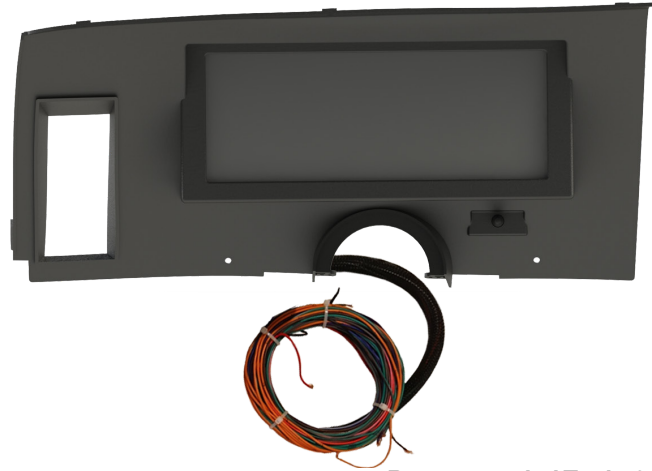




2650-2084-77

InVision® Ford Mustang, 1971-1973 Direct Fit Digital Dash



What is Included:

- Preassembled Mustang Dash with Digital Gauge Display & Universal Wire Harness
- Oil pressure Sending Unit
- Temperature Sending Unit
- (2) Inline Fuse Holders
- 3A Fuse
- 5A Fuse

Recommended Tools & Supplies:

- T10 & T20 Torx bits and/or screwdrivers
- Screwdriver set (including both flathead & Phillips)
- 1/4" drive standard & metric socket set
- 3/8" drive standard & metric socket set
- Standard & Metric open end wrenches
- Wire strippers
- Wire crimpers
- Your choice of wire splice connectors, or solder, or heat shrink for connecting wires to your vehicle harness.
- Your choice of wire coverings for neatly organizing or bundling wires.
- Zip ties (small or medium) for neatly organizing or bundling wires.
- Wire diagram of your vehicle
- General automotive electrical knowledge
- 5A fuse & fuse holder
- Soldering iron, solder, various sizes of heat shrink tubing
- Digital volt/ohm meter

NOTE: It is highly recommended that the main 12v key on power wire (longer red wire) be protected with a standard automotive 5A inline fuse. Not doing so, may lead to damage not covered under warranty.

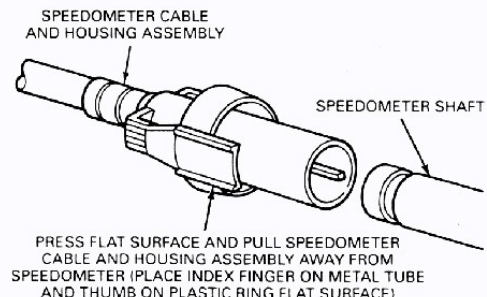


Step 1, Removal

It is recommended to turn the power on and take note of where the fuel level gauge reads (if it works) prior to removal of the factory dash. Once the fuel level is noted, disconnect the battery.

Remove the lower steering column cover. Next, remove the dash bezel (the frontal plastic around the factory gauges). Save these screws as they will be re-used. *Be aware that there is a screw hidden under the cover, on the end of the dash. Remove this cover to expose, and remove the remaining bezel screw.* Next remove the 4 screws retaining the factory instrument cluster. You should have enough room to pull that back, and to be able to reach behind it to disconnect the speedometer cable & Electrical connector(s). If you are unable to reach the cable, it may be helpful to remove the dash pad, in order to gain access.

You will want to reach behind the dash, to the back of the original instrument cluster, and disconnect the speedometer cable. This removes by Squeezing the release tab on the end of the cable against the cable itself, then pull.



In most cases, it may be easier to lower the steering column, to give you more room to work, and to remove & install the dash components. You should now be able to carefully, pull the cluster bezel out of the vehicle.

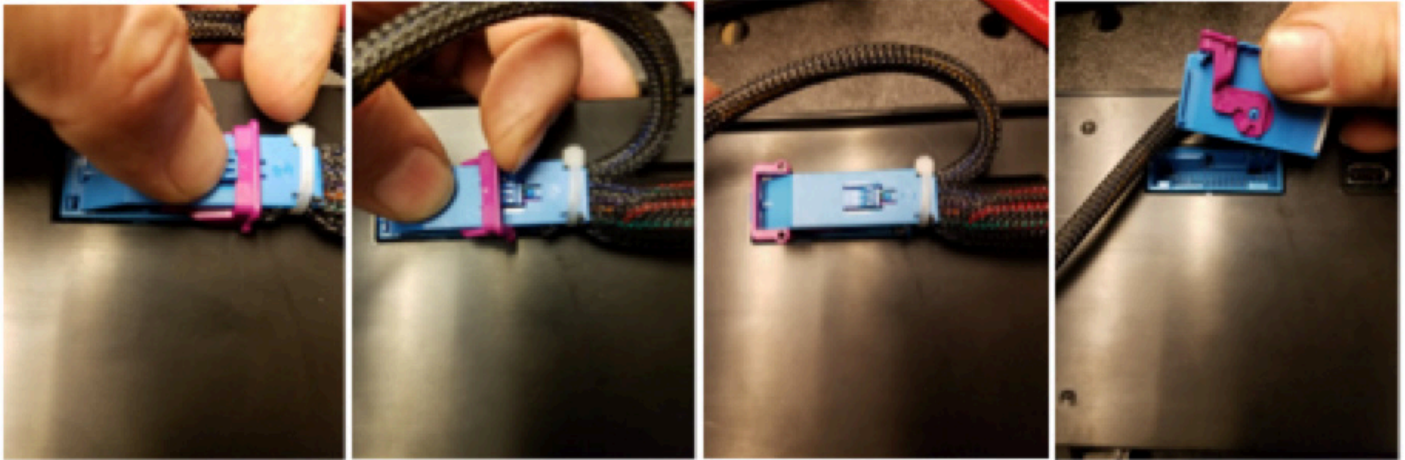
You may now completely remove your factory speedometer cable from the vehicle as this is no longer used with your new Digital Dash.

