



# Installation Instructions

**E-Street**<sup>2</sup>  
EFI System

P/N: 3664, 3665, 3667, 36649, 36659, 36679

## **INTRODUCTION**

Thank you for selecting the Edelbrock E-Street 2 EFI system. This is a universal, throttle body style, electronic fuel injection system, intended for most V8 engines originally equipped with carburetors and intake manifolds with square-bore 4150 style flanges (does not work on Point Type Ignition systems). Engines with Q-jet or Thermoquad Style manifolds will require an adapter to run the E-Street 2 EFI system. The E-Street 2 EFI system can be paired with an exclusive tuning software, E-Tuner, which is available as a free app for most Android-based tablets and smartphones. The use of a laptop PC is not required for tuning. The E-Tuner Android app will enable real-time system performance monitoring and fine tuning adjustments. The E-Street 2 EFI system offers you the most bang for your buck, along with out-of-the-box performance from a name you can trust....Edelbrock!

**If you have any questions, do not hesitate to call our EFI Technical Support  
at: (800) 416-8628, 7am-5pm PST, Monday-Friday.**

## **E-STREET SOFTWARE UPDATES**

Edelbrock periodically releases improved versions of the E-Street E-Tuner app software. These updates can include improvements to pre-installed calibration maps, additional calibration maps and updates to the user interface to improve the overall functionality of the software. **It is recommended to check the Google Play Store or the Edelbrock website to verify that you have the most recent version of the app.**

## **IMPORTANT WARNINGS**

**Before beginning the installation, verify that all components are present in the box. Inspect each component for damage that may have occurred in transit. If any parts are missing or damaged, contact Edelbrock Technical Support at (800) 416-8628, not your parts distributor.**

**WARNING: The Edelbrock E-Street EFI system will not work on Point Type Ignition systems.**

### **CAREFULLY STUDY AND UNDERSTAND ALL INSTRUCTIONS BEFORE BEGINNING THIS INSTALLATION.**

**NOTE:** *The installation can be accomplished using common tools and procedures. However, it is highly recommended to have a solid understanding of automotive repairs and modifications, and be familiar with and comfortable working on your vehicle and your vehicle's fuel system. If you do not feel comfortable working on your vehicle, it is recommended to have the installation completed by a professional mechanic.*

**PROPER INSTALLATION IS THE RESPONSIBILITY OF THE INSTALLER. IMPROPER INSTALLATION WILL VOID ALL MANUFACTURER'S STANDARD WARRANTIES AND MAY RESULT IN POOR PERFORMANCE AND/OR DAMAGE TO THE ENGINE AND/OR VEHICLE.**

**WARNING:** *The Edelbrock E-Tuner Software is intended to be used as a hands-free tuning display gauge. Any function that requires prolonged attention should only be performed after coming to a complete stop. Distracted driving is extremely dangerous and illegal in most states. If adjustments are to be made during driving, always stop the vehicle in a safe location before performing any adjustments, or have a passenger perform the necessary adjustments. Please check with your local laws for legal mounting locations in your vehicle.*

## **02 SENSOR INSTALLATION**

It is suggested that the O2 sensor bung be installed by a professional muffler shop prior to the installation of the Edelbrock E-Street EFI system. DO NOT drive the vehicle with the O2 sensor unplugged, sensor damage will occur. An O2 sensor bung plug is provided for your convenience. Refer to Page #9 for the O2 sensor installation procedure.

## **EMISSION CONTROLS**

The Edelbrock E-Street EFI system will not accept stock emissions control systems. Check your local emissions laws for requirements before installing the E-Street EFI system. ***This system is not legal for use on pollution-controlled motor vehicles.***

## **FUEL REQUIREMENTS**

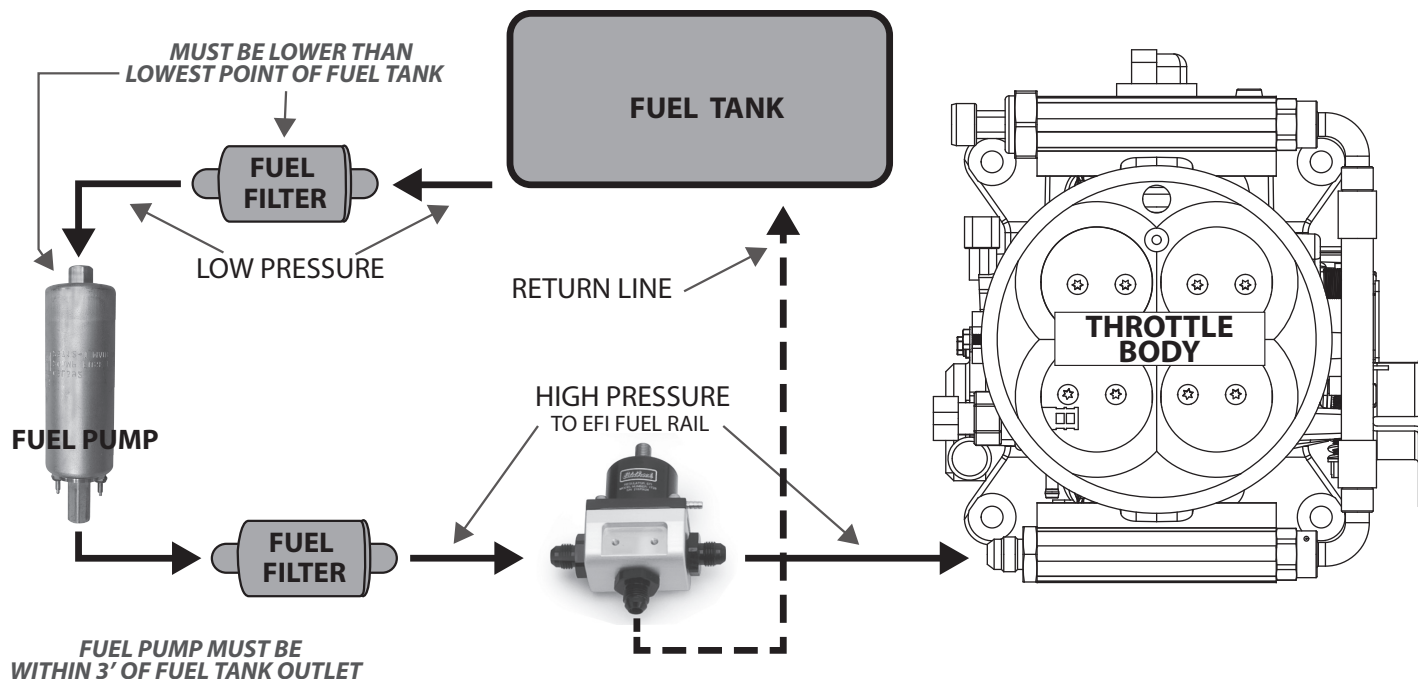
Because the E-Street EFI system uses a wideband oxygen (O2) sensor, unleaded fuel must be used at all times. **Using leaded fuels will damage the O2 sensor and void your warranty.** If leaded fuel is present in your fuel tank, the tank must be drained and filled with unleaded fuel. It is also recommended to have a full fuel tank before operating the vehicle (*after the installation*).

