CJ GPS SPEEDOMETER CLUSTER

SPEEDHUT

INSTALLATION

ATTENTION: Power Draw = 0.2 amp.

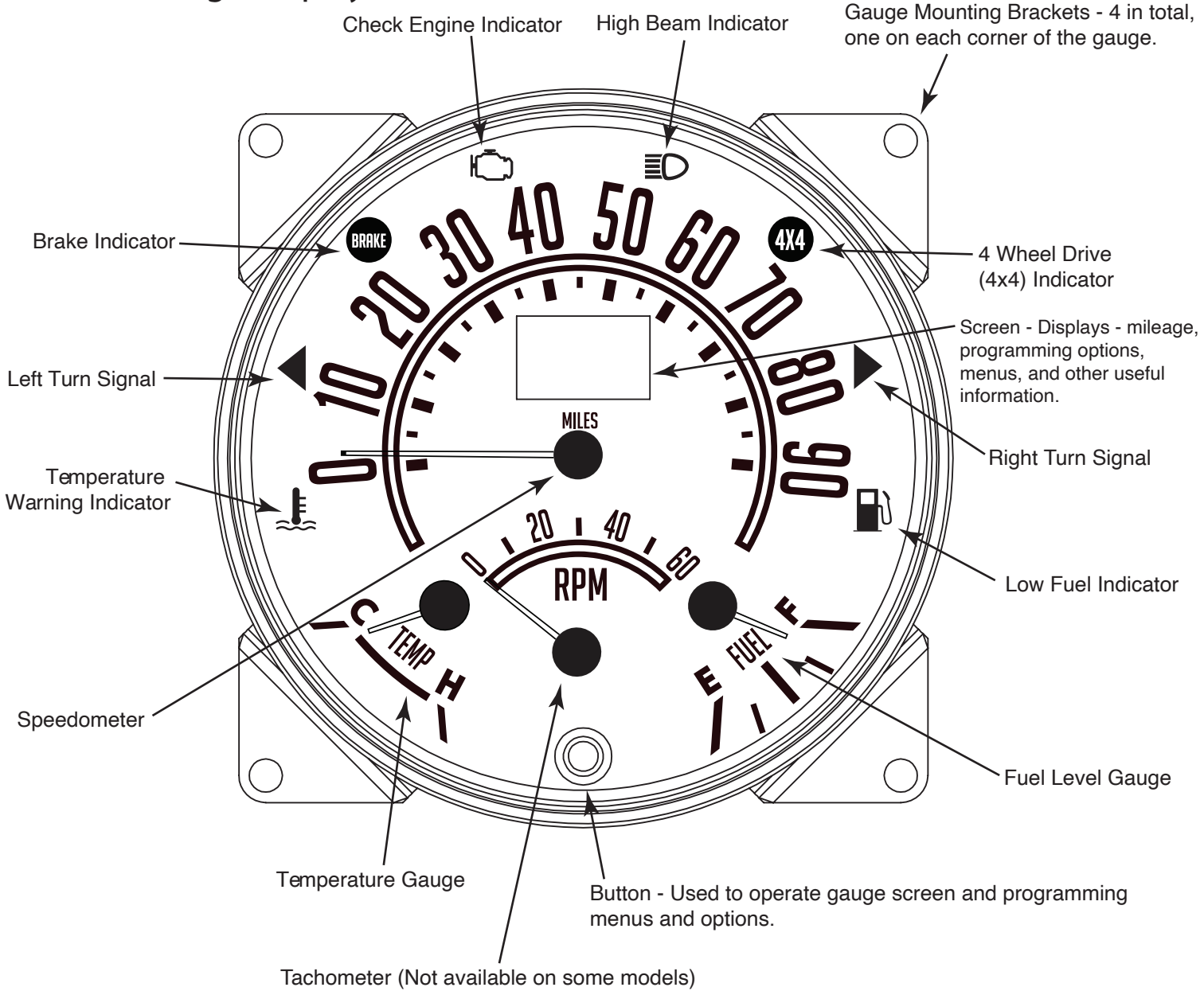
1 DISCONNECT your vehicle's negative (-) battery cable.