Step 2, Wiring:

Although the dash comes assembled, the wiring will take a little time, therefore it is easier to disconnect the wiring harness from the rear of the new dash display.

To access this, your new dash will have to be unassembled. Remove, (and save) the screws holding the two halves of the new dash bezel together. These screws require a T20 Torx bit to remove. You may now disconnect the harness from the rear of the display, and remove the selector knob from the rear of the front bezel. This way you have more room to work as you do your wiring, without having the new dash in the way.

Push down on the blue locking tab, so that you can pull the pink latch all the up, and over as shown in the pictures below. The connector will then easily pull out. Later installation is in the reverse order, except that you don't have to push the locking tab to install (you do still have to secure the pink latch).



You can then remove the Selector Knob from the rear of the panel by removing the two T10 Torx screws.

Wiring will require some basic knowledge of automotive electrical, and in some cases a vehicle specific wiring diagram, or the ability to test circuits to verify proper hook ups. You will need to be able to test various circuits at this time, so go ahead and temporarily re-install the headlamp switch knob & shaft into the switch, then plug the switch into its wire harness connector so that you can reconnect the battery. Simply push the switch knob & shaft into place, and most times you will feel a slight click when you get it installed all the way.

You will find the following wire colors on your new Digital Dash. There are several different methods of connection that you can use when connecting the new dash wires to your existing wiring:

Gray: Dash Lights. Connect to factory dash lighting wire. Look for a power that turns on and off with the parking lights and or head lights, but also dims (power lowers) as you adjust your headlight dimmer. A test light works well for checking this. If by chance you have a faulty dimming circuit in your vehicle, you can use any of the wires from your headlight switch that turn on & off with the park lights. The factory dimmer is not used by your new dash. More on the functionality of this later in step 4 of this instruction. On our subject vehicle, we found the dash lights wire to be light blue with a red stripe.

Red (4 foot): 12v, key on power. Connect to factory gauges power only if it is 12v. This power should turn on and off with the ignition switch. If no factory wire to use, you may either find an ignition power from the fuse box, or from the ignition switch. It is highly recommended that this be protected with a standard automotive 5A inline fuse. Not doing so, may lead to damage not covered under warranty. On our subject vehicle, we found the key on power wire to be red with a yellow trace.

Pink: Battery power, for memory retention. You may connect this to any constant-on, battery power such as at the factory fuse box, the ignition switch, or to the battery direct. You may check for power at these locations by leaving the key switched off, and using your test light to locate power that is still on. It is highly recommended that this be protected with a standard automotive 3A inline fuse. Not doing so, may lead to damage not covered under warranty.

Black (4 foot): System ground. We recommend to choose a new ground location for this wire, preferably at the engine. You may ground to the rear of one of the cylinder heads, or on the intake manifold to one of the unused accessory bolt holes. We do NOT recommend using existing, factory cluster ground as this is going to be a much older circuit, which may no longer be a very clean ground.

Green w/ Red stripe: Hi Beam indicator. Connect to factory hi beam indicator wire or to hi beam switch. This circuit will be powered only when the headlights are on, and high beams are on. On our subject vehicle, we found the Hi Beam indicator wire to be a light green with a black stripe.

Blue w/ white stripe: Left turn indicator. Connect to factory left turn indicator wire. You may test for this with a test light, with the key on, with left turn signal on and look for a wire that flashes your test light with the turn signals. On our subject vehicle, we found the left turn signal wire to be light green with a white.

Blue w/ Red stripe: Right turn indicator. Connect to factory right turn indicator wire. You may test for this with a test light, with the key on, with right turn signal on and look for a wire that flashes your test light with the turn signals. On our subject vehicle, we found the right turn signal wire to be white with a light blue stripe.

Red (2 foot): 12v key on power. This is intended for applications where you might be using a 3-wire vehicle speed sensor that requires

power. You should find that this wire is powered any time that the digital dash is powered. You may also use this to power a GPS interface module, or some other accessory as desired as long as it fits within the recommended fuse requirements.

