

Speedometer and Tachometer with Multiple Discrete Functions - Box Set

ISO380

Rev A ecr 10244 6/2015

Part Number

KTF071

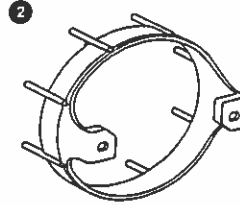
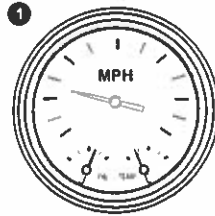
KTF080

Made in the USA

Parts List

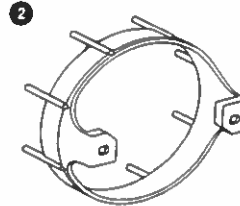
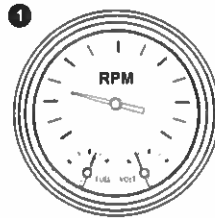
Speedometer

QTY	Description	
1	Speedometer	1
1	Mounting Bracket	2
Hardware		
2	#8 Brass Nut	3
2	#8 Brass Flat Washer	4
2	#8 Split Washer	5
1	HN0840 - Harness	6



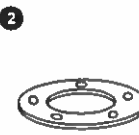
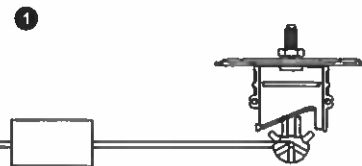
Tachometer

QTY	Description	
1	Tachometer	1
1	Mounting Bracket	2
Hardware		
2	#8 Brass Nut	3
2	#8 Brass Flat Washer	4
2	#8 Split Washer	5
1	HN0836 - Harness	6



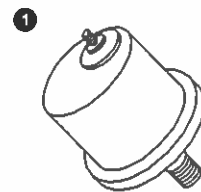
Fuel Level Sender

QTY	Description	
1	LS1038 - Standard 240-33 Ohms	1
Hardware		
1	GK0093 - Gasket	2
3	#8 Brass Nut (5/16")	3
3	#8 Split Washer	4



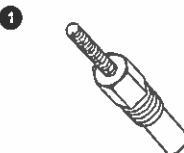
Pressure Sender

QTY	Description	
1	SD0006 - Pressure Sender	1
1	Brass Nut (3/8")	2
1	Brass Flat Washer	3



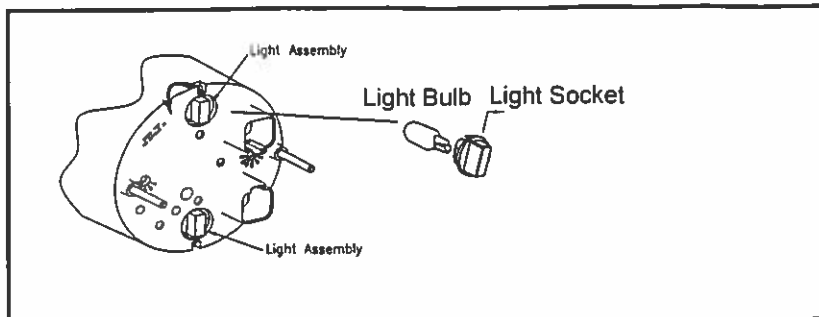
Temperature Sender

QTY	Description	
1	TS1029 - Temperature Sender	1
1	BS0005 - 1/2 to 1/8 NPTF	2
1	AD0048 - 1/8 to 1/4 NPTF	3
1	BS0003 - 3/8 to 1/8 NPTF	4
Hardware		
1	#10 Brass Nut (3/8")	5
1	#10 Split Washer	6



Light Assembly

To change light bulb, twist out socket assembly one-eighth turn counter clockwise until the assembly pops out. Bulb pulls straight out of assembly.
Replace with a GE No. 168 instrument lamp.

