4-1/2", 4", and 3-3/8" GPS Instructions

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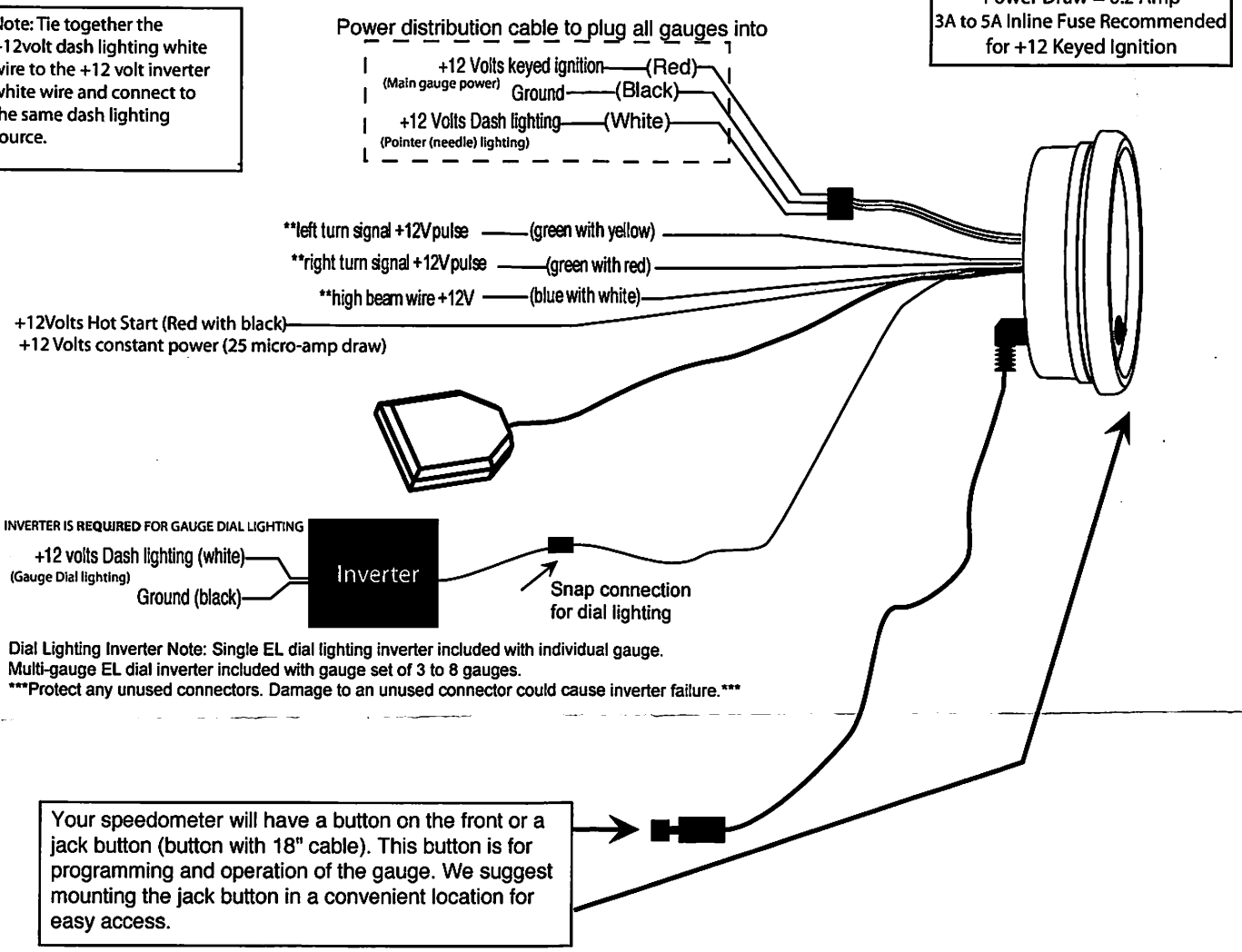
Note: Tie together the +12volt dash lighting white wire to the +12 volt inverter white wire and connect to the same dash lighting source.