Green w/ white stripe: Temperature sender wire. Run this out to the engine bay, to where you will install the AutoMeter temperature sender.

Violet: Speed signal. Connect this to the signal wire at your speed sender/sensor. If you are using a computer (ECM, PCM, ECU, etc), you may connect this to the factory speed signal wire at the computer instead of the speed sensor if it is equipped. Consult a diagram for your computer to verify.

Brown: Oil PSI sender wire. Run this out to the engine bay, to where you will install the AutoMeter oil pressure sender.

Green: Tachometer signal wire. Where you connect this will depend on what ignition system you have. If your engine is distributor equipped, with no ignition box, you may then connect to the negative side of the ignition coil. If you are using an after market ignition box, you will connect the white wire to the dedicated tachometer signal output wire. NOT to the ignition coil. If your application has no distributor, or ignition box and is using coil packs you may have an available tachometer signal at your computer. If you have questions on this, please call our tech support team at (866)-248-6357.

Black (2 foot): There are two of these supplied. One of these can be used if you have a speed sensor/sender that requires a supplied ground. If you have a speed sensor that is already existing/functioning that is already grounded or is grounded by a computer, then this wire is not needed. If you need to supply ground to your speed sender/sensor, then connect this black wire to the ground wire of your speed sender/sensor. The 2nd extra black wire can be used if needed, to run to your fuel tank, or fuel sender mounting flange, to provide a good ground for your fuel sender. If your previous fuel gauge & sender were functioning, and your sender is already grounded elsewhere, or through the tank, running an additional ground may not be needed. These 2 black wires are spliced together in the wire harness, therefore it does not matter which is used. If neither is used, we recommend that you simply ground them to a good chassis ground within the vehicle

Orange: Fuel sender wire. Connect to the original fuel sender wire. To be sure, you may use a digital ohm meter to test which wire is correct. To determine the correct wire, set your ohm meter to its lowest setting (most commonly 200, with no K or M suffix). Connect the positive lead of the meter to the wire you are going to test. Ground the meter negative lead. You are looking for something that resembles the fuel level reading prior to original dash removal. Example, the factory sender is 73 to 10 ohms. If the tank was at or near E, you might see 75 to 50 ohms. If the tank was at half tank, the reading would be about 25 ohms. If the tank was at Full, the reading would be near 8-10 ohms. The fuel level sender simply varies from 73 to 10 based on the amount of fuel there is. If the factory fuel gauge did NOT function, you may have further diagnosis to do, to test the sender in the tank, the sender ground, and the sender wire itself. You may call AutoMeter tech support for further assistance on this if needed. Our subject vehicle, we found the fuel sender wire to be yellow with a white stripe.

Brown w/ white stripe: Service Engine Soon Indicator. Not all applications will use this. This is only used if you are using an engine management system that has a grounded output for a Service Engine Soon light.

Six pin connector. For future expansion. *See Image on page 11.**

Now is a good time to plug your harness into the new dash display, and turn power on to make sure all of your wiring is good, and to become familiar with the dash. Remember you still have senders to connect outside of the interior at this point.

We will cover Set Up details later, though for now, simply make sure that your dash powers up and that turn signals and hi beam indicator (when lights are on) function.

Next, prepare the front bezel for installation. This will include installing the vent from the original panel, to the new panel. You will re-use the original vent screws.

Installation:

Now it is time to install the new bezel. You will have to reattach the previously removed selector knob, and plug in & latch the new wire harness to the rear of the new display panel.

Install the panel onto the metal dash structure. You will reuse the screws that you previously removed earlier when taking the old dash apart. We recommend that you get all the screws started, but keep them loose, until all screws are successfully started. Then you may go ahead, and tighten the screws.

Step 3, Senders:

Water temperature: This dash must use the included AutoMeter sender that was sent with your digital dash. If you are running a small, or big block Ford V8 or an inline 6, the included sender and adapter bushings will work, you may use the intake manifold temperature sender hole.

You may now connect the Green wire with White stripe from the new dash to the temperature sender.

Oil Pressure: This dash must use the included AutoMeter sender that was sent with your digital dash. If you are running a small, or big block Ford V8, you may need a Ford oil pressure extension, then the included sender & adapter bushing will work. For an inline 6, the included sender and adapter bushings will work.

You may now connect the Brown sender wire from the new dash to the oil pressure sender.

Oil pressure extension shown to the right



Fuel Level: This kit is designed to function with a variety of different fuel senders. The preset range of this dash is 0-90 ohms. If you have a different range of sender, you will need to adjust the settings in the dash to accommodate the sender you have. This dash is compatible with the following senders.