2 MOUNT your gauge to the panel using the spin lock ring.

3 CONNECT the gauge wiring.

4 RECONNECT your vehicle's negative (-) battery cable.

FIGURE 1: Gauge Display Guide



LIFETIME WARRANTY

We take pride in the products we make and offer a Lifetime Warranty on gauge electronics and a 5-year warranty on hardware for every gauge, tachometer and shift light purchased since Jan 1, 2006. Every SPEEDHUT product is built for a lifetime of service, and we warrant to the person who originally purchased the product that all SPEEDHUT products will be free from defects in workmanship and materials for their applicable warranty period. If a defect occurs during the warranty period as the result of the product's intended use, we will repair or replace the defective product or part, to our discretion. The warranty does not cover defects caused by third-party modifications, repairs or replacement parts. Any holes, scratches, normal wear and tear, and the natural breakdown of colors and materials over extended time and use are not warranted.

CONTACT US

Support@Speedhut.com
801-221-1460 (9a-4p MST)
FAQ - Speedhut.com/faq.i
www.Speedhut.com

FIGURE 2: Wiring Guide

See Figure #3 for more wiring info.

1. **Blue** wire - High Beam Indicator
2. **Red** wire with **Green** Stripe - Speed Sensor
3. **Green** wire with **Orange** Stripe - Left Turn Signal
4. **Green** wire with **Red** Stripe - Right Turn Signal
5. **Gray** wire - Brake Indicator
6. **Yellow** wire with **Black** Stripe - Fuel Level Ground
7. **Pink** wire - Fuel Level Signal
8. **Orange** wire - 4x4 Indicator
9. **Yellow** wire with **Red** Stripe - Water Temp Signal
10. White - Lighting
11. Red - +12VDC Switched (5 Amp Inline Fuse Recommended, Power Draw is 0.2 Amp)
12. Black - Ground
13. **Yellow** wire with **Black** Stripe - Water Temp Ground
14. **Yellow** wire - Tachometer Signal (available on some models)
15. **Purple** Wire - Check Engine Indicator

