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Lifetime Guarantee



Thank you for purchasing this instrument from Intellitronix. We value our customers!

INSTALLATION GUIDE
1963-1967 Corvette Analog
Direct Replacement Dash
Part #: AP2000



*** Always disconnect the battery *before* attempting any electrical work on your vehicle. ***
Power up the unit before installing to ensure everything is working properly

KIT COMPONENTS

- **One (1) Assembled Analog Circuit Board** (with Speedometer, Tachometer, Voltmeter, Water Temp., Fuel Level, Oil Pressure Gauge – with lens and mounting hardware).
- **One (1) Temperature Sending Unit (\$8013)**
** 1/8" NPT, 0-255 Deg., 1/2" NPT Bushing*
- **One (1) Pressure Sending Unit (\$8868)**
** 1/8" NPT, 0-100 PSI Oil Pressure*
- **One (1) Universal Speedometer Sensor (\$9013)**
** 7/8" NPT Industry Standard threads*

DASH PANEL INSTALLATION INSTRUCTIONS

Stock Gauge Removal

- Remove the oil pressure feed line from the back of the gauge (if equipped).
- Remove the vacuum line from the back of the gauge (if equipped).
- Remove the speedometer cable from the back of the instrument.
- Remove mounting screw on under top side of bezel. Save this hardware to reuse to mount new gauges.
- Remove the stock gauges.
- Mount the Gauge Panel into the housing using the factory mounting screws.
- Wire the gauges and sending units as instructed in the next section.

WIRING INSTRUCTIONS

NOTE: After you have completed all the wiring it is recommended to start the vehicle and verify the cluster/gauge is operating correctly before you reassemble the remaining dash interior.

Note: Automotive circuit connectors are the preferred method of connecting wires. However, you may solder if you prefer.

Note: If doing an LS engine swap, pick up the tach signal wire from the ECM/ECU and then set the tach switch to 4-cylinders. You may also need to order the Intellitronix LS Engine Swap Adapter Kit – for Series 1, 2 and 3 engines. The part number is 8014LS. If you are getting the tach signal from the ECU, the resistor in the adapter kit will help pull a stronger signal for the tachometer. If your engine is a 4 cylinder, please call Tech Support at Intellitronix, as you may need to send the gauge back to us to be reconfigured. There is no charge for this additional service.

WIRING INSTRUCTIONS

Note: Automotive circuit connectors are the preferred method of connecting wires. However, you may solder if you prefer.

Ground – Black: This is the main ground for the display system. A wire should be run from this board to the vehicle's main engine block ground. Use 18 AWG or larger wire to ensure sufficient grounding. Proper vehicle grounding is extremely important for any gauges (or electronics) to operate correctly. The engine block should have heavy ground cables to the battery, frame, and firewall. Failure to properly ground the engine block, senders, or digital dash can cause incorrect or erratic operation.

Power – Pink: Connect the power terminal to accessory +12V power from the fuse panel or vehicle wiring harness. This terminal should have power when the key is on or in accessory position. Use 18 AWG wire to ensure the system receives a sufficient power feed.

Battery - Red Connect the +12 Volt terminal to constant +12V power from the battery.

Dimmer - Purple Connect to the parking lights to dim the LEDs 50% when the headlights are on. However, do not connect to the headlight rheostat control wire; the dimming feature will not work properly.

Turn Signals – Grey: Two 18-gauge wires, one for each signal. Connect each wire to its corresponding indicator circuit.

High-Beam – Brown: Connect the brown wire on the speedometer panel to your high beam headlight.

Brake – Tan: Connect to the parking brake wire from the dash to negative side of brake light switch. **NOTE:** If you are using a metal switch you may need to switch to a two-wire switch.

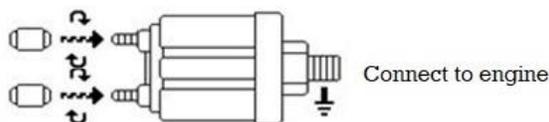
Check Engine: - Green/Yellow Connect to the Negative side of the Check Engine Light circuit. Check Engine light will come on when working with a PCM.

Oil Pressure – Orange - Replace the existing oil pressure sending unit with the unit included with your gauge. The Orange wire will be wired to the S terminal on the sending unit. This gauge is incompatible with other sending units.

Oil Pressure – Ground Wire- From the G terminal on sender will be wired to ground on the engine block using 18 Ga wire to ensure proper ground!

Securely connect orange wire to S terminal

Securely connect black/orange wire to G terminal



NOTE: LS Engines or any other Computer based engine systems must use provided sensors and install new wires to new sensors.

Water – Blue: Replace the existing water temperature sending unit with the unit included. The gauge is incompatible with other sending units. Do not use Teflon tape or other sealer on the new sending unit's threads to avoid inaccurate readings. Connect the blue wire to the sending unit.