- Ford up to 1987 (some up to 1985) used 73 ohms @ Empty and 10 ohms @ Full
- Ford 1987 and later (through mid 2000's) used 16 ohms @ Empty, and 158 ohms @ Full
- Chrysler up through late 80's (some a little longer) also used 73 ohms @ Empty and 10 ohms @ Full
- GM 1965 to 1996 used 0 ohms @ Empty, and 90 ohms @ Full
- GM 1964 & earlier used 0 ohms @ Empty, and 30 ohms @ Full. We have found a few 1965 Chevy trucks still using 0-30.
- GM 1997 & later used 40 ohms @ Empty, and 250 ohms @ Full
- Universal AutoMeter (and some 1940's and earlier domestics) used 240 ohms @ Empty, and 33 ohms @ Full. For this possible sender, if measuring with an ohm meter, you may have to adjust your resistance range to the next setting above 200 if your meter is not auto ranging.

Speed Sensor/Sender: This sender was not included in your kit, as many users may already have an existing speed sender due to using a late model drivetrain, or had a pre-existing electric speedometer.

If your vehicle still depended on the factory speedometer cable that you removed earlier in this dash install, you may then use the AutoMeter model number 5291 speed sender. You would connect the red from the speed sender to the 2 foot red dash wire. Connect the black speed sender wire to the black 2 foot dash wire. Connect the white speed sender wire to the violet dash wire.

If you had a pre-existing 2-wire speed sender that was being used for an electric speedometer, you may connect one wire of this speed sender to the 2 foot black wire from the dash. Then connect the other wire of the speed sender to the violet wire from the dash. Many times the polarity of the 2 wire speed sender is non-polarity sensitive. Though if you had a black wire, that one is typically ground, and the other (such as white, tan, violet, green, etc.. is typically signal. If both were the same color, then it will not matter.

If you are using a factory late model drivetrain which uses its own speed sender, you will then use the factory speed-out wire/circuit, typically supplied by the late model computer.

Start the engine: Check to make sure you are registering oil pressure, water temperature (as it warms up), volts, fuel level, and RPM. You will need to calibrate & drive the vehicle for speedometer function. Also check for any leaks at this time.

Step 4, Set up:

This dash comes equipped with a button/knob referred to as the "Selector Knob". To enter the dash menu, simply push & release the Selector Knob one time. The menu will appear. The knob also turns slightly left or right. Use the left or right motion to scroll through the menu. Think of pushing & releasing the knob as an "Enter" command.

If you attempt to enter the menu while driving (vehicle in motion), you will only get a partial menu. For full menu, you must be stopped. Engine can be running or not, just as long as power is turned on. Full Menu shown in below pictures.



Warnings This dash provides an audible and visual warning for certain parameters.

Fuel Level is non-adjustable, and comes as warning at around 1/8 tank. You can however disable the warning if you choose.

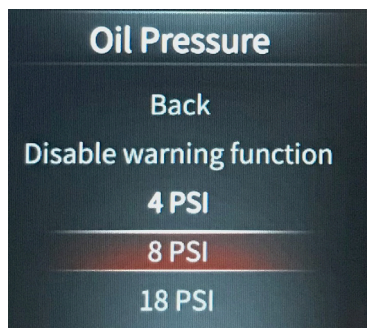
Oil pressure can be adjusted to warn at 4, 8, or 18psi. This can also simply be disabled.

Water temp can be adjusted to warn at 220, 235, or 250 degrees. This can also simply be disabled.

Volt Meter can be adjusted to warn at 11.5, 12.2, or 15.0 volts. This can also simply be disabled.

To adjust, or disable, enter into the Main Menu, then scroll to the gauge you want to adjust (we will show oil pressure here), and press Enter. Scroll back to the value you wish to set it to, and press Enter.

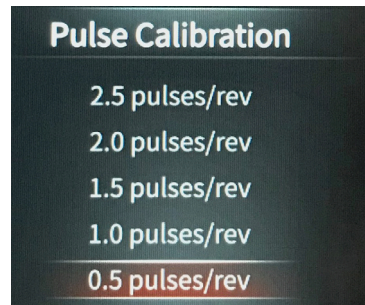
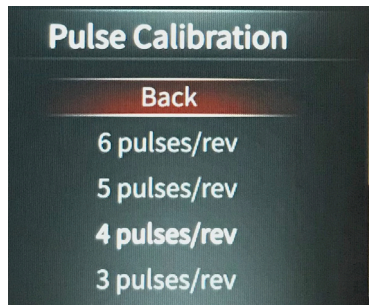
To exit, you may now scroll up to Back and press Enter.



Once you are finished adjusting your warnings, and you are back in the Main Menu, simply scroll back to the top until Close is highlighted, and press Enter.

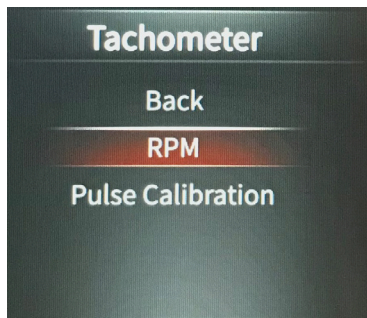
Tachometer PPR (Pulse Calibration) This is the tachometer calibration. PPR stands for pulses per revolution. A standard V8 with a distributor type ignition system will be 4ppr. This is also the standard setting for the dash. If you have an in line 6, your setting would be 3ppr. And if you have updated your drivetrain to an LS type engine and are using a factory PCM, the PCM tachometer output is actually 2ppr.