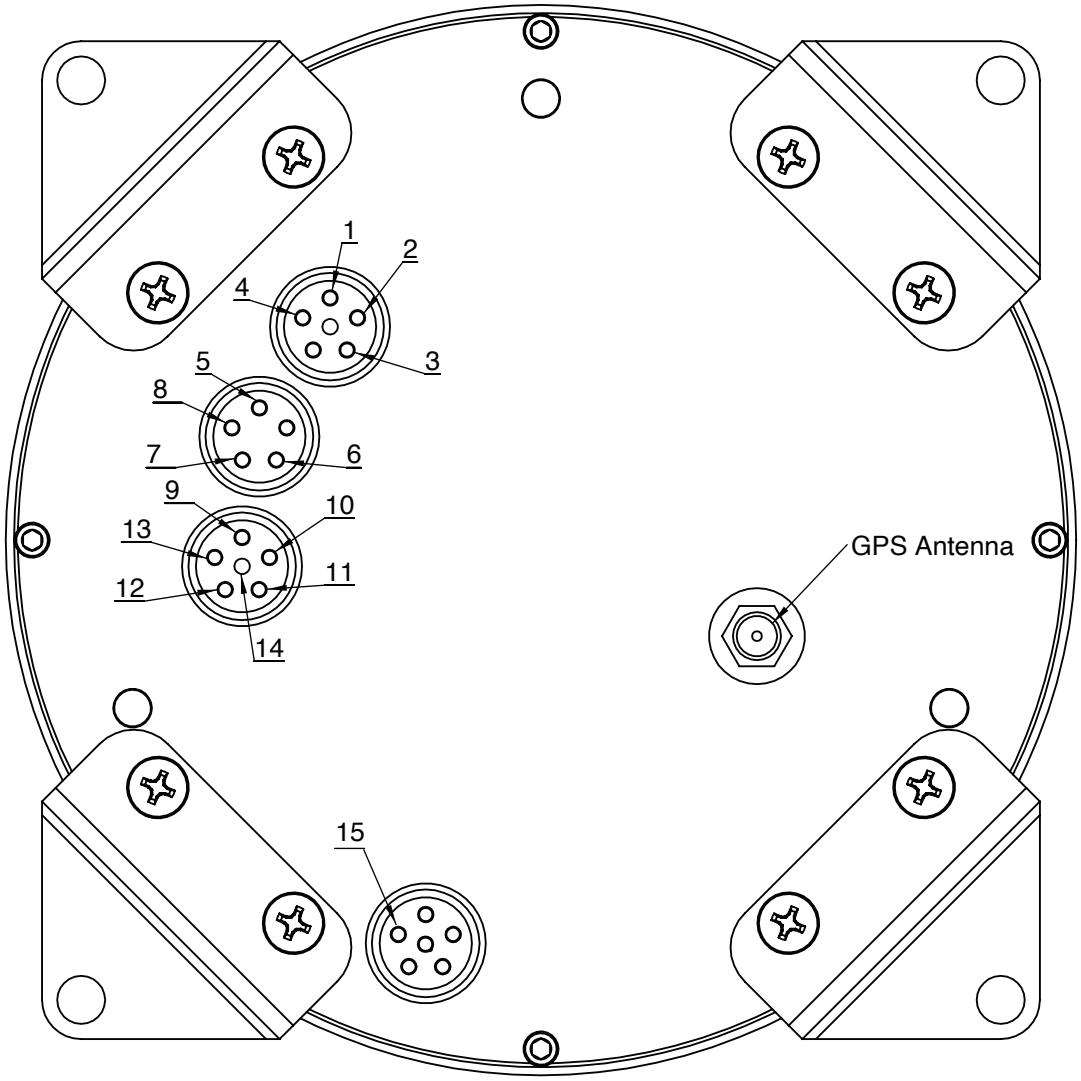


FIGURE 3: Connection Guide

See Figure #2 for more wiring information and numbering.

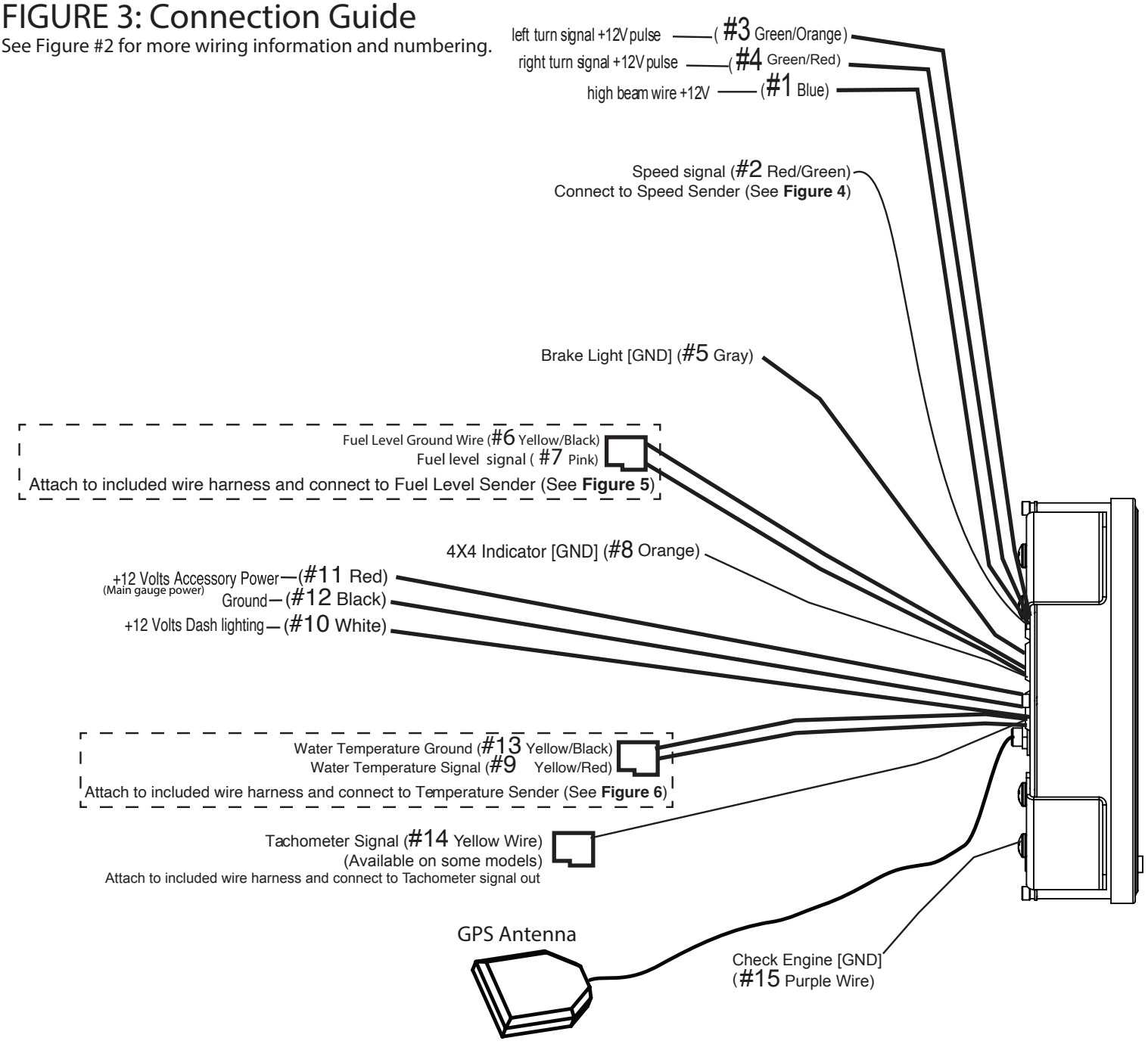
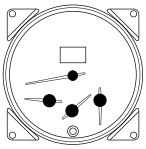