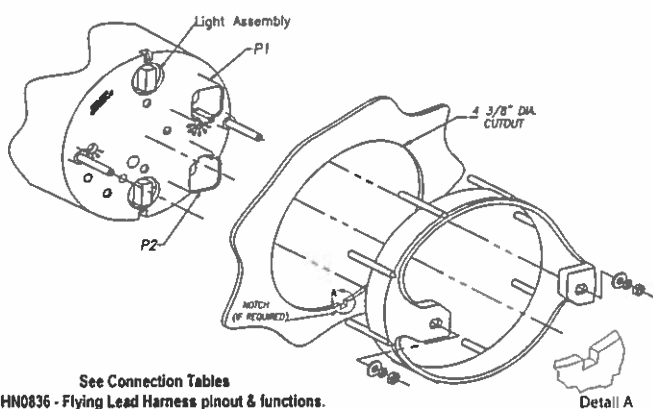


Installation Instructions

CAUTION

Disconnect the battery during installation. Tighten nuts on the back clamp only slightly more than you can tighten with your fingers. Six inch-pounds of torque are sufficient. Over tightening may result in damage to the instrument and may void your warranty. Use stranded, insulated wire not lighter than 18 AWG.

Be certain wire insulation is not in danger of melting from engine or exhaust heat or interfering with moving mechanical parts.



See Connection Tables
HN0836 - Flying Lead Harness pinout & functions.
HN0840 - Cyl. Jumper Harness pinout & functions.

1. Location: Some interference (erratic operation) may be noticed on the gauge during radio transmissions. This will neither damage the gauge nor affect accuracy when not transmitting.
2. Be certain to use stranded, insulated wire not lighter than 18AWG.
3. Cut a 4-3/8" diameter hole in the dash and mount the tachometer and speedometer with the back clamps supplied. If required cut a .175" wide by .115" deep notch to accept the key on the case. These instruments are available with a Deutsch connector case.

CAUTION

Ensure wire insulation is not in danger of melting from engine exhaust heat or interfering with moving mechanical parts when connecting sensors.

HN0836

WARNING

Be sure that you have selected the P1 location for this application. See P1 (6 Pin connector) (HN0836) harness function table (Wiring Diagram) for details.

4. Tachometer - Connect the (White) wire from pin 4 to the terminal or wire originating from the unrectified side of the alternator. Tachometer plug-in harnesses are sometimes available from the engine manufacturer to simplify the hookup.
5. Speedometer - Connect the (Green) wire from pin 3 to the Speed Sender.
6. Speedometer - Connect the (Yellow) wire from pin 2 to an external button.
This button should be a momentary switch which when pressed connects to ground. This will allow the user to operate the Odometer functions available.
7. Connect the (Red) wire from pin 6 to the '+' (positive) 12Vdc circuit that is activated by the ignition switch.
8. Connect the (Black) wire from pin 5 to the vehicle's electrical ground, generally available in several locations at or near the instrument panel.
9. Connect the (Blue) wire from pin 1 to the positive portion of the lighting circuit.

HN0840

WARNING

Be sure that you have selected the P2 location for this Jumper harness application. (See P2 (6 Pin Connector) (HN0840) (Wiring Diagram) for wire function selection details.

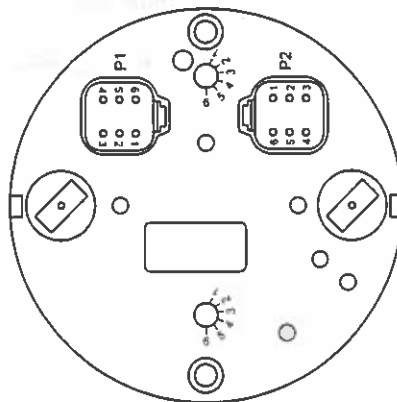
As required make the connections as follows:

- 10. Tachometer - For 4 cylinder engines, connect the (Grey) wire from pin 1 (SW Comm), with the butt connector, to the (Brown) wire from pin 4 (4 CYL).
- 11. Tachometer - For 6 cylinder engines, connect the

- (Grey) wire from pin 1 (SW Comm), with the butt connector, to the (Tan/White) wire from pin 5 (6 CYL).
- 12. Tachometer - For 8 cylinder engines, connect the (Grey) wire from pin 1 (SW Comm), with the butt connector, to the (Tan/Black) wire from pin 6 (8 CYL).
- 13. Connect the (Pink) wire from pin 3 (OIL [Speedometer] / FUEL [Tachometer]) to the Oil Pressure or Fuel Sender.
- 14. Connect the (Tan) wire from pin 2 (TEMP [Speedometer]) to the Temperature Sender.
- 15. Reconnect the battery.