To adjust PPR, enter into the Main Menu. Scroll to Tachometer, and press Enter. Next, scroll to Pulse Calibration, and press Enter.



Once you have chosen the correct PPR, simply scroll up to Back, and press Enter. Then, scroll up to Back again, and press Enter. Next, once you are back into the Main Menu, scroll to Close and press Enter.

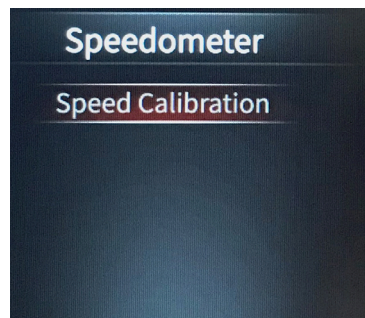
Tachometer Scaling The standard scale is 0-10,000 RPM, though you can adjust the tachometer scale to be 0-8,000 RPM if desired. To adjust the scaling, enter into the Main Menu. Scroll to Tachometer, and press Enter. Next, scroll to RPM and press Enter. Now you can choose from either 8000, or 10000 RPM Scale. Scroll to the desired scale, and press Enter.



Once you have chosen the Tachometer Scaling, simply scroll up to Back, and press Enter. Then, scroll to the top until Back and press Enter. Next, once you are back into the Main Menu, scroll up to Close and press Enter.

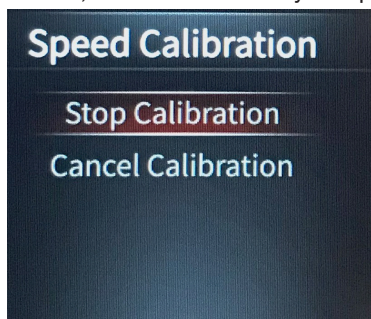
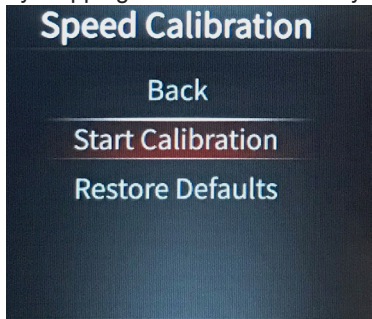
Speedometer Calibration Speedometer calibration will be required for an accurate speedometer reading. You will need a 2 mile pre-marked distance.

To calibrate the speedometer, Enter into the Main Menu, then scroll to Speedometer and press Enter. Next, scroll to Speed Calibration, and press Enter.

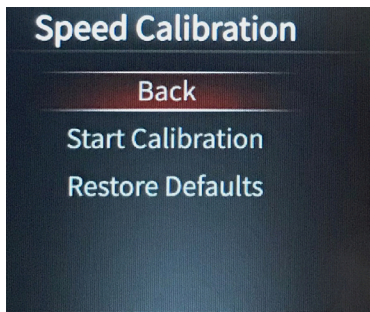


Drive to the beginning of your 2 mile distance (this could be at your driveway, or elsewhere). Choose Start Calibration and press Enter. The display will now show "Stop Calibration" (don't press Enter yet). Now drive 2 miles. At the end of 2 miles, you will come to a stop, and press Enter on Stop Calibration.

*You technically do not have to come to a complete stop when pressing Stop Calibration, though it helps to insure that you have a more accurate 2 mile distance by stopping. The more accurate your 2 miles are, the more accurate your speedometer will be.

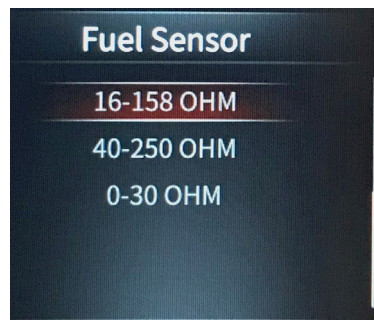


If speed sender/sensor is functioning, and your calibration successful, you may now scroll up to Back, and press Enter, then on the Speedometer Menu, scroll up to Back, press Enter, then on the Main Menu, scroll up to Close and press Enter.