**NOTE:** *E85 fuels are not compatible with any E-Street EFI systems.*

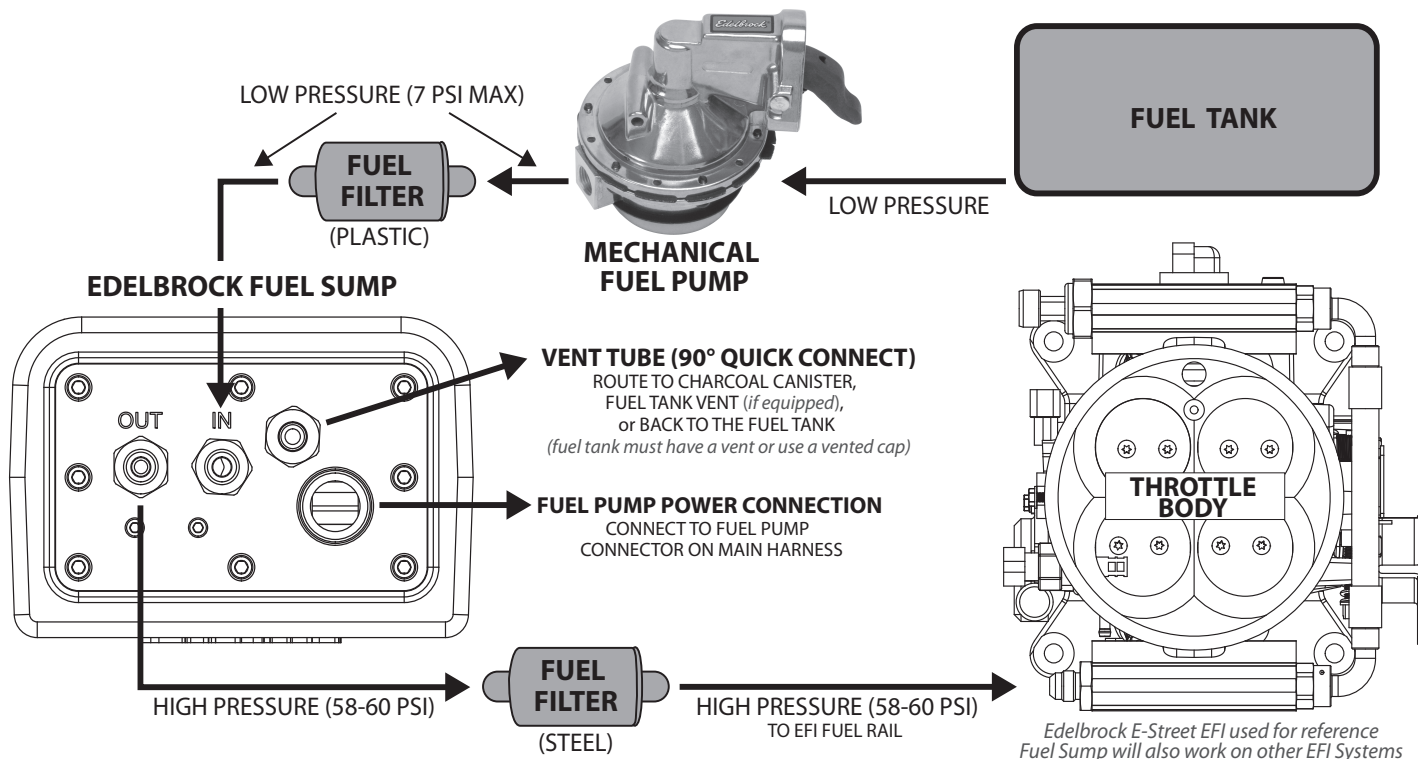
## FUEL SYSTEM REQUIREMENTS

The E-Street 2 EFI system requires a high pressure fuel system providing 58-60 psi of fuel pressure with a flow rating of 57 GPH (215 liter/hr). If you purchased a kit without a fuel system, the following recommended options are available separately.

**Part Number 3604: Return-Style Fuel System:** Can use any fuel pump with a minimum flow rating of 57 GPH (215 liter/hr). Fuel pressure must be regulated to 58-60 psi.



**Part Number 3605: Universal EFI Fuel Sump System:** Is provided with an internal high pressure fuel pump and regulator. Fuel pressure is regulated to 58-60 psi.





## **AUTOMATIC TRANSMISSION CHECK**

For best performance, economy, and emissions, the transmission kick down and shift points must be checked before and after the E-Street 2 EFI installation.

## **IGNITION SYSTEM CHECK**

Verify that all your ignition system components are operating properly. Verify ignition timing and spark advance curves have been properly set. High EMI suppression spark plug wires are necessary, do not use solid core spark plug wires. Resistor type spark plugs are necessary.

Edelbrock recommends 18° of initial timing and adjust total timing to match the engine/fuel requirements. Or keep the same total timing as carb by recurving the distributor. Set timing before starting install on non-ignition control E-Street 2 systems.

## **CHARGING SYSTEM**

The E-Street 2 EFI System requires a constant battery voltage of 12.0 volts or greater to operate properly. Recommended battery capabilities are: 1000Ca @32°F / 800Ca @0°F. The vehicle's battery must be in good operating condition capable of maintaining a proper charge at all times. Verify the vehicle's charging system is operating properly and that the system voltage maintains 12.0 volts, or greater, at all times. All chassis grounds must be tight and clean. A ground cable from the engine block to chassis should be employed. All battery cables must be in good condition providing a clean tight connection to the battery.

## **COOLING SYSTEM**

The minimum temperature requirement for the thermostat is 180°F.

## **RPM INPUT SIGNAL REQUIREMENTS**

Engine Speed Signal to the E-Street ECU is a critical requirement for proper function of this EFI system. In order for the ECU to accurately calculate engine fuel requirements, it is critical to always have a steady and clean RPM signal from your ignition system at all engine speeds. A noisy or inconsistent signal may appear on the E-Tuner app as a sudden spike in RPM signal or drop out to zero. These RPM errors can cause performance issues under any operating condition. In many cases, if a poor RPM Signal is present, the vehicle will fire initially then die. This is the number one issue with most installations when the engine won't run or operate properly. Please refer to the Tach Input Notes section on Page #12 for proper configuration of your RPM signal.

## **TOOLS AND SYSTEM REQUIREMENTS**

*Use the following checklist for items needed.*

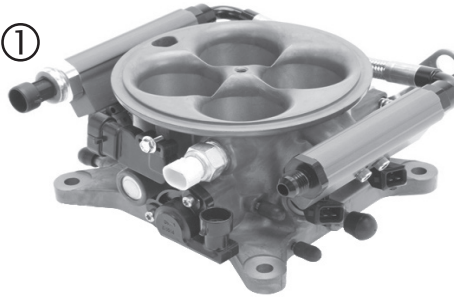
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|---|--|
| <input type="checkbox"/> Wrench / Socket Set  | <input type="checkbox"/> 180°F Thermostat  |
| <input type="checkbox"/> 7/8" Oxygen Sensor Socket or Equivalent  | <input type="checkbox"/> Resistor Type Spark Plugs ( <i>Use correct heat range for your particular application</i> )   |
| <input type="checkbox"/> Pliers (channel locks and hose clamp)  | <input type="checkbox"/> High EMI Suppression Spark Plug Wires ( <i>DO NOT use solid core spark plug wires</i> )   |
| <input type="checkbox"/> Screwdrivers (Phillips and Flathead)   | <input type="checkbox"/> EFI Fuel System ( <i>See fuel system recommendation on Page #3</i> )  |
| <input type="checkbox"/> Gasket Scraper or Equivalent   | <input type="checkbox"/> Mechanical Fuel Pump Block Off Plate ( <i>Except for vehicles running a Fuel Sump System #3605, 3606, 3607 &amp; 36052</i> )                              |
| <input type="checkbox"/> Timing light   | <input type="checkbox"/> Fuel fittings ( <i>Additional fittings may be required depending on routing preferences. Visit <a href="http://www.russell.com">www.russell.com</a></i> ) |
| <input type="checkbox"/> Shop Rags  | <input type="checkbox"/> 30 AMP Automotive Relay ( <i>If using electric fans or A/C Kick up - One relay required for each accessory</i> )  |
| <input type="checkbox"/> Edelbrock Gasgacinch #9300   |  |
| <input type="checkbox"/> Loctite 598 OEM High Temperature Silicone Gasket (02 Sensor Compatible)  |  |
| <input type="checkbox"/> Vehicle Wiring Diagram (if available)  |  |
| <input type="checkbox"/> Thread Sealer  |  |
| <input type="checkbox"/> High-Heat Anti-Seize Compound  |  |
| <input type="checkbox"/> Throttle, Cruise Control & Trans. Kick-Down Mounting Bracket ( <i>See general Edelbrock catalog if necessary</i> ) |  |