FIGURE 4: OPTIONAL Backup Speedometer Sender Connection (Requires GPS signal for calibration)

Alternate ECU Setup: You can connect signal wire directly to the speedometer signal out on the vehicle's ECU.

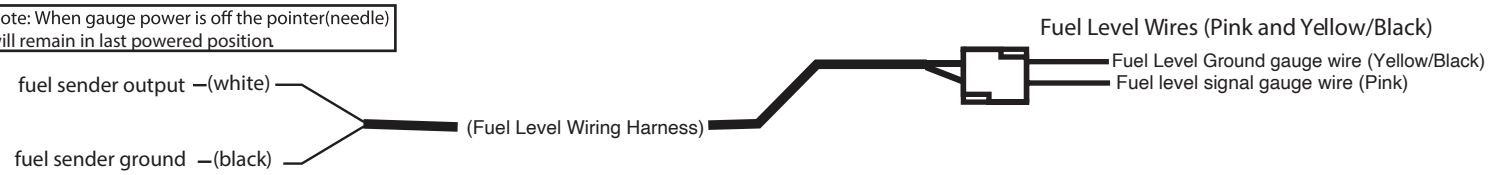


CJ GPS SPEEDOMETER CLUSTER-INSTALLATION GPS FEATURES

SPEEDHUT

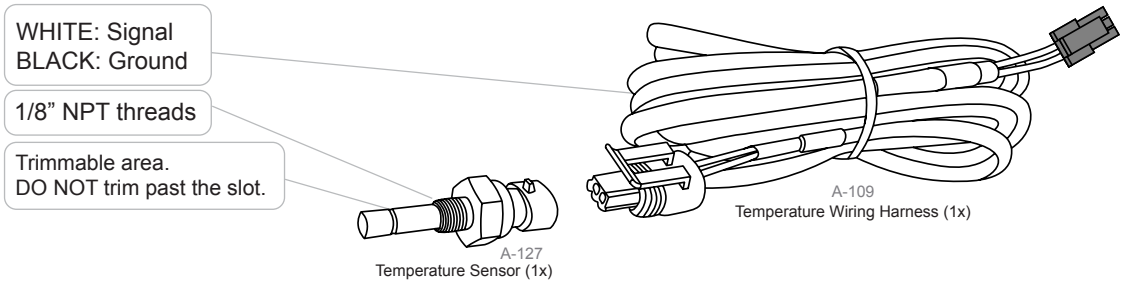
FIGURE 5: Fuel Level Sender Connection (see Gauge Operation Instructions for calibration instructions)

Note: When gauge power is off the pointer(needle) will remain in last powered position.



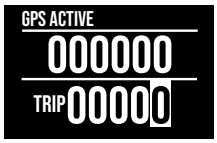
Note: Fuel sender ground should be connected to the fuel level sender ground. If you do not have a fuel level

FIGURE 6: Temperature Sender Connection



GPS SPEEDOMETER:
When the gauge is powered on, it will begin to search for satellites to acquire a GPS signal.

After a GPS signal is acquired the screen will display "GPS ACTIVE".



Odometer (shows up to 999,999)

Trip Odometer (shows up to 99,999.9)

Press and hold button to reset trip.

GPS QUICK START
GPS location is saved internally for up to a 4 hour period. After 4 hours it will take 30-40 seconds to acquire signal again.

When the the GPS signal is active the following displays and menus will be available:

Clock

Clock Feature. Time is acquired from GPS satellites. User only needs to adjust the hour setting for their time zone.

PRESS AND HOLD button to set clock hours. (Color will invert)
Toggle through A.M./P.M. hours until correct time is reached.
Release button for several seconds and time is stored. (Color will return to normal)

Elevation

Elevation feature is acquired from GPS satellites and shows the current elevation from sea level in feet or meters depending on the model.