Wiring Diagram

Tachometer or Speedometer

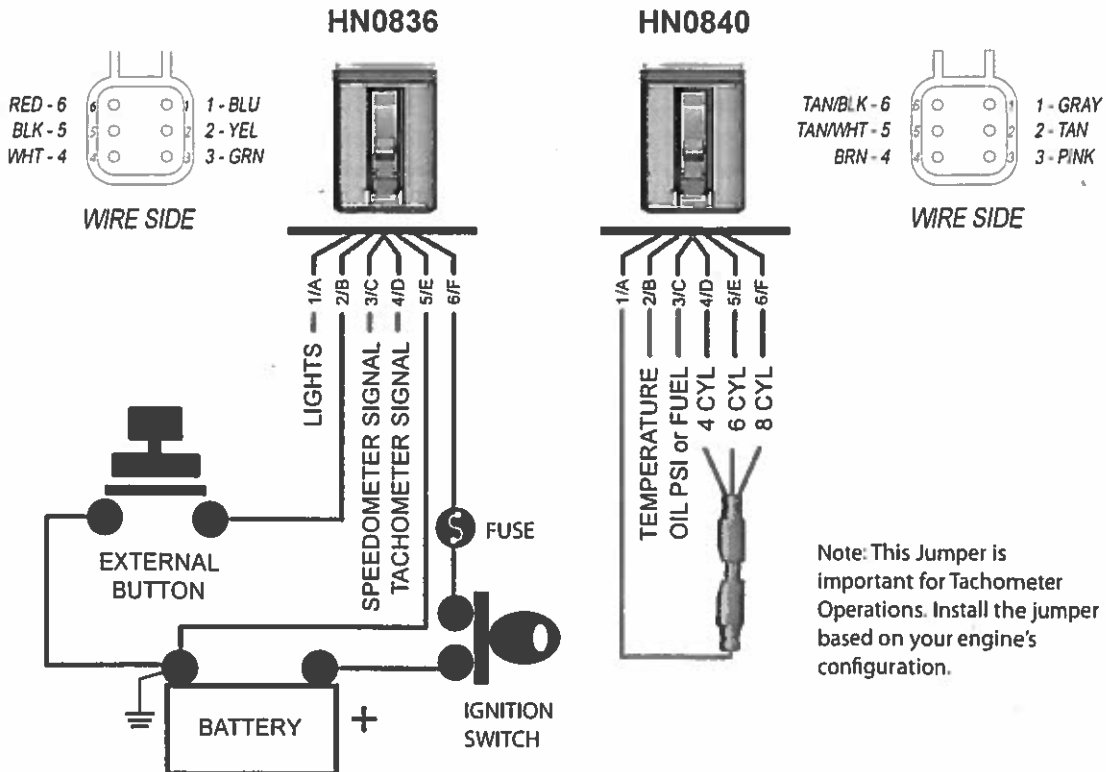


P1 - HN0836 (6- pin connector)

Pin	Wire Color	Function	5" 3-n-1 Spd, O, T	5" 3-n-1 Tach, F, V
1	Blue	Lights	*	*
2	Yellow	Ext. Button	*	N/C
3	Green	Speedo Sig	*	N/C
4	White	Tach Sig	N/C	*
5	Black	Ground	*	*
6	Red	12vDC (Wake)	*	*

P2 - HN0840 (6- pin connector)

Pin	Wire Color	Function	5" 3-n-1 Spd, O, T	5" 3-n-1 Tach, F, V
1	Grey	SW COMM	N/C	*
2	Tan	Temperature	*	N/C
3	Pink	Oil/Fuel	OIL	FUEL
4	Brown	4 Cyl	N/C	*
5	Tan/White	6 Cyl	N/C	*
6	Tan/Black	8 Cyl	N/C	*



Installing the Fuel Level Sender

Standard Fuel Level Sender 240-33 Ohms

WARNING

Read all instructions thoroughly before installation. If you are not experienced in working with fuel tanks, seek professional assistance. Disconnect battery before proceeding! Any type of work involving fuel tank repair or modification should be performed with extreme care.