## PRIMARY KIT COMPONENTS

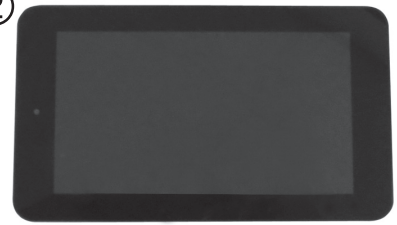
(Images are for reference only and may not represent actual components.)

| PRIMARY KIT COMPONENTS |          |      |                            |
|------------------------|----------|------|----------------------------|
| Item                   | P/N      | QTY. | Description                |
| 1                      | 22-36000 | 1    | EFI Throttle Body Assembly |
| 2                      | 37-3605  | 1    | 7" Tablet (if applicable)  |
| 3                      | 22-3664  | 1    | E-Street R1z ECU           |
| 4                      | 54-2635  | 1    | 4150 Flange TB Gasket      |
| 5                      | 37-3604  | 1    | Oxygen Sensor              |
| 6                      | 37-0110  | 1    | Bluetooth Antenna          |

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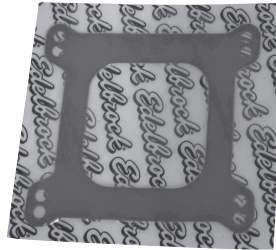
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## HARDWARE BAG #1

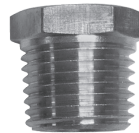
(Images are for reference only and may not represent actual components.)

| PRIMARY KIT COMPONENTS |         |      |                                |
|------------------------|---------|------|--------------------------------|
| Item                   | P/N     | QTY. | Description                    |
| 1                      | 52-9710 | 1    | Oxygen Sensor Bung             |
| 2                      | 40-3970 | 1    | 1/2" to 3/8" Pipe Reducer      |
| 3                      | 52-8097 | 1    | Oxygen Sensor Bung Plug        |
| 4                      | 31-3589 | 1    | Coolant Temperature Sensor     |
| 5                      | 36-3505 | 4    | Sheet Metal Screw              |
| 6                      | 38-0590 | 1    | Throttle Return Spring Bracket |
| 7                      | 72-1519 | 8    | Neoprene Rubber Washer         |
| 8                      | 72-1541 | 1    | Grommet, 5/16" Hole            |
| 9                      | 74-4920 | 1    | Throttle Return Spring         |

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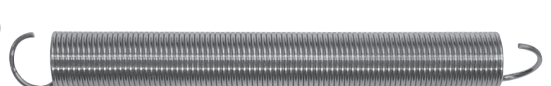
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## HARDWARE BAG #2

(Images are for reference only and may not represent actual components.)

| PRIMARY KIT COMPONENTS |          |      |                              |
|------------------------|----------|------|------------------------------|
| Item                   | P/N      | QTY. | Description                  |
| 1                      | 37-1620  | 1    | Main Engine Harness          |
| 2                      | 37-3504  | 1    | Fuel Pump Harness            |
| 3                      | 37-1621  | 1    | Tach Signal Harness          |
| 4                      | 78-2004  | 10   | 11" Tie Wraps                |
| 5                      | 37-91156 | 3    | 10" Pigtail w/ Contact Crimp |

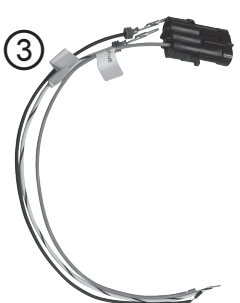
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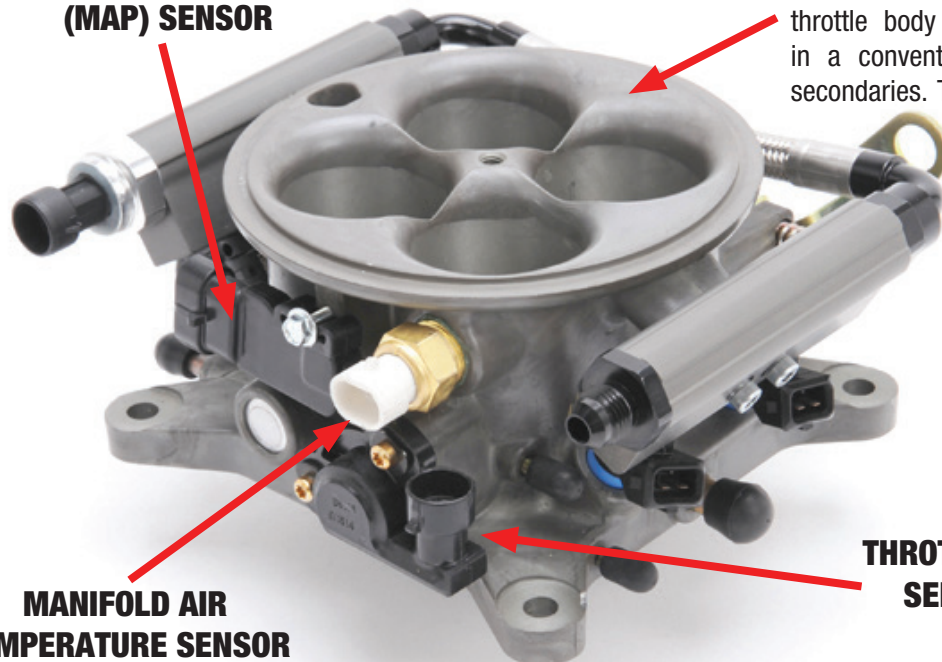
## COMPONENT LAYOUT

The Edelbrock E-Street EFI system delivers fuel and air to the engine via an induction system consisting primarily of a 4-barrel throttle body, dual fuel rails, and four fuel injectors. The induction system is fully assembled, tested, pressure checked, and flowed at the Edelbrock Factory in Torrance, California. Avoid disassembling these components if possible.

### MANIFOLD ABSOLUTE PRESSURE (MAP) SENSOR

### 4-BARREL THROTTLE BODY

The E-Street system uses a 4150 style flanged throttle body with four throttle blades arranged in a conventional 4-barrel pattern with staged secondaries. The air valve can flow up to 1000 CFM.



### MANIFOLD AIR TEMPERATURE SENSOR

### THROTTLE POSITION SENSOR (TPS)

**NOTE: ALL UNUSED VACUUM PORTS MUST BE CAPPED TO AVOID VACUUM LEAKS**

### FUEL INPUT -6 AN Male

### FUEL RAILS

The extruded aluminum fuel rail assemblies distribute the high pressure fuel to the injectors.