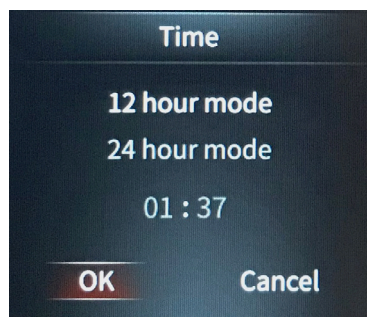
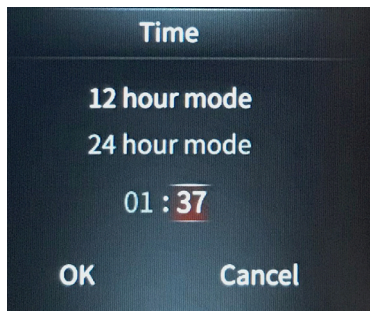
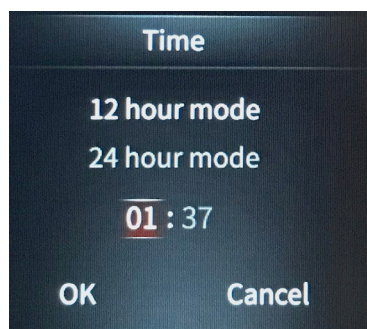
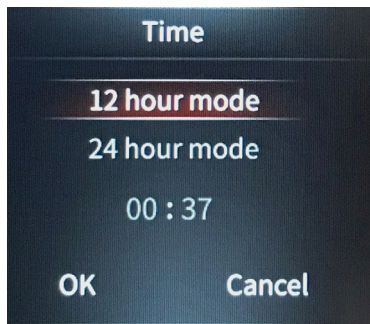
Fuel gauge set up If you are running a 0-90 fuel sender, there is no further set up required regarding the fuel gauge. This step can then be skipped.

You have 7 different fuel sensor ranges to select from, select the one that matches your vehicles fuel sender and press enter. Once you have chosen the correct sensor range, scroll up to Back, and press Enter. Once you are back at the Main Menu, scroll to Close and press Enter.



Time You may set the time as a standard 12 hour clock, or a 24 hour clock.

To adjust the time, enter into the Main Menu, then scroll to Time, and press Enter. Here you can scroll to 12, or 24 hour mode, and click Enter, but you can also adjust the time here. Once you have “Entered” on 12 hour, or 24 hour mode, you can then scroll to the hours (left) segments and click Enter. You then scroll the numbers up or down by turning the Selector knob left or right. Press Enter, then scroll to the right to highlight the minutes (right) segments. You then scroll the numbers up or down by turning the Selector knob left or right. Press Enter. Once you are finished, scroll to “OK” and press Enter. This returns you to the main menu.



Display You have 3 different display types to choose from. To choose the display style, enter into the Main Menu, scroll to Display, and press Enter. Then scroll to which number display you want, and press Enter.



Display One



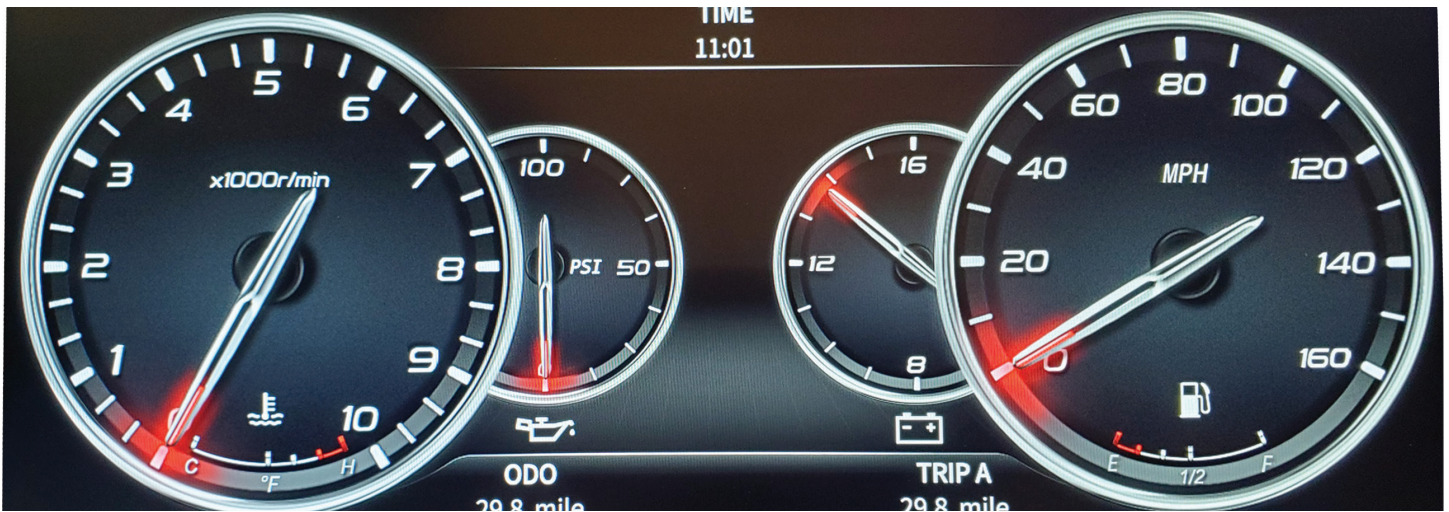
Display Two



Display Three



Display Four



If you choose Display three, you also have a choice of colors. Display one, two, and four do not have a choice of colors. When you choose Display three, and press Enter the unit will go to Display three, then to access the color options, Enter into the main menu again, choose Display, then scroll to Display three (which will already be in bold white), and press Enter. Now the color options will come up (there are two pages of color options). Scroll to the desired color and press Enter.