Due to the possibility of igniting fuel fumes, the tank should be empty, dry, and purged of fumes. Work should be performed in a well ventilated area. Only tools that will not create possible fuel ignition sparks should be used. Failure to comply with installation instructions may result in unsatisfactory instrument performance. Improper installation or use of the product for an application other than its intended use will void your warranty and could result in serious personal injury.

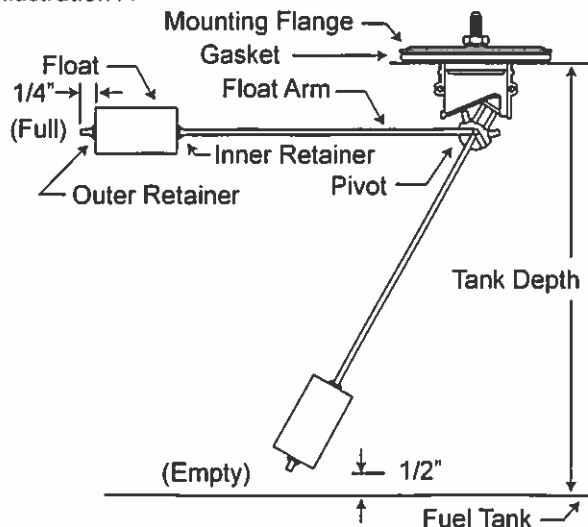
Tools You Will Need

Tape Measure
Hacksaw
3/8" Wrench

Part I: Adjusting the Sender

1. Measure the depth of the tank down through the large hole.
2. Allow the Float Arm to hang down loosely so that the float hangs just above the tank bottom. (See Illustration A). Measure the length of the Float Arm. If the Float Arm is too long you must cut off the excess with a hacksaw.

Illustration A



3. Slide the Float and both Retainers toward the Pivot along the Float Arm to the desired length. Leave about 1/4 inch of the arm beyond the Outer Retainer and cut off the excess. Do not position the Inner Retainer at this time.
4. Insert the Float and Float Arm assembly into the tank hole, and lower the sender until the mounting flange makes contact with the top of the tank. Make sure the flange is positioned flat against the tank. The Float should hang freely and not contact the bottom of the tank. If the float contacts the bottom of the tank, slide the Float and the Retainer 1/4 inch up the arm towards the Pivot and trim the excess as in step 3. Try the fit again, and repeat this step as necessary for the Float to hang freely. Now you may slide the Inner Retainer against the Float.

Part II: Installing the Sender

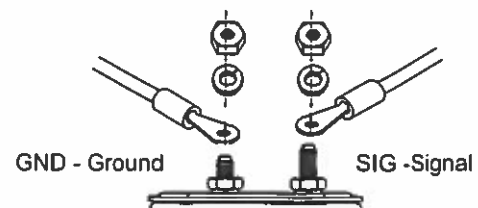
1. Place the gasket on the tank top and rotate it until all the holes align properly. Lower the float into the tank and lower the sender until the mounting flange is flat on the gasket and all the holes align properly.

IMPORTANT

Use only the gasket supplied with the level sender. The use of any other gasket could effect the function of the sender, result in damage to the sender or may not provide a reliable seal between the tank and sender.

NOTE: If you find that when aligning the holes, the float arm hits the tank side, a baffle, or a pick-up tube, it will be necessary to rotate the float arm. (In most applications the float arm should point forward).