Speed (MPH or KMH)

Speed feature shows MPH or KMH in display depending on the model.

Direction

Shows the current direction

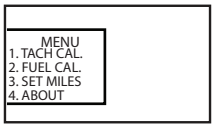
Note: Default direction is North(N). Correct direction is displayed only when moving.

CJ GPS SPEEDOMETER CLUSTER-INSTALLATION

SPEEDHUT®

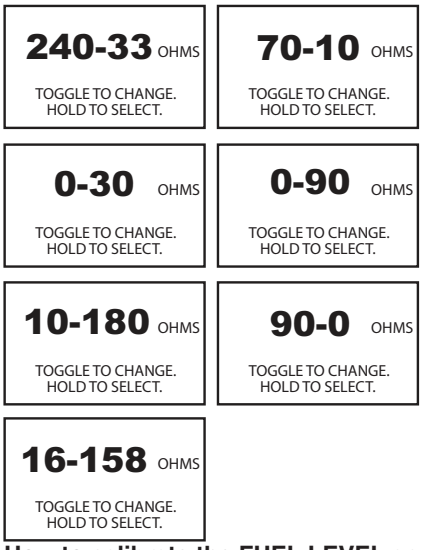
Follow these steps below for all menu items

1. Press and hold button down while turning on gauge power to enter the calibration menu.
2. A quick button press will toggle LCD screen through all the available menu settings and display.
3. Press and hold to select the menu item (2-3 seconds).
4. Press and hold button to change setting.



Use the "TACH CAL." menu to calibrate the TACHOMETER Pulses Per Rev (PPR) [available on some models]:
Repeatedly press the button to toggle through the following PPR options:
(Press and hold to set a selected PPR)

Use the "FUEL CAL." menu to calibrate the the ohm range for the FUEL LEVEL:
Repeatedly press the button to toggle through the following OHM ranges:
(Press and hold to set a selected Ohm range)



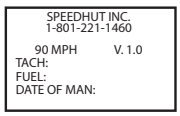
How to calibrate the FUEL LEVEL gauge to custom Ohm Range:
After toggling through the Ohm ranges there will be an "EMPTY" option and a "Full" option.
EMPTY option: While your fuel tank is empty press and hold to set.
FULL option: While your fuel tank is full press and hold to set.

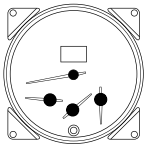
CHART 1: Common Factory Ohm Ranges

Empty	Full	Vehicle Application
0 ohms	30 ohms	Most pre-'65 GM
0 ohms	90 ohms	Most GM 65-present
16 ohms	158 ohms	Most '87-present Fords
73 ohms	8-12 ohms	Most Fords before '87 and most Chrysler
240 ohms	33 ohms	Use with A-300 sender
10 ohms	70 ohms	Ford Bi-Metalic Gauges (pre 1987 F-Series Trucks)
15 ohms	160 ohms	Ford Magnetic Gauges (1987 and later F-Series Trucks)

Use the "Set Miles" menu to set the Odometer miles:
Repeatedly press the button to toggle through the digits:
(Press and hold to cycle the numbers 0-9)
To save: do not press the button for 5 seconds.

Use the "About" screen to view manufacturing date and other diagnostic information:





CJ GPS SPEEDOMETER CLUSTER-INSTALLATION

SPEEDHUT®

Your vehicle ignition system will fall under one of these 4 ignition types. The type of ignition system will determine where the yellow tachometer signal wire (wire #17) is connected and what the number of pulses per revolution the tachometer should be set to.

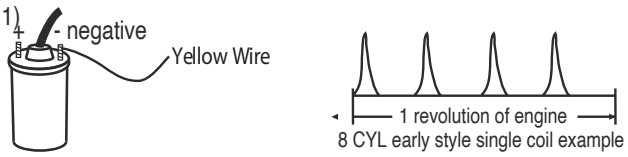
Type #1 (single coil) - Up until the 1990's tachometers picked up the signal from the (-) side on a single ignition coil, reading every pulse sent to all the cylinders. For example, an 8 cylinder (4 stroke) engine fires 4 spark plugs per revolution or all 8 spark plugs in 2 revolutions. Connecting the yellow wire to the negative side of the single coil on an 8 cylinder results in picking up 4 sparks in 1 revolution (see diag. 1). This type of ignition was used pre-dominantly until the 1990's and distributes sparks to each spark plug. In some vehicles during the 90's the coil and distributer merged into one unit, but it is the same ignition system - one coil that distributes sparks to all cylinders. When connecting the yellow wire to this style of ignition you will be picking up all cylinder sparks (see diag. 5).