Fuel – Yellow The fuel gauge sending unit is not normally supplied because in most cases, the display system can use the existing fuel level sending unit in the tank. If your wiring harness already has a single wire routed through the vehicle for the fuel sender then it may be used. If using a wire from an external harness, make sure that the wire does not have power. Fuel senders reference their ground from the sender mounting plate. Connect the yellow wire to the factory sending unit. Be sure the toggle settings on the switch match those displayed on the panel, as illustrated.

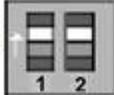
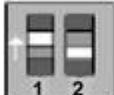
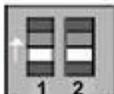
Both switches in the **ON** position **0-30 OHM**

All other position is **GM 0-90 OHM**

FUEL GAUGE TEST

The most common problem with our Fuel Gauge not working is the circuit is not complete. The easiest way to test this is to use a voltmeter and test for continuity on wires going to fuel sender. With wire disconnected from Fuel Gauge check for continuity to ground.

Without this the Gauge will not work.

Fuel Selector Switch Position		
Manufacturer	Switch Position	Ohm Range (Empty to Full)
PRE-67 GM		0-30 OHM
POST-67 ALL OTHER		0-90 OHM
POSITION 0-90 OHM		0-90 OHM
		0-90 OHM

Tachometer – Green

If your vehicle has a **separate ignition coil**, connect the green wire to the **negative (-)** side of the coil – the wire that goes to the points or electronic ignition module.

To ensure that the ignition system does not interfere with any other dashboard functions, do not run the tachometer wire alongside any other sender or input wires. **Do not** use solid core spark plug wires with this dashboard system. Solid core ignition wires cause a large amount of electromagnetic and radio frequency interference which can disrupt the system's operation.

If your vehicle has a **GM HEI ignition**, connect to the terminal marked 'TACH', or, on some systems, a single white wire with a spade terminal.

If your vehicle has an **after-market ignition** – some systems will connect to the TACH output terminal.

If your vehicle has a **computer-controlled ignition** system, consult the service manual for the wire color and location for Tach signal output.

If your vehicle has a **magneto** system, connect the tach signal wire to the negative side of the coil. **Do not** connect the tach terminal to the positive (+ or high voltage) side of the ignition coil. Many tachometers, shift lights or RPM-activated switches will not read directly from a Magneto, so your installation may need a Magneto Signal Converter to function properly.

The default setting for the tachometer is for an 8-cylinder engine.

To change settings:

There are two recall buttons on this dash: one to the right of the speedometer, the other to the left of the tachometer. This tachometer is initially calibrated for use with 8-cylinder engines. If you are using it with a 4- or 6-cylinder engines, you must recalibrate it for your specific application by pushing the tach recall button in accordance with the programming modes shown below. To set the cylinder selection: With the ignition off, hold in the right button and power the dash on. The tach will then enter a setup mode where the needle will move (between the zero and one on the face of the instrument) to indicate 400 (4 cylinder), 600 (6 cylinder) or 800 (8 Cylinder) continuously. When the needle gets to the desired setting, tap the right button once more. It is now set and will enter normal operating mode. To see the high RPM/tach setting, hold down the right button. It will reset after five seconds.

SPEEDOMETER (you have three methods for speedometer connection)

1.) Speedometer – White - (Factory sender with Powertrain Control Module) When using a LS engine swap, you will need to pick up the Speedometer signal wire from the PCM Pin 50 on the red connector. (This pin may Differ. Refer to your vehicles Pinout Chart for accuracy). Any other Computer based engine will need to use to use the PCM/ECM to run the speed signal for the Speedometer. (Consults Pinout Chart)

2.) Speedometer – White - (Factory two wire sender no PCM) - Most vehicles built after 1984 have an electronic transmission sender. If your vehicle is already equipped with an electronic transmission, then the electronic vehicle sender will usually have Two wires attached to it. One connects to the Signal wire on dash (we prefer this to be high output). The other wire (Low output) Ground at the Engine block. To find High and Low output wire color or pin location will need to be looked up by Vehicle vin or Model and year or (Consults Pinout Chart).

3.) Speedometer - White (Intellitronix Speed Sender) - Disconnect the mechanical speedometer cable from the transmission and thread the new electronic sensor onto the transmission. This panel comes with a 3-wire sensor. If you are using this sensor, the **white** wire is the speed signal; connect this to the speed signal wire on your gauge. The **red** and **black** wires in the cable are switch power (12VDC) and ground, respectively.

NOTE:(Twist all Three wires together and this will provide an additional level of interference protection for signal wire.) The speed signal wire should not be routed alongside the tachometer, ignition, or any other high-current or high-voltage wires

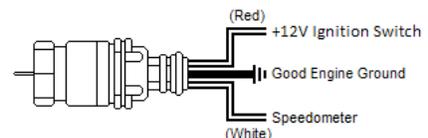
NOTE: The speed signal wire should not be routed alongside the tachometer, ignition, or any other high-current or high-voltage wires.

The recall button on the speedometer operates as follows:

Once – cycles between Trip Mode and Odometer Mode.

While in Odometer Mode:

1. Hold LEFT button down to enter Recall/Setting Mode
2. ¼ Mile Recall
3. 60 Second Time Recall
4. Odometer Setting
5. Calibration



CALIBRATION

Note: If using the Intellitronix GPS Sending Unit (not included), the speedometer does not need to be calibrated.

The speedometer leaves the factory with a pre-set industry standard setting of 8,000 pulses per mile. Chances are that you may not need to recalibrate your speedometer unless you have changed the original tire size or the rear end gear ratio.

IMPORTANT NOTE: Do not attempt to recalibrate your speedometer until after it is working properly, and you have determined that the speed is incorrect. The calibration procedure will NOT correct a faulty installation or improper wiring. If you attempt to recalibrate your speedometer without making sure, the speedometer is receiving pulses from the sending unit, the speedometer will display 'Err' and default back to the factory settings.

To calibrate:

1. **Locate a measured mile where you can safely start and stop your vehicle.** By running the vehicle over this measured distance, the speedometer will learn the number of pulses outputted by the speedometer sensor during a specific measured distance. It will then use this acquired data to calibrate itself for accurate reading. There is a small recall push-button in the center of the panel used to calibrate and read all the data stored in the speedometer. After installing your speedometer according to the wiring instructions, when the ignition is on it should immediately display the default screen of 0 MPH, if the vehicle is not moving.

NOTE: You will now need to drive your vehicle to the predetermined measured mile. During this trip, the speedometer should read something other than 0 MPH. If it does not change, return and locate the problem before continuing. Otherwise, proceed with the calibration.

2. Stop at the beginning of the measured mile with your vehicle running and in odometer mode (NOT trip mode), press and hold the push-button until the odometer displays 'HI-SP'. On its own, the gauge will then cycle through the recorded performance in the following order: '0 - 60', '1/4', 'ODO', and 'CAL'.
3. While 'CAL' is displayed, quickly tap the push-button once. This will put the speedometer in Program Mode. If you did not tap while 'CAL' is displayed, the pulses per mile will be displayed on the odometer and the display will go back to MPH mode. Otherwise, you will now see 'CAL' displayed along with the number '0'. This indicates that the microprocessor is now ready for calibration.
4. When you are ready, begin driving on the metered mile. You will notice that the reading will start counting. The odometer will begin to display the incoming pulse count. Drive the vehicle through the measured mile (speed is not important, only the distance traveled)
5. At the end of the mile, stop and press the push-button again. The odometer will now display the new number of speedometer pulses that were registered over the distance. The odometer will continue to display the pulse reading for a few seconds. Once it reverts to the default mode, you have successfully calibrated your speedometer.

Warning: If, while in 'CAL' mode, you do not move the vehicle but press the button again, the microprocessor will NOT have received any data and the unit will display 'Err' and will revert to the factory settings. At a minimum, drive some distance and return to the start if necessary. If you miss stopping the display at 'CAL', simply repeat the steps.

Setting the Odometer

While scrolling through 'CAL' mode you will see 'ODO' appear. This will allow you to enter the vehicle's actual mileage. Press the trip button again at this point and you will enter the odometer set up mode. Press quickly to change the number of the digit on the right. Press and hold to advance to the next digit. Do this for all 5 digits.

For Example: To enter the mileage 23456 into the odometer, at the 'ODO' prompt, tap the small black button (quickly) two times, until the number 2 is displayed. Then press and hold the button until the numbers 20 are displayed. Tap the button 3 times until 23 is displayed. Press and hold the button until 230 is displayed and continue in this manner until 23456 is displayed. The speedometer will advance to the home screen, five seconds after the last number is entered.

Recording and Viewing Performance Data

Follow these steps to record and recall Performance Data (high speed, ¼ mile ET, and 0- 60 time):

1. Before each run, your car must be at a complete stop at the starting position. Press and hold the push-button as it cycles through the performance data. At the end, the odometer will reset, and all performance data will be cleared. This will not affect your stored calibration value or the odometer reading.
2. Press the push-button until 'HI-SP' is displayed. The gauge will automatically cycle through the performance data.
3. Start the run, pass, session, etc., as mentioned above.
4. When finished, repeat Step 2 to view the data gathered from the run. While stopped, you can view this data as often as you wish. However, once it finishes scrolling one time, the memory is ready to record new data and will begin recording again once the vehicle starts to move. The highest speed measured over multiple runs will be retained in memory.

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Technical Support

Monday – Friday

9am to 5 pm EST

(440) 359 7200ext109

support@intellitronix.com

This product carries a limited Lifetime Warranty.

This warranty is limited to replacement or repair of the unit at the discretion of Intellitronix.