Power Draw = 0.2 Amp
3A to 5A Inline Fuse Recommended for +12 Keyed Ignition



Dial Lighting Inverter Note: Single EL dial lighting inverter included with individual gauge.
Multi-gauge EL dial inverter included with gauge set of 3 to 8 gauges.
Protect any unused connectors. Damage to an unused connector could cause inverter failure.

Your speedometer will have a button on the front or a jack button (button with 18" cable). This button is for programming and operation of the gauge. We suggest mounting the jack button in a convenient location for easy access.

1. Hook up speedometer power requirements as shown above.

2. Plug GPS receiver antenna into back of speedometer. (Make sure it is firmly pressed in for a good connection.)

3. For best performance, mount GPS antenna with as much view of sky as possible (preferably on the roof of the vehicle). The GPS antenna is waterproof and magnetic. If the car's roof is not accessible then mount the antenna on top of the vehicle's dash with as much exposure as possible to the sky through the window. (Antenna is able to receive signal through some thin materials i.e. wood, glass, fiberglass, and plastic. All types of metal will block the signal.)

4. Hot start feature is optional. Hooking up the Hot start wire to constant +12volts allows GPS to quickly acquire satellites in less than 2 seconds. This feature saves your current satellite position within the speedometer enabling it to quickly restore your position on power up when Speedometer has been powered off 4 or less hours.

Please note that if the speedometer has been powered off longer than 4 hours, it could take up to 1 minute to acquire signal due to the satellites moving significantly from your location. This is normal.

The current draw is extremely low (25 micro-amp) and will have virtually zero impact on a car battery's charge. Hot start wire should be connected directly to battery +12voltage and should remain powered 100% of the time.

Menu Features - momentarily press button on speedometer to select different menu items.

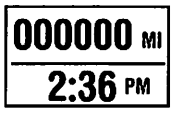
Odometer and trip

Odometer (shows up to 999,999 miles or kmh

Trip Odometer (shows up to 99,999.9 miles or kmh

Press and hold button to reset trip.

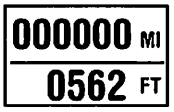
Clock



Clock feature. Time is acquired from GPS satellites. User only needs to adjust the hour setting for his/her time zone.

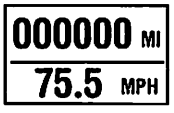
Press and hold button to set clock hours. (color will invert)
Toggle through am / pm hours until correct time is reached.
Release button for several seconds and time is stored. (color will return to normal)

Elevation



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

Speed (mph or kmh)



Speed feature shows mph or kmh in display

Direction

Shows the current direction

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

peak

Shows the top speed reached.
Press and hold to clear peak.

0-60 mph time

Press and hold button to stage while car is stopped.
Timer will start as soon as car starts to move.
Accelerate to 60+ MPH/100+ KMh. Timer will stop once 60MPH/100KMh is reached and show the time to nearest 1/100th of second on screen and distance in feet traveled.

1/4 mile time

Press and hold button to stage while car is stopped.
Timer will start as soon as car starts to move.
Drive through 1/4 mile. Timer will stop once 1/4 mile distance is reached and show the time to nearest 1/100th of second on screen and speed to nearest 1/10th mph.