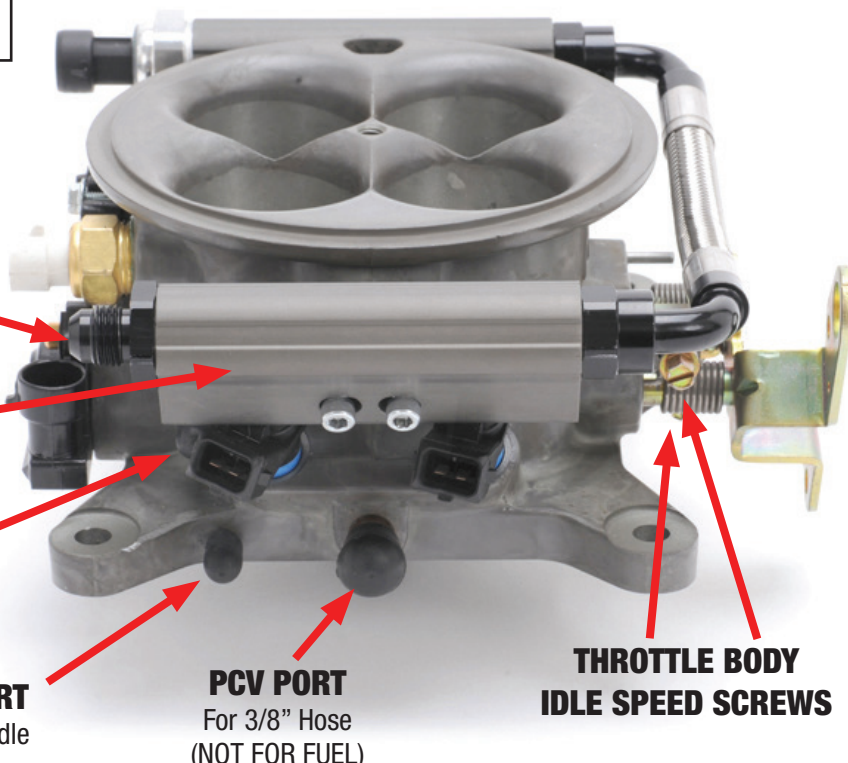
### TIMED VACUUM PORT

3/16" - Vacuum is introduced off idle

### MANIFOLD VACUUM PORT 3/16" - Vacuum is present at idle

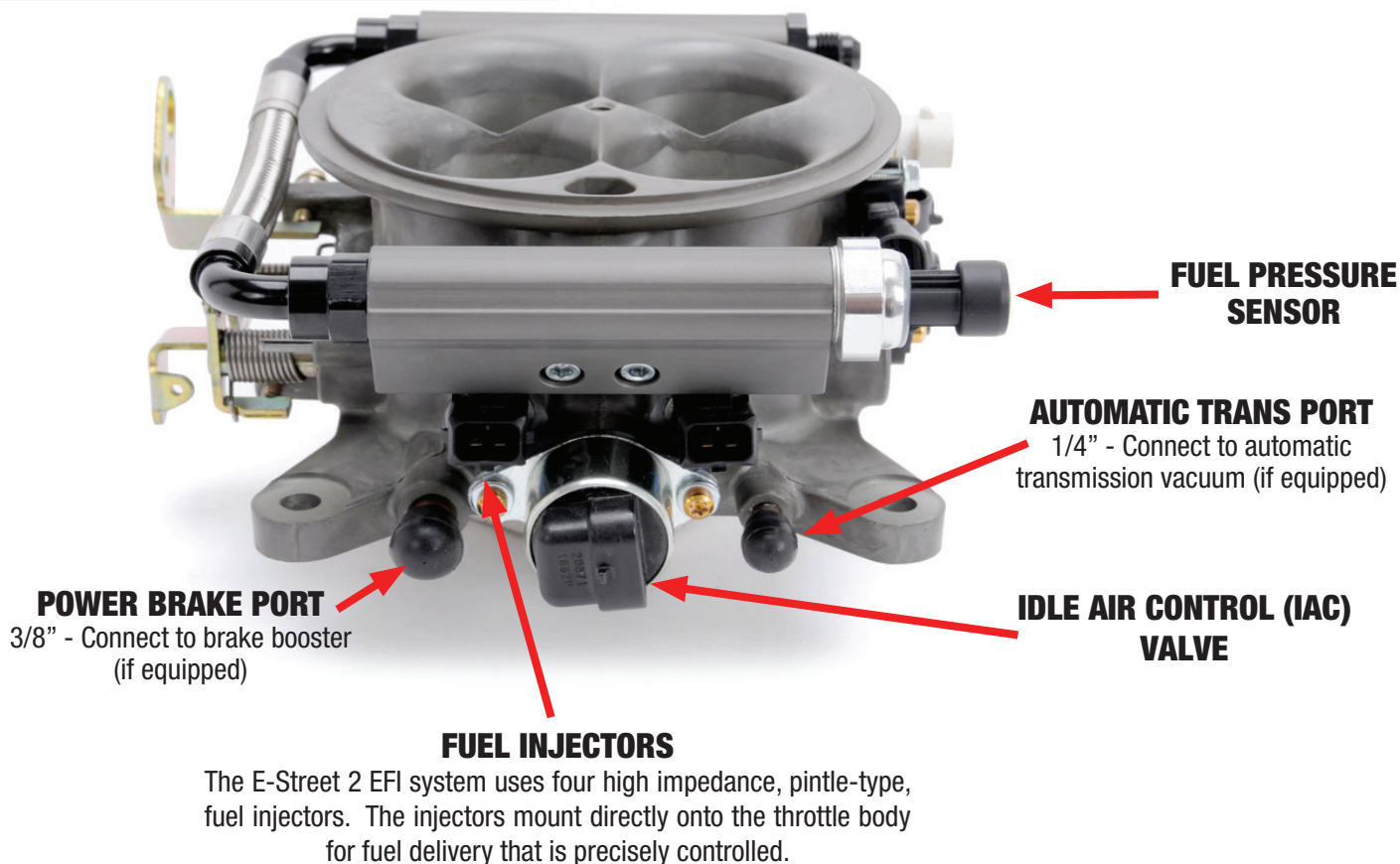
### PCV PORT For 3/8" Hose (NOT FOR FUEL)

### THROTTLE BODY IDLE SPEED SCREWS





**NOTE: ALL UNUSED VACUUM PORTS MUST BE CAPPED TO AVOID VACUUM LEAKS**



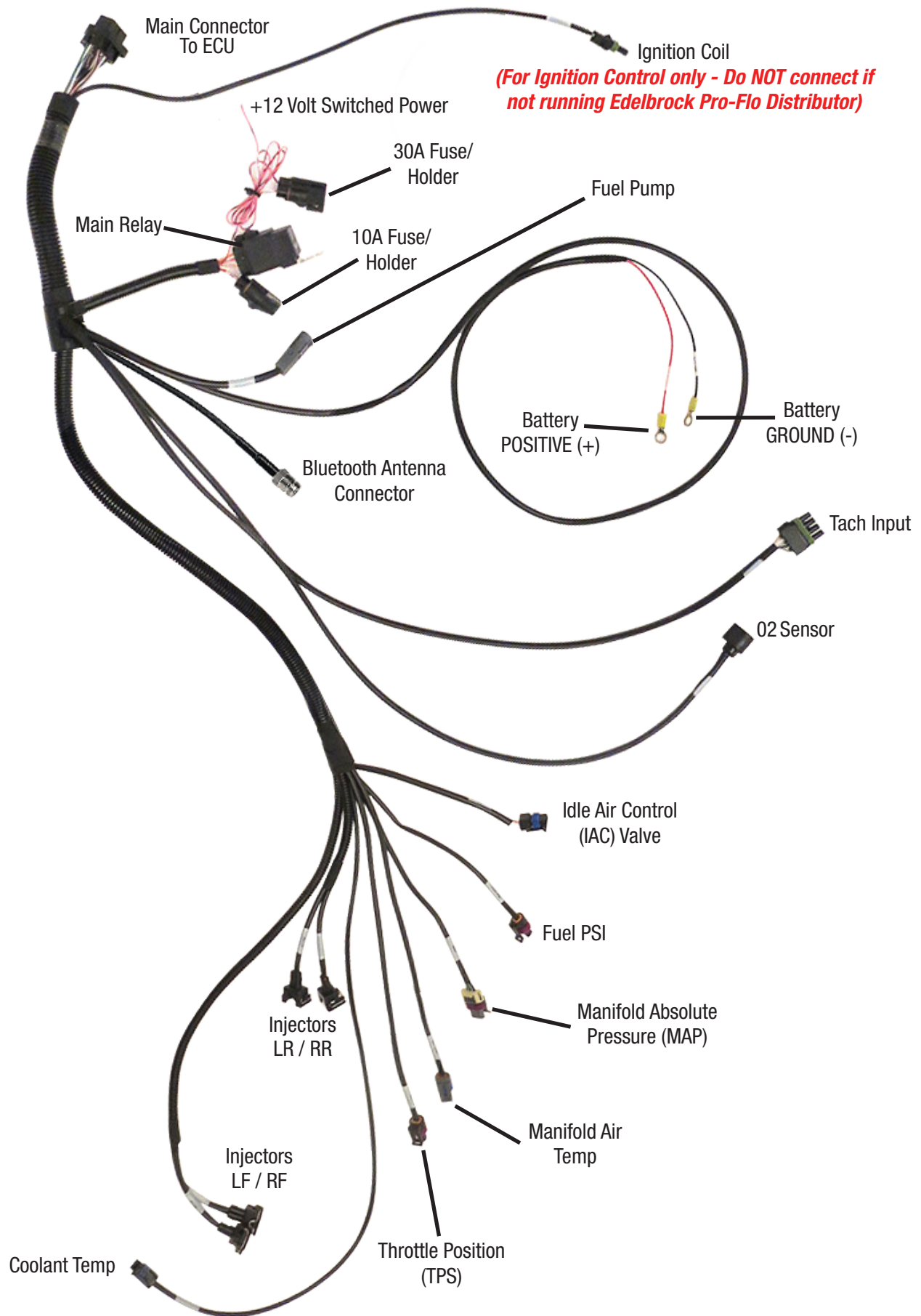
### **ELECTRONIC CONTROL UNIT / SYSTEM ECU**

The Electronic Control Unit (ECU) must be mounted away from moisture, excessive heat, and vibration. The fender well, inner fender panel towards the front driver, passenger side near the battery, or inside the vehicle on the firewall near the passenger kick panel are recommend locations.

To help prevent moisture from entering the ECU, avoid mounting the ECU with the harness connector facing up.



## MAIN HARNESS LAYOUT





## **WIDEBAND OXYGEN (O2) SENSOR INSTALLATION PROCEDURE**

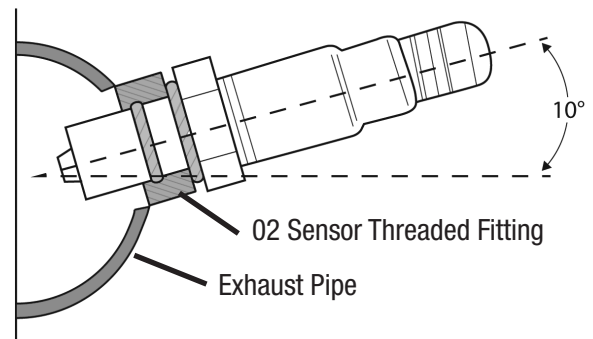
The O2 sensor must be installed in the exhaust system using the supplied O2 sensor bung from Hardware Bag #1. The O2 sensor is required as it measures the oxygen content of the exhaust gas, which is used by the ECU to manage fuel delivery under closed loop control.

**NOTE:** It is suggested that the O2 sensor bung be installed by a professional muffler shop prior to the installation of the Edelbrock E-Street 2 EFI system. DO NOT drive the vehicle with the O2 sensor unplugged as this will damage the O2 sensor. An O2 sensor bung plug is provided for your convenience.

Because of harness length constraints, it is highly recommended to install the O2 sensor and the E-Street 2 ECU on the same side of the vehicle.

**WARNING:** A properly sealed exhaust system is critical for the E-Street 2 EFI to function properly. Any air leaks in the exhaust system, upstream of the O2 sensor, will skew the O2 sensor's output resulting in improper calibration which can lead to engine damage. Improper installation of the O2 sensor and any damage that may result is not covered by any Edelbrock Warranty.

1. Verify that the header and tailpipe gaskets and flanges are in good condition. It is recommended to replace any damaged gaskets and flanges as they may cause exhaust leaks, which can lead to inaccurate Air Fuel Ratio (AFR) readings. Torque all fasteners to manufacturer's specifications to avoid any possible exhaust leaks.
  2. The O2 sensor bung must be installed in the exhaust system approximately 4-8" after the header collector and before the catalytic converter (if equipped). This location must be approximately 10° above horizontal and within reach of the O2 sensor harness connector on the E-Street main harness.
  3. Mark the drilling location on the exhaust system pipe with a permanent or paint marker. Check the proposed mounting location to ensure the clearance for the O2 sensor is adequate and that the O2 sensor connector on the main harness will reach the O2 sensor location. Make sure to take engine movement into consideration when checking for clearance.
  4. Drill a 5/8" hole at your mounting location. Deburr and clean the hole as needed.
  5. Fit the provided bung onto the hole opening. Secure the bung with a clamp and weld the bung into place.
  6. Once the installation of the bung is complete, make sure to clean the threads of the fitting to ensure it's free of debris.
- NOTE:** The O2 sensor bung uses an M18 x 1.5 thread pitch.
7. If you are ready to install the E-Street 2 EFI system, proceed to Step #9 to install your O2 sensor. Otherwise, if your E-Street 2 EFI System will be installed at a later time, temporarily install the O2 sensor bung plug supplied in the Hardware Bag #1 with a 7/8" wrench. This will allow you to drive the vehicle until the O2 sensor is installed.
  8. When you are ready to begin installation of the E-Street 2 EFI system, remove the O2 sensor bung plug.
  9. Apply a high-heat anti-seize compound (not included) to the threads of the O2 sensor and install into the bung using an 7/8" oxygen sensor socket or 7/8" wrench.
  10. Connect the O2 sensor to the O2 sensor connector on the main E-Street 2 ECU harness.



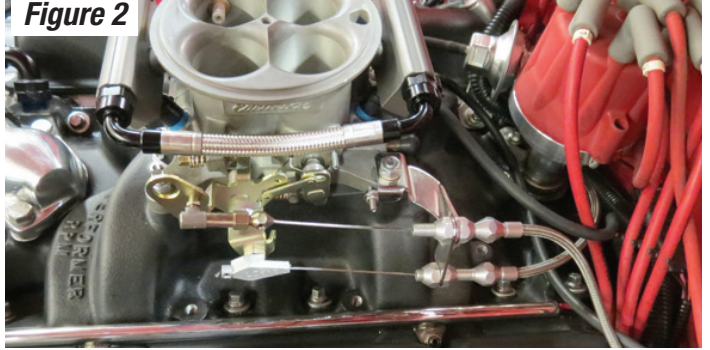
## E-STREET 2 EFI INSTALLATION

1. Remove the air cleaner, throttle linkage, vacuum and fuel lines from the factory carburetor.
2. Clean all debris from the intake manifold and unbolt the carburetor. Place shop rags inside the manifold plenum(s) to prevent debris from falling into the plenum.
3. Install the Coolant Temperature Sensor, from Hardware Bag #1, in the intake manifold coolant passage on the engine side of the thermostat. A 1/2" to 3/8" pipe reducer, in Hardware Bag #1, is supplied if needed.
4. Remove the shop rags from the intake manifold. Install the E-Street EFI throttle body, using the supplied gasket, with the throttle linkage facing the driver side of the vehicle (Figure 1). Secure the throttle body using the factory studs and nuts.

**Figure 1**



**Figure 2**



5. Attach the throttle linkage and verify it moves freely without interference (Figure 2). Any throttle linkage interference **MUST** be resolved before proceeding.

6. Find a suitable mounting location for the ECU. This should be on the same side of the vehicle as the O2 sensor. Recommended mounting locations are the fender well or inner fender panel. Be sure the O2 sensor connection reaches the main harness connector.

**NOTE:** It is recommended to mount the ECU in a location away from excess heat, vibration and possible water exposure.

7. Using the supplied rubber washers and sheet metal screws from Hardware Bag #1, mount the ECU to the desired mounting location. The rubber washers must be used in between the mounting surface and the ECU to help absorb excessive vibration.

8. Connect the E-Street main harness to the appropriate sensors and injectors on the throttle body (refer to Pages #6-8 and Figure 3 for harness diagrams, sensor locations and fuel injector orientation).

9. Find a suitable harness route in the engine compartment which leads to the ECU location. Connect the E-Street main harness to the ECU. **TIP:** For most installations, the harness fits best if routed from the throttle body back towards the firewall, across the firewall, then forward towards the ECU location.

**NOTE:** Avoid routing the harness near any ignition related components (ignition coil, distributor, spark plug wires). Also avoid routing near the headers, sharp edges, or any tight radius corners that may damage the harness.

10. Route the power and ground leads on the main harness towards the battery. Connect the RED POWER lead (+12 Volt) and the BLACK GROUND (-) lead to the appropriate battery terminals. If necessary, the power and ground leads may be extended to reach the battery. However, the use of 12 gauge wire or larger is required.

**WARNING:** All power and ground leads must connect directly to the battery.

11. Securely mount the Fuse Holders and the Main Relay in an accessible location.

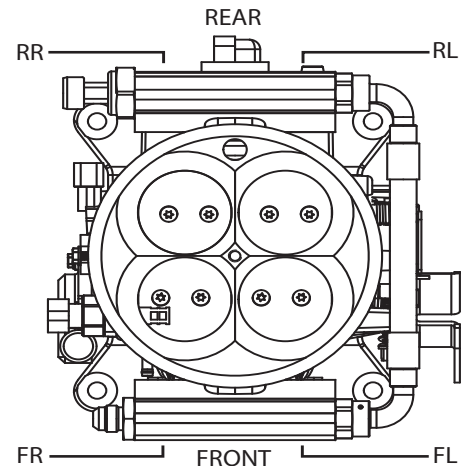
12. Connect the Pink/Black +12 Volt switched wire on the main harness to a +12 Volt switched power source that provides +12 Volts when the key is both "ON" and "CRANKING".

**NOTE:** It is critical that the switched +12 Volt is constant during cranking. This is a common issue on vehicles with no start or hard to start issues. Do not connect this to the positive side of the coil.

13. Mount the magnetic Bluetooth antenna base inside the vehicle, preferably underneath the dash and towards the center of the vehicle. Screw the antenna to the antenna base and connect the antenna cable to the main harness.

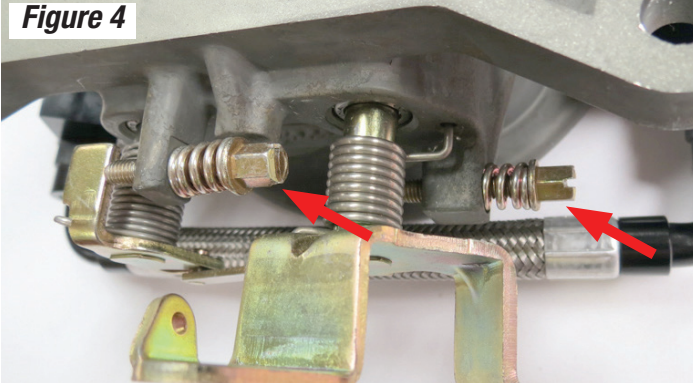
**NOTE:** It may be required to drill a 5/16" hole in the firewall to route the antenna cable to the E-Street main harness. If doing so, use the supplied grommet from hardware Bag #1 to protect the antenna cable.

**Figure 3**

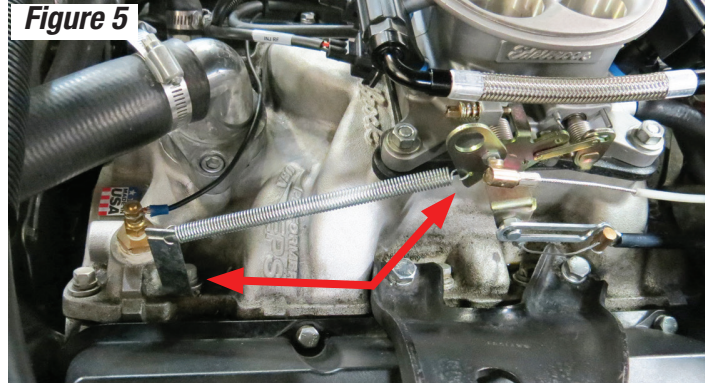


14. Secure the harness and leads with tie wraps from Hardware Bag #2. Avoid over tensioning wire ties as this may damage the harness.
15. If not already completed, remove the previously installed O2 sensor bung plug from the bung in the exhaust system, and install the O2 sensor.  
**NOTE:** Make sure to apply a high heat anti-seize compound to the threads of the O2 sensor as recommended in the O2 Sensor installation section.
16. Connect the main harness lead labeled "O2 Sensor" to the O2 sensor connector. Secure the O2 sensor lead as to avoiding contact with the exhaust pipes. Make sure to leave plenty of air space between the harness and the exhaust manifolds/headers.
17. Due to the universal nature of the E-Street 2 EFI system, it's impossible to preset the front and rear throttle blades to best fit all the different possible idle characteristics of engine and cam size combination. To help the engine idle during initial startup, it is recommended to adjust both throttle screws evenly using the following recommendations (Figure 4). **NOTE:** To produce the best idle, the front and rear throttle blades **MUST** be opened the same amount.
  - Street/Stock Cam (210° or Less): Turn (clockwise) the throttle screws 1/2 turn from the current factory setting.
  - Mild Cam (210° or 230°): Turn (clockwise) the throttle screws 1 additional turn from the current factory setting.
  - Race Cam (230° or Greater): Turn (clockwise) the throttle screws 1.5 turns from the current factory setting.
18. Install the throttle return spring and bracket from Hardware Bag #1. Manifold bolt locations are ideal mounting points (Figure 5).

**Figure 4**



**Figure 5**



19. If you are **NOT** running Ignition Control (separate Ignition Control components are required), refer to the "Tach Signal Input Setup" at this time to properly configure your tach single input. Once your tach single input is configured, proceed with Step 20.  
**NOTE:** If you **ARE** running Ignition Control (sold separately), refer to the Ignition Control installation instructions to properly install the Pro-Flo distributor included with the Ignition Control Kit and to configure your tach signal input. Once complete, return to this manual and continue with Step 20.
20. INSTALL THE FUEL DELIVERY SYSTEM. Please refer to the fuel system's installation instructions then return to this manual and continue to Step 21.
21. Once the E-Street 2 EFI System and the fuel delivery system have been installed, continue to the Quick Reference Guide to setup the Edelbrock E-Tuner Setup Wizard to complete your installation.
22. If you are supplying your own tablet or smartphone, you can download the Edelbrock E-Tuner app on the Google Play Store. Just search for Edelbrock E-Tuner and download the app like any other Android app.

**WARNING: DO NOT START OR DRIVE THE VEHICLE UNTIL PROMPTED TO DO SO BY THE E-TUNER SETUP WIZARD. A PROPER BASE MAP CALIBRATION MUST BE LOADED TO THE E-STREET ECU BEFORE STARTING THE VEHICLE. REFER TO THE QUICK START GUIDE TO PROPERLY LOAD A BASE MAP INTO YOUR E-STREET ECU.**

- |  |  |
|--|--|
| <input type="checkbox"/> Is the battery fully charged?                     | <input type="checkbox"/> Is the gas tank filled with unleaded fuel and full?     |
| <input type="checkbox"/> Has the battery been reconnected?                 | <input type="checkbox"/> Has the exhaust system been checked for leaks?          |
| <input type="checkbox"/> Are all linkages connected and properly adjusted? | <input type="checkbox"/> Is the O2 sensor installed and connected?               |
| <input type="checkbox"/> Has wide open throttle been verified?             | <input type="checkbox"/> Have resistor type spark plugs been installed?          |
| <input type="checkbox"/> Are all wiring harness connectors connected?      | <input type="checkbox"/> Have Noise Suppression spark plug wires been installed? |
| <input type="checkbox"/> Has the supplemental fuel system been installed?  | <input type="checkbox"/> Is the Android device fully charged?                    |
| <input type="checkbox"/> Has the fuel system been checked for leaks?       |  |



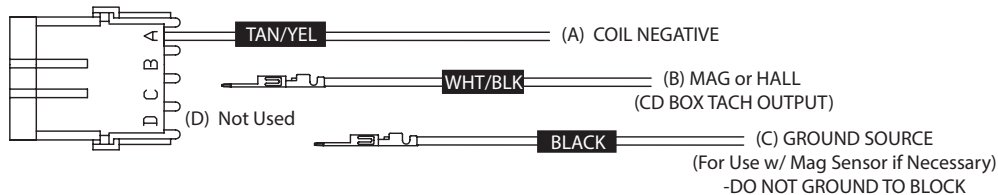
## **TACH SIGNAL INPUT SETUP**

**WARNING:** *Tach Signal Input Setup is not necessary if running Ignition Control (see Ignition Control section on the following page). Skip this section and refer to the Ignition Control installation instructions included with your Ignition Control Kit.*

Engine speed input is a key component in calculating injection time in any fuel injection system. If you are not running the E-Street Ignition Control kit, an alternate source for engine speed must be provided. A poor source for engine speed reference can severely effect the performance of your E-Street 2 EFI system. Please read the **Tach Input Signal Warnings** at the bottom of this page.

The Tach Input harness connector must be configured using the provided connector and leads. **Only one of the following source configurations is required.**

### **TACH INPUT CONNECTOR DIAGRAM**



### **TACH INPUT CONNECTOR SOURCES OPTIONS**

**Option 1 - Pin A - NEGATIVE SIDE OF COIL (non CDI Ignition)** With standard inductive ignitions, the negative post on the coil can be used as a RPM Trigger Input Source. If using the Negative Side of the coil as an RPM Trigger Input, use only the Tan/Yel lead provided in Pin A of the tach input connector. This is the only wire used and connects to the negative side of the coil. **DO NOT USE THIS SOURCE IF RUNNING A CDI BOX OR ANY TYPE OF IGNITION AMPLIFIER, ECU WILL BE DAMAGED.**

**Option 2 - Pin B - CDI BOX IGNITION Hall type signal input.** If using a Capacitive Ignition Box (CDI) or any type of ignition amplifier with a designated hall type tach output signal, remove the Tan/Yel wire and insert only the Wht/Blk wire into Pin B. The Wht/Blk wire is the only wire used; it connects to the Tach Output pin or wire on a CDI Box. **NEVER CONNECT PIN B TO THE NEGATIVE SIDE OF COIL WHEN RUNNING A CDI BOX OR ANY AMPLIFIED IGNITION, ECU WILL BE DAMAGED. DO NOT CONNECT TACH PIN ON HEI TO PIN B, ECU WILL BE DAMAGED.**

**Option 3 - Pin B - DESIGNATED HALL TYPE TACH SIGNAL OR TACH ADAPTERS.** The Tach output pin on HEI Distributors and some other ignition systems tach sources are very dirty and cannot provide a clean tach signal to the ECU. In these situations a replacement HEI Module MSD part #83647 or tach adapter with Hall type output signal is recommended. The Hall type Signal output from either of these sources would connect to Pin B on the tach input connector. On MSD distributors this is usually a grey wire and is provided on some Ready to Run distributors also. **DO NOT CONNECT TACH PIN ON HEI TO PIN B, ECU WILL BE DAMAGED.**

**Pin C Ground** - Pin C is provided for a ground source if necessary for some tach adapters and Mag or Hall type sensors. Do NOT ground to the block.

**Pin D** - Not used.

### **TACH INPUT SIGNAL WARNINGS:**

- The TACH pin on most HEI distributors does not provide a clean tach signal. Never connect the HEI TACH pin to Pin B on the tach input connector or damage may occur. An MSD replacement module with a Hall Effect type output is recommended.
- Never connect the negative side of the coil to the tach input connector when using a CDI Box or any type of amplified ignition.
- Some aftermarket ignition systems have a feature that indicates the rev limiter setting on the tachometer when key ON power is activated. This indication is achieved by briefly cycling the ignition output. This brief cycling inadvertently pulses the injectors causing an overly rich or flooding condition. If your ignition system has this feature please review the ignition system's installation instructions to disable this function.
- If your vehicle starts initially then stalls, has a bad high speed misfire or exhibits unrelated spikes in RPM signal on the E-Tuner app at idle, there is a good chance you have a poor tach input signal.
- You cannot use solid core (typically copper) spark plug wires with this product. Solid core wires do not suppress electromagnetic interference (EMI) which will interfere with electronics in this product. A suppression style or spiral wound spark plug wires and resistor type plugs must be used.
- Either of the Pin B options are the most reliable options.
- **90% of poor performance issues are related to insufficient tach inputs.**

## **IGNITION CONTROL (SOLD SEPARATELY)**

The Edelbrock Ignition Control Kit includes all the necessary components to upgrade your E-Street 2 EFI System to enable Ignition Control. The kit includes a specific EFI distributor that must be used in conjunction with the E-Street 2 EFI when running Ignition Control. The Ignition Control upgrade has the ability to direct drive an ignition coil without the use of a CDI (Capacitive Discharge Ignition) box such as an MSD 6AL. The Ignition Control feature enables complete control of the ignition curve without the need to disassemble the distributor. This feature helps provide a smoother idle, improved acceleration, and the ability to tune for better fuel economy. Ignition Control is an optional feature (sold separately) and is NOT required for the E-Street 2 EFI to function properly. Although the Ignition Control does not require the use of a CDI box, the use of one is highly recommended on medium to high-performance applications.

The Ignition Control Kits are available through your parts distributor and contain all the necessary components to adapt ignition control to your E-Street 2 EFI system. Please visit [www.edelbrock.com](http://www.edelbrock.com) or call our Tech Hotline at 800-416-8628 for more details.

| Part Number | Description  |
|-------------|--|
| 3674        | Ignition Control Kit, Small and Big Block Chevy        |
| 3675        | Ignition Control Kit, Small Block Ford, 289-302 c.i.d. |
| 3676        | Ignition Control Kit, Small Block Ford, 351W           |
| 3679        | Ignition Control Kit, 1967-69 AMC, 343-390 c.i.d.      |

## **FAN & A/C TRIGGER NOTES**

Three pigtail leads are provided in Hardware Bag #2 to trigger the electric fan(s) and A/C kick up, if so equipped. The Fan trigger outputs from the ECU are low current switched GROUNDs that require a 30 AMP Automotive Relay (not included) for each output.

The Air Conditioner Switch Input signal to the ECU (Pin #7) from the vehicles A/C system must be a switched ground signal. In most applications this requires the use of a relay.

Installation instructions and diagrams are provided on the following page. A pinout diagram is available on the Main Harness Schematic section, Page #18.

**NOTE: DO NOT connect E-Street ECU fan outputs directly to fan motors. DO NOT connect A/C compressor clutch switch directly to the E-Street ECU. DAMAGE TO ECU WILL OCCUR.**

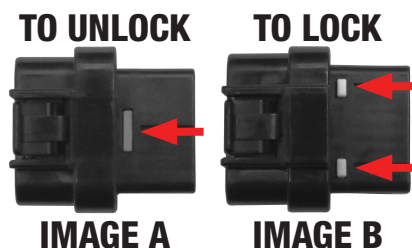
## **FAN & A/C TRIGGER INSTALLATION**

The diagrams provided on Page #14 are to assist in the connection of the programmable switched trigger outputs for electric fans and AC kick up using the provide pigtails (*not pre-installed*). The E-Street 2 EFI uses low voltage switched ground outputs for electric fan triggers and a switched ground AC kick up input. These triggers are controlled by the ECU using parameters defined in the E-Tuner software. The pinouts for the fan outputs are: Pinout 29 - Fan #1 and Pinout 30 - Fan #2 (*See Pinout Diagram on Main Harness Schematic*). The AC kick up trigger, Pinout 7, is a ground input used to bump the idle when the AC is switched on. The Fan trigger(s) and AC kick up trigger must be used in conjunction with a 30 AMP automotive relay (*not included*). Each accessory trigger will require its own 30 AMP automotive relay.

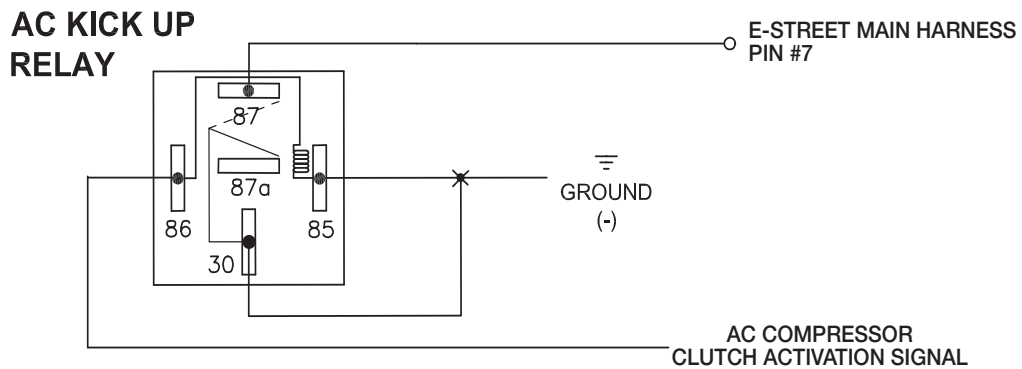
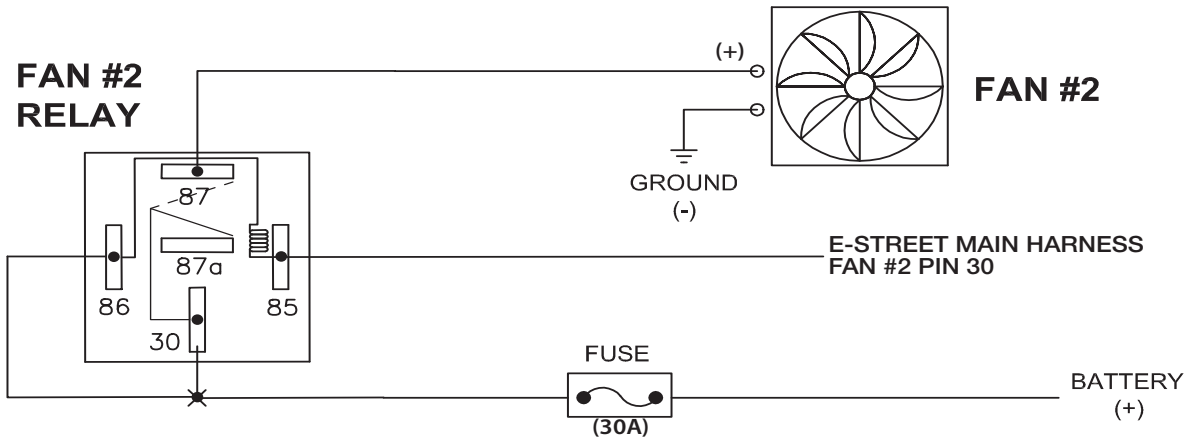
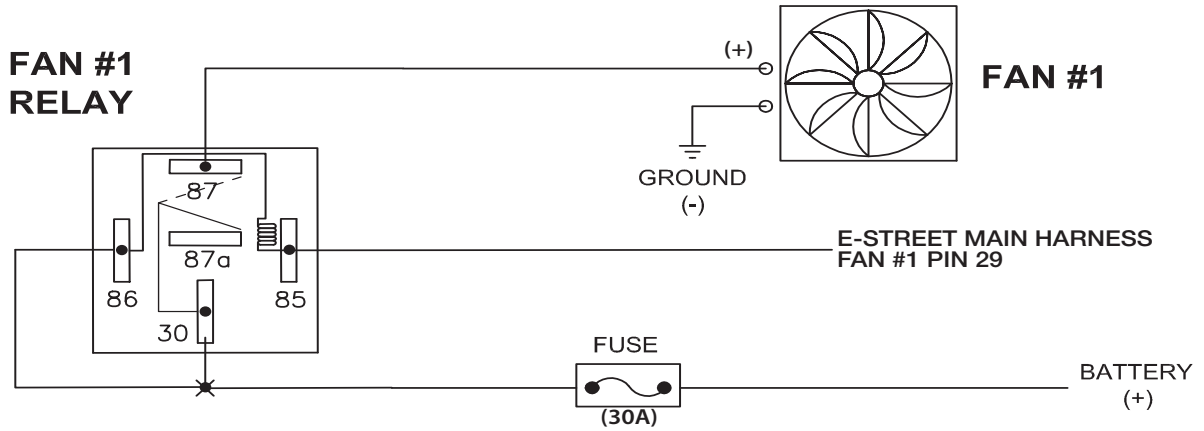
**NOTE: Auxiliary Outputs are rated at 1.5 AMP max and must be configured to activate with a relay (not included). DO NOT connect ECU fan outputs directly to the fans. DO NOT connect AC compressor clutch switch directly to the E-Street ECU.**

## **PIGTAIL INSTALLATION**

To install the provided pigtails, use a small flathead screwdriver to push in the large locking tab (Image A). Remove the white cavity plug. Insert the pigtail(s) to the appropriate pinout(s), on the harness side of the connector, until the pigtail is fully seated. When complete, push down on the two small tabs to re-lock the locking tab (Image B).



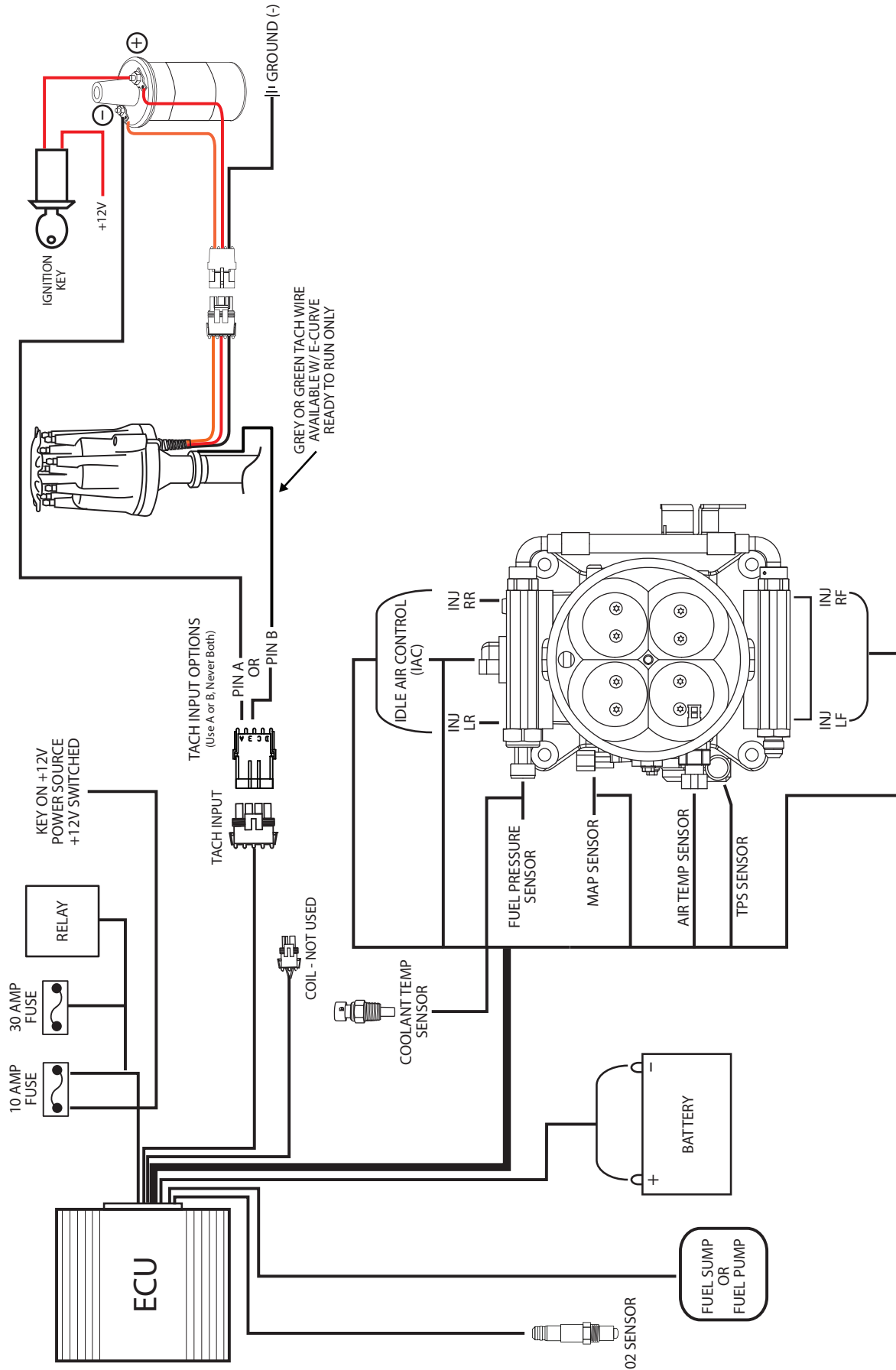
## FAN & A/C TRIGGER DIAGRAM





