder count " In" to 8 and the gauge cylinder count "out" to 6.

Diagnostic Testing

The basic power up and operation can be verified with the display on the SGI-8E. The dot in the upper left corner will be on steady when the unit is powered up and not getting a tachometer signal. The dot will be flashing when a tachometer signal is present. When the key if first turned on, the display will show the current fine adjust CAL value for a few seconds. If both switches are pressed at the same time the current, incoming speed signal frequency will be displayed. If the frequency displayed has a decimal point, then the reading is kHz, otherwise the reading is Hz.

Both the input and outputs can be tested with special diagnostic modes.

To test the outputs and tachometer reading with the engine off:
1. Begin with the key off.
2. Press and hold the SET switch while turning the key on. The display will show the current version code.
3. Release the SET switch. The display will show " In".
4. Press and release the INC switch until "oUt" is shown.
5. Press and release the SET switch. The display will show the current gauge cylinder setting and be supplying a 2000 RPM signal.
6. Press and release the INC switch until the gauge reading is close to 2000 RPM. Press and release the SET switch to quit.

To test the input while driving:
1. Begin with the key off.
2. Press and hold the INC switch while turning the key on. The display will show "tSt".
3. Release the SET switch. The display will show "---".
4. Anytime either switch is pressed the display will update and hold the frequency. This can be done to determine the type of signal being fed to the SGI-8. This information can be supplied to tech support to assist in setup and configuration of the unit.
5. The unit will remain in this mode until the key is turned off.

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Trouble shooting guide

Problem	Possible Cause	Solution
Tachometer will not work. no lights on display.	No power to SGI-8.	Check the power and ground terminals on the SGI-8. Should be 11-15 V dc.
Tachometer will not work. dot on steady.	No input signal.	Test for 1-20 volts AC at the signal in terminal with the engine running.
	SGI-8 set for wrong input type.	Change the Setup – 5 I9 option. See instructions on page 1.
	OEM filter circuit between SGI-8 and gauge.	Make sure SGI-8 connects directly to the gauge.
Tachometer will not work. dot is flashing.	Wrong output type.	Try switching from NORMAL to HI VOLT
	High voltage boost required.	Use HI VOLT to drive gauge and jumper NOT USED terminal over to HI VOLT.
Tachometer will not read at high rpm.	SGI-8 set for wrong input type.	Change the Setup – 5 I9 option. See instructions on page 1.
Tachometer is reading incorrectly.	Engine or gauge setting incorrect.	Change the Setup In or OUt values. See instructions on page 1.
	Gauge requires fine adjust.	Use the '+' or '-' buttons to correct the gauge reading.

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 Limited Lifetime 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 for the lifetime of the original vehicle it was installed in, 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. 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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