In-Line Fuse Instructions

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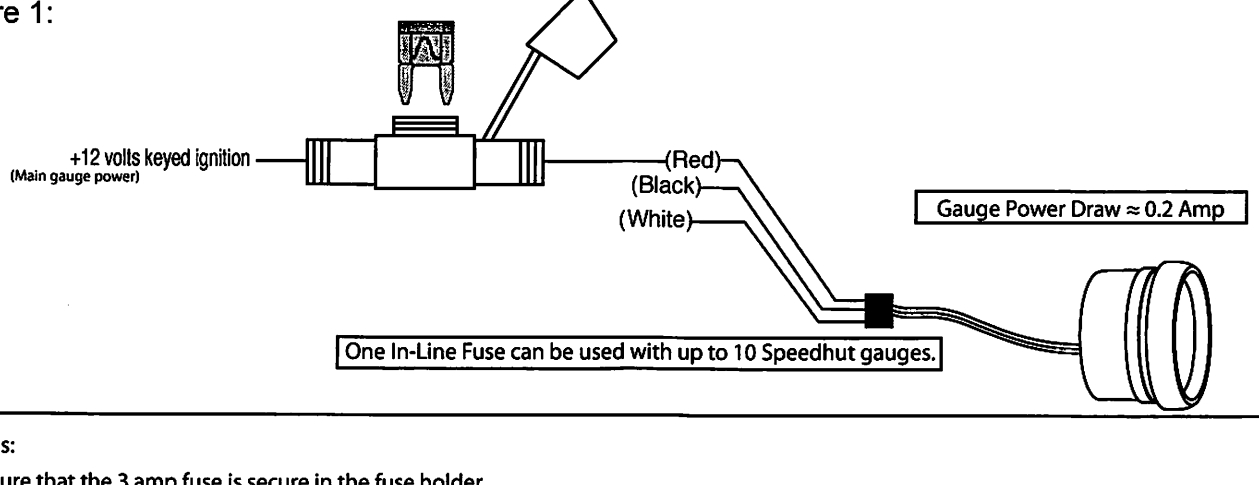
Figure 1:



Directions:

1. Make sure that the 3 amp fuse is secure in the fuse holder.
2. Strip the wire ends.
3. Connect wiring as shown in Figure 1.

   Use Butt Splice Connectors for the wiring connections. (2 Butt Splice Connectors are included)

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Legacy Revolution™

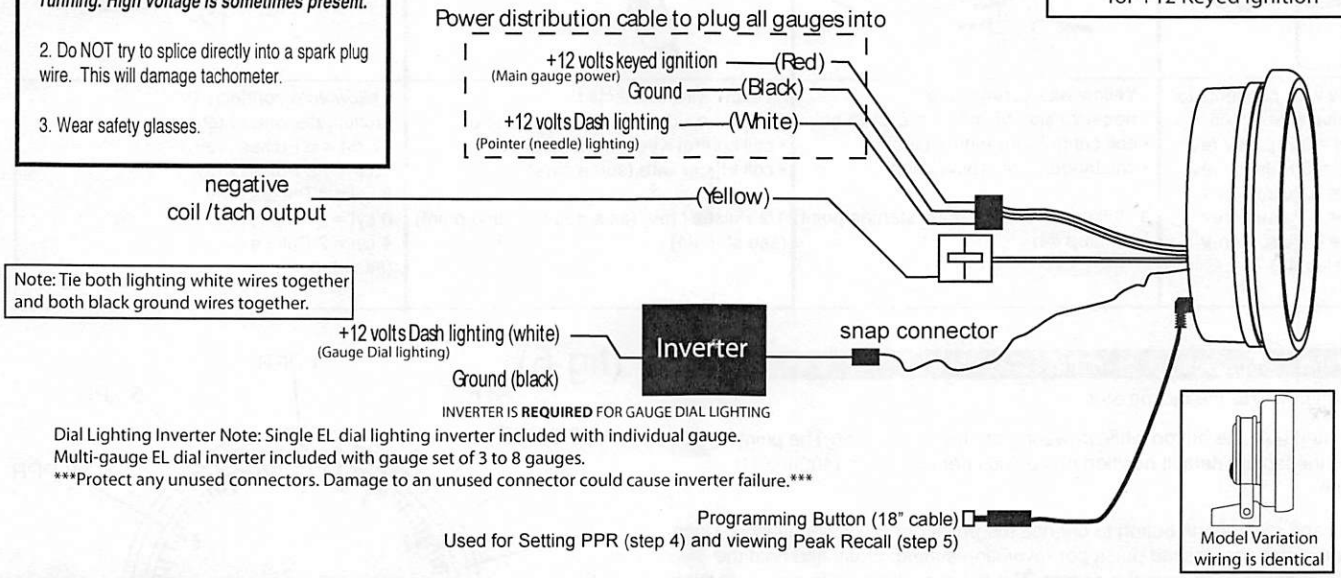
4" and 4-1/2" Tachometer Instructions (Classic NON shift-light version)

Caution:
1 Do NOT handle coil wires when car is running. High voltage is sometimes present.