2. Gently turn all the screws or nuts until they just contact the mounting flange. Snug the screws or nuts in opposite sequence. If you do this in several stages it will ensure that the mounting flange evenly compresses the gasket. Do not overtighten as you may strip out threads in tank top.



3. Connect the end of the black ground wire to ground (GND). Connect the signal wire (SIG) to the signal wire of the gauge.
Your installation is now complete.

CAUTION

Observe the fuel tank during initial operation to be sure there are no leaks!

Oil Pressure Senders

Engines or transmissions equipped with a low oil pressure switch that activates a warning light require an appropriate "T" pipe fitting to accommodate both pressure sender and warning light.

Most oil pressure sending units have 1/8" NPT pipe threads and are usually mounted in the engine's block. If the block or transmission case has a larger pipe size, an appropriate bushing may be used without affecting pressure- sensing accuracy.

Temperature Senders

Temperature senders are available in 1/8" NPT thread sizes. If your water jacket, oil pan or transmission housing requires a thread diameter larger than 1/8" NPT, a bushing will be required.

"T" fittings should NOT be used as these may affect the accuracy of the sender by reducing the temperature signal.

Sender Specifications

Temperature Sender:	100°F (450 Ω) to 250°F (29.6 Ω)
Fuel Level Sender:	E(240 Ω) - F (33.5 Ω)
Oil Pressure:	0 PSI (240 Ω) - 80 PSI (33.5 Ω)

SD0047 (Part#) may be used for Speedometer sensor.
Mount to bell housing to count flywheel teeth.
DK9005 (Part#) Hooks up to mechanical take off on transmission.

Speedometer Operation

The Speedometer has two modes "NORMAL" and "SETUP".

"NORMAL" operation has two functions, "Trip" and "Odometer". The "trip" mode is initially set. To switch between them, momentarily press the external button.

Trip "trIP"

Odometer "OdO"

In the Odometer mode the displayed mileage is in miles.

In Trip mode the displayed mileage is in tenths.

Reset the Trip Odometer

Hold the button down while the display is in "TRIP" mode,

the display will show "rESEt"

and will then show the trip mileage flashing.

A short button push will reset the trip mileage to zero, and a long push will return to the "ODO" mode with no change. After the trip is cleared, a long push will return to "ODO" mode.

Setup

To get into "SETUP" mode, hold the button down while powering up until the display shows "SET UP".

In the "SETUP" menu, a short button push will cycle through the selections; "CAL", "SIGnAL" and "PrG". A long push will select the function shown in the display.

CAL

"CAL" will allow you to set the Pulse Per Mile (PPM). Press the button with a short push. The display shows "SEt".

After 3 seconds the display changes and shows the Pulse Per Mile display.

Each digit will flash and a short push will increment it. Wait 3 seconds and the next digit will flash. This will continue for all digits and start over. When you are done setting the PPM, a long button press will save it and return to the main "CAL" menu.

SIGnAL

"SIGnAL" will allow you to set the speedometer input sensitivity, low ("LO A"), medium ("b") or high ("HIGH C").

Note - Setting "b" is appropriate for most applications

A short button push will cycle through the three options and a long push will save the setting and return to the main "SIGnAL" menu.

CALdAnn - Calibrate (Drive A Mile)

PrG

"PrG" displays the current software revision. A long button push display a numerical value of the program.

A long button push will return to the main "PrG" menu.

When finished with the "SETUP" menu, cycle power to restart the speedometer in "NORMAL" mode.

Calibrate (Drive A Mile)

Use the Drive A Mile function to calibrate the Speedometer. With the vehicle stopped and engine off, press the remote button while starting the engine. The display will show the SETUP menu after the self test is performed.

A short press of the remote button will cycle display. Press again until the display shows the Drive a Mile calibration screen.

A long push of the remote button will make the

Speedometer go into the calibration mode. The screen will change and a group of numbers will be displayed and will flash. These numbers represent the current pulses per mile and will change after calibration.

Press the remote button and the screen will change to the starting position.

Drive a mile. Stop the vehicle. Press the remote button again. Restart engine. The Speedometer is calibrated.