To Exit, simply scroll up to Back, and press Enter., then scroll up to Back on the Display menu, and press Enter, then scroll up to Close on the Main menu and press Enter.

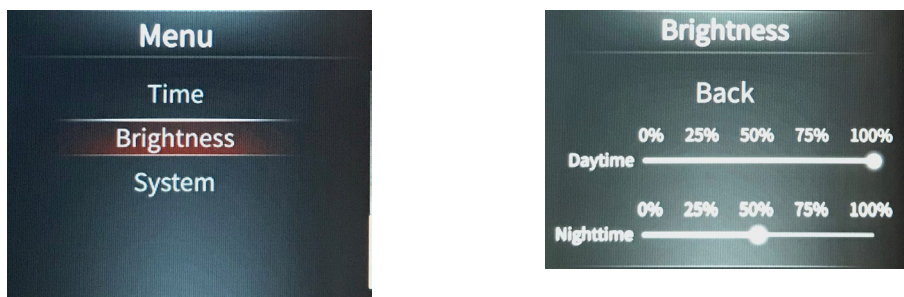


Brightness You will no longer adjust brightness with the factory dash light dimmer. Once power is applied from the lighting to the dash, it will automatically dim down to the brightness as adjusted by the dash via the Selector Knob. You can adjust daytime brightness, as well as night time brightness.

To adjust the brightness, enter into the main menu, then scroll down until you reach Brightness, and press Enter. Once you are in the Brightness settings, scroll down one time for Daytime settings and press Enter. You may now scroll left or right to choose the percentage of brightness.

When you are satisfied, press Enter then scroll down one time again for Nighttime and press Enter. You can again scroll left or right for the percentage of brightness desired. *When adjusting Nighttime, you should have the vehicles lights turned on.

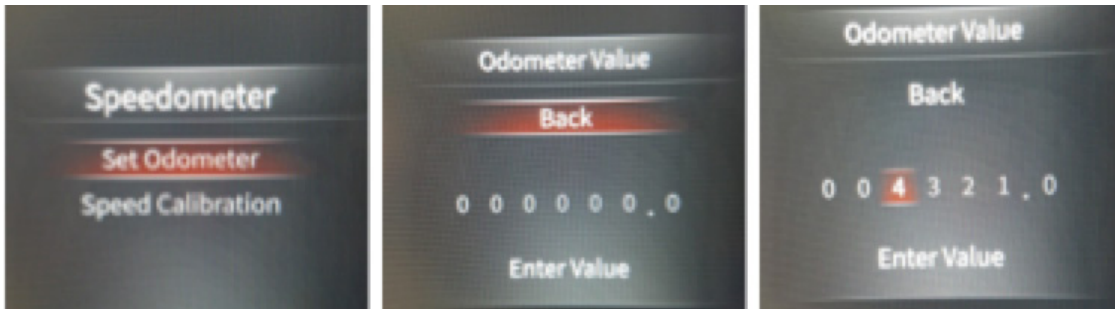
When finished adjusting Nighttime, press Enter, then scroll up to Back, and press Enter. Then scroll up to Close to exit the Main menu.



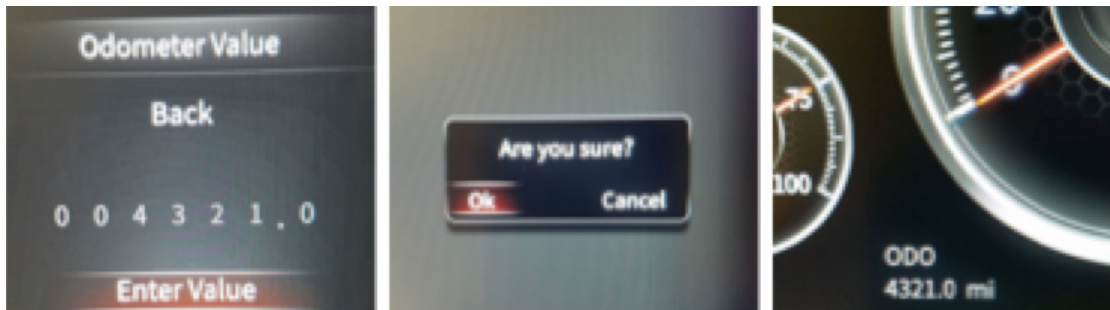


Odometer The odometer can be set to match your factory mileage on your vehicle. This can only be done one time, and within the first 500 miles. After being set, or 500 miles have been accumulated, this option will disappear. It can not be set again.

To set your odometer, enter into the Main Menu, scroll to Speedometer, and push Enter. When in the Speedometer Menu, scroll down to Set Odometer and press Enter. Now you will be in the Odometer Value screen. Scroll down to the odometer digits. When you get to the particular digit that you want to change, press Enter, then scroll up or down with the Selector Knob until you get to the desired digit, and press Enter.