Type #2 (coil pack) - (diag. 2) is used in the 96 Mustang V8 with twin coil packs. Coil pack #1 (C1) controls the firing of 4 spark plugs and coil pack #2 (C2) controls the remaining 4 spark plugs. 2 or more separate coils are within each coil pack assembly. In this example each of the 2 coils within each coil pack sends sparks to 2 cylinders at the same time. When one cylinder is firing in the compression stroke, it's paired cylinder is "waste" firing in the exhaust stroke. Each separate coil within the pack is controlled by it's own trigger wire. In other words, if you hooked up the yellow wire to one coil trigger wire within one coil pack, it will see only a fraction of the total engine sparks (see diag. 5).

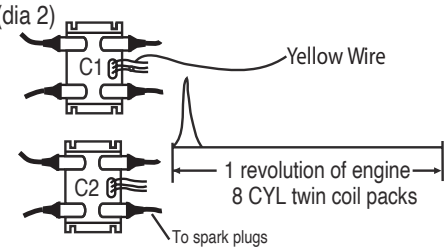
Type #3 (coil on plug) – An individual coil is placed directly on top of each spark plug eliminating the spark plug wires. The yellow wire , when hooked up to any coil, will pick up only 1 pulse per 2 revolutions or 1/2 pulse per 1 revolution (see dia 3). For this type of ignition the yellow wire from the tachometer will connect to the trigger wire on one of the coils. Typically there will be 3 or 4 colored wires coming off of each coil. The trigger wire will be the wire that changes color from one coil to the next. For example, all coils may have red, gray and black wires coming off of them, but the fourth wire will be blue on one coil and green on the next coil.

Type #4 (tach output from ECU) Some vehicles will have a tachometer output wire coming from the ECU. The yellow wire from our tachometer can receive signal from the ECU by following diagram 4. 4.7k r esistor and shrink tubing are included with gauge.

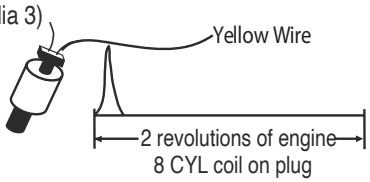
(dia 1)



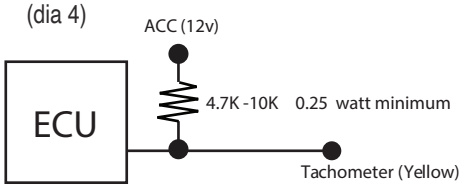
(dia 2)



(dia 3)



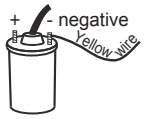
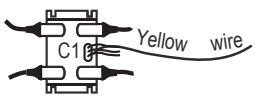
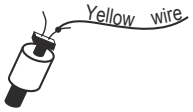
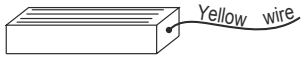
(dia 4)



Setup the Tachometer to run
2 pulses per rev when
connecting it to the engines' ECU.

Important note: Connecting the tachometer to the wrong wire will NOT damage the tachometer or your ignition.

Diag 5: Tachometer yellow wire connection

Type #1 ignitions	Type #2- Coil Packs	Type #3- Coil on Plug	Aftermarket ignitions / tach output
			
Yellow wire connects to: negative side of coil. 12 cyl = 6 Pulses / rev 10 cyl = 5 Pulses / rev 8 cyl = 4 Pulses / rev 6 cyl = 3 Pulses / rev 4 cyl = 2 Pulses / rev (see Tachometer Calibration)	Yellow wire connects to: • negative side of coil (some cars) or • coil control wire (some cars) or • coil trigger wire (some cars). 1 Pulses / rev. (as a good starting point) (see Tachometer Calibration)	Yellow wire connects to: • negative side of coil (some cars) or • coil control wire (some cars) or • coil trigger wire (some cars). 1/2 Pulses / rev. (as a good starting point) (see Tachometer Calibration)	Yellow wire connects to: tachometer output terminal 12 cyl = 6 Pulses / rev 10 cyl = 5 Pulses / rev 8 cyl = 4 Pulses / rev 6 cyl = 3 Pulses / rev 4 cyl = 2 Pulses / rev (see Tachometer Calibration)