2. Do NOT try to splice directly into a spark plug wire. This will damage tachometer.

3. Wear safety glasses.

Power Draw = 0.2 Amp
3A to 5A Inline Fuse Recommended for +12 Keyed Ignition



(1) Mount Tachometer in good location for easy viewing. Use included spin ring to secure the gauge.

(2) Hook up the red, black and white wires. (Refer to the schematic above.)

Notes on tach signals

Your vehicle ignition system will fall under one of these 4 ignition types. The type of ignition system will determine where the yellow wire 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 tachometer yellow signal wire to the negative side of the single coil on an 8 cylinder results in pickingup 4 sparks in 1 revolution (see fig 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 fig 5).

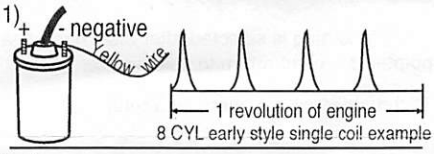
Type #2 (coil pack) - (fig 2) is a 96 Mustang V8 with twin coil packs. Coil pack #1 (C1) controls the firing of 4 spark plugs and coil pack #2 (C2) controls the remaining 4 spark plugs. 2 or more separate coils are within each coil pack assembly. In this example each of the 2 coils within each coil pack 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 fig 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 fig 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.

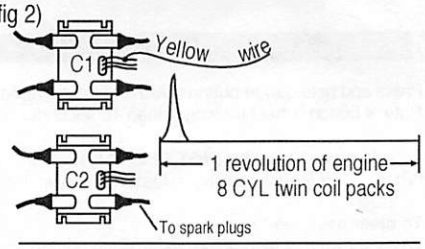
Type #4 (tach output from ECU) Some vehicles will have a tachometer output wire coming from the ECU. The yellow wire from our tachometer can receive signal from the ECU by following the diagram in fig 4. **4.7k Ω resistor and shrink tubing are included with gauge.**

In summary, figure out how many cylinders you are picking up with the yellow wire and set the respective number of pulses per revolution (see step 4). The tachometer can be configured to work on .5 pulse (coil on plug) up to 6 pulses per revolution. Use Fig 5 as a starting point when hooking up the yellow wire.

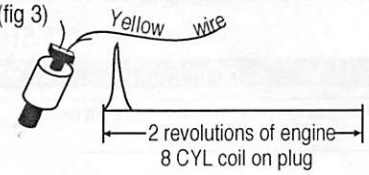
(fig 1)



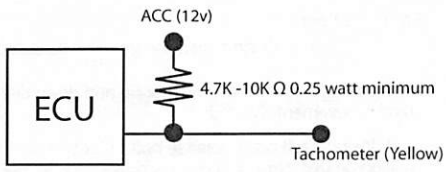
(fig 2)



(fig 3)



(fig 4)



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

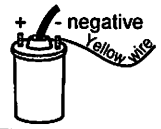
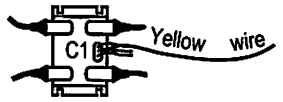
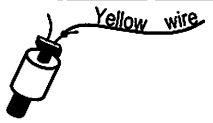
(fig 5: see page 2)

③ Hook up Yellow wire.

Caution- High voltage sometimes present on ignition coil wires. Engine must be off when connecting yellow wire.

Important note: connecting the tachometer to the wrong wire will NOT damage the tachometer or your ignition. It just won't work!

Fig 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 step #4)	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 step #4)	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 step #4)	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 step #4)

④ Set the # of pulses per revolution

1.Turn off power to the tachometer

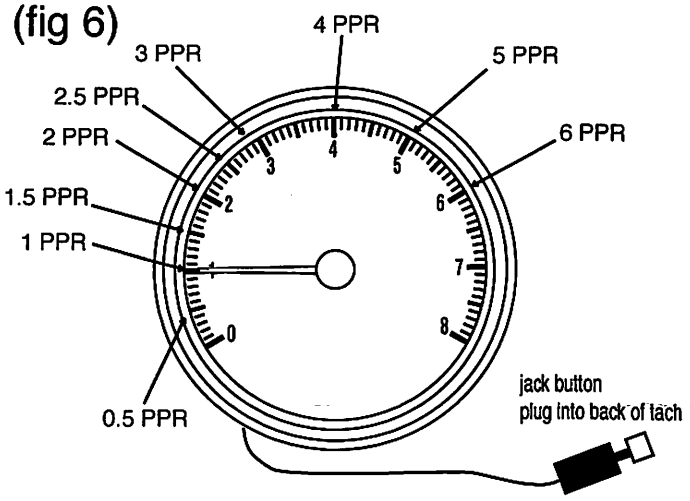
2.Press and hold the button while powering on the tachometer. The pointer will move to the factory default position of 4 pulses per revolution (4000RPM). (see fig 6)