Once you have the odometer reading you desire, and have pushed Enter on the last digit, you can then scroll down to Enter Value and press Enter. The Dash will ask you "Are you sure?". You have the option to either press enter on OK, or scroll to Cancel and select Enter. This window asking you "Are you Sure?" will pop up 3 times. If you answer OK all three times, the odometer is now permanently set, and will only change by accumulating miles normally. This can not be changed again.



Trip Odometer This dash has two trip odometers, and a regular odometer. Both trips can be reset at any time by the user. To choose which Trip Odometer is displayed, Enter into the Main menu, scroll to Speedometer, and press Enter. Here, you may choose which Trip is displayed, and you may also clear (reset) the trip from this page as well. Simply scroll to which option you choose and press Enter.



Units Here you can choose Imperial, or Metric. U.S. users will generally choose Imperial. Other users may choose Metric, which changes your temperature to "C", Oil Pressure to "BAR", Odometer to "km", and Speedometer to "km/h".

To change the units of measure, Enter into the Main Menu, and then scroll to Units, and press Enter. Then choose either Imperial, or Metric by scrolling to highlight your choice, then press Enter.

To exit, simply scroll up to Back, press Enter, then on the Min Menu, scroll up to Close and press Enter.



System This displays the versions of firmware the unit is equipped with.

Time to enjoy your new InVision® Dash!



***** 6 Pin Connector]**

Not currently used, intended for future expansion.

Available Items From AutoMeter that you may want or need:

- #5291 3-wire Hall Effect speed sender. This is a pass through unit and can be used if your vehicle still has cable operated cruise control. It can still be used as a stand alone unit if you no longer use a cable.
- #5293 2-wire Sine Wave speed sender (generator). This is a more economical unit, and does not provide as many pulses as the 5291, and does not require power to operate. Only signal and ground.
- #5289 GPS Interface Module. This works great if you have a situation where your transmission has no mechanical output, or no existing speed sender. This simply requires power & ground, and has a signal output. The included GPS antenna is magnetic, and can be mounted inside the vehicle, or outside.
- #5284 LS Install Kit. If you are performing an installation with an LS based engine, you can order this kit for the needed adapters, and LS specific instructions.
- #9123 LS Tach Adapter Kit. Sometimes with the LS conversion, the tachometer signal becomes lost. This kit will allow you to install a tachometer adapter, and is specifically designed to plug into the factory LS ignition harnesses located at the center of each valve cover. The wire harness portion of this works for most LS applications up to 2013.
- #9117 Tachometer Adapter. This can be wired in by the installer if the above 9123 will not work for your application.
- #3227 -4an Braided Stainless Steel Hose Kit. This is a 3' long hose kit that some would use to relocate their oil pressure sender in the event that you want to mount it off of the engine elsewhere. Other lengths are also available.
- AutoMeter offers a variety of hose adapters that allow you to install your temperature sender into a hose directly. Available in different sizes, ranging from 5/8", up to 1-1/2". Model numbers 2280, 2281, 2282, & 2283.

SERVICE

For service send your product to AutoMeter in a well packed shipping carton. Please include a note explaining what the problem is along with your phone number. If you are sending product back for warranty adjustment, you must include a copy (or original) of your sales receipt from the place of purchase.

12 MONTH LIMITED WARRANTY

AutoMeter Products, Inc. warrants to the consumer that all AutoMeter High Performance products purchased from an Authorized AutoMeter Reseller will be free from defects in material and workmanship for a period of twelve (12) months from date of the original purchase. Products that fail within this 12 month warranty period will be repaired or replaced at AutoMeter's option, when determined by AutoMeter that the product failed due to defects in material or workmanship. This warranty is limited to the repair or replacement of parts in the AutoMeter High Performance product and the necessary labor done by AutoMeter to effect the repair or replacement of the AutoMeter High Performance product. In no event shall AutoMeter's cost to repair or replace an AutoMeter High Performance Product under this warranty exceed the original purchase price of the AutoMeter High Performance Product. Nor shall AutoMeter Products, Inc. be responsible for special, incidental or consequential damages or costs incurred due to the failure of an AutoMeter High Performance Product. This warranty applies only to the original purchaser of the AutoMeter High Performance Product and is non-transferable. This warranty also applies only to AutoMeter High Performance Products purchased from an Authorized AutoMeter Reseller. All implied warranties shall be limited in duration to the said 12 month warranty period. Breaking the instrument seal, improper use or installation, accident, water damage, abuse, unauthorized repairs or alterations voids this warranty. AutoMeter disclaims any liability for consequential damages due to the breach of any written or implied warranty on all products manufactured by AutoMeter Products, Inc. For a comprehensive listing of Un-Authorized AutoMeter Resellers please visit www.autometer.com/autometerlocator/index/unauthorized.

FOR SERVICE SEND TO: AUTOMETER PRODUCTS, INC. 413 W. Elm St., Sycamore, IL 60178 (866) 248-6356

For Email: Service@autometer.com