3. Press and release the button to change the pulse per revolution setting. Once the pointer is on the desired pulse per revolution setting, press and hold the button for 5 seconds to save the setting. The pointer will return to zero indicating the setting has been saved.

Note: If nothing is selected after 5 seconds, the gauge will save the setting the pointer is on and return to zero.

Tachometer will exit menu and return to normal operation.

(fig 6)



⑤ Peak memory recall feature

Press and hold gauge button down and gauge needle will display maximum peak reading for as long as button is pressed down.
Note: if button is held for longer than 10 seconds, tach will enter Mini Shift Light set mode.

To retain peak reading (NOT CLEAR IT):
While showing peak reading, release button, wait 2 seconds, gauge will return to normal operation and retain the peak reading.

To clear peak reading:
While showing peak reading, release the button, and immediately press and release the button again within 2 seconds. Pointer will travel to zero to indicate peak has been cleared.

*** Steps 6 and 7 are steps for use with optional Mini Shift Light ***

⑥ Set your shift point (for use with Mini Shift Light)

Note: You will need to have a shift light plugged into the back of the gauge in order to set the shift point.

The following procedures can be done at any time during operation of the tachometer while the tachometer has power.

Shift point set

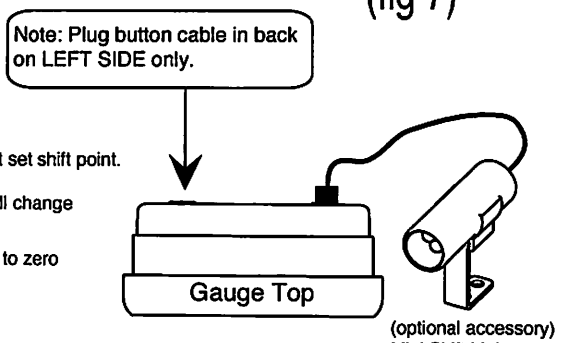
1. Press and HOLD the button for approx. 10 seconds (hold past peak recall). Pointer will travel to current set shift point.

2. Press and Hold to move pointer up and down dial. Releasing button and pressing and holding again will change pointer movement direction.

3. At desired shift point, release button for 5 seconds. The Mini Shift Light will blink and pointer will return to zero position on dial. New shift point is now stored in memory.

Note: Tachometers can use the optional mini shift light (sold separately). Simply, plug the mini shift light into the RIGHT port (see fig 7) on the back of the tachometer

(fig 7)



Note: Tachometers have port on right side for Mini Shift Light. (sold separately)

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4" and 4-1/2" Tachometer Instructions (Classic NON shift-light version)

Legacy Revolution™

7 Set Mini Shift Light LED brightness

A unique day and night shift light LED brightness setting can be set on the tachometer. Each setting has 4 possible brightness positions including 'off'. The tachometer automatically knows which day or night value to set by sensing the voltage on the white wire connected to your dash lighting. Setting the LED brightness value with your lights 'on' will result in setting the 'night' brightness value. And likewise, setting the LED brightness value with your lights 'off' will result in setting the 'day' brightness value.

At any time while tachometer has power, press and release button to show current LED brightness. After a couple second delay, if button is not pressed this current setting is re-saved. LED will blink to indicate setting has been saved. To change LED brightness press and release the buton to advance to next higher brightness level. LED brightness will loop through 5 possible brightness settings including off as you press and release the button. At acceptable brightness level do not press button for couple second delay. LED will blink to indicate setting has been saved.

Note: Setting the brightness level when gauge lighting is on, will set the night brightness level. Setting the brightness level when gauge lighting is off will set day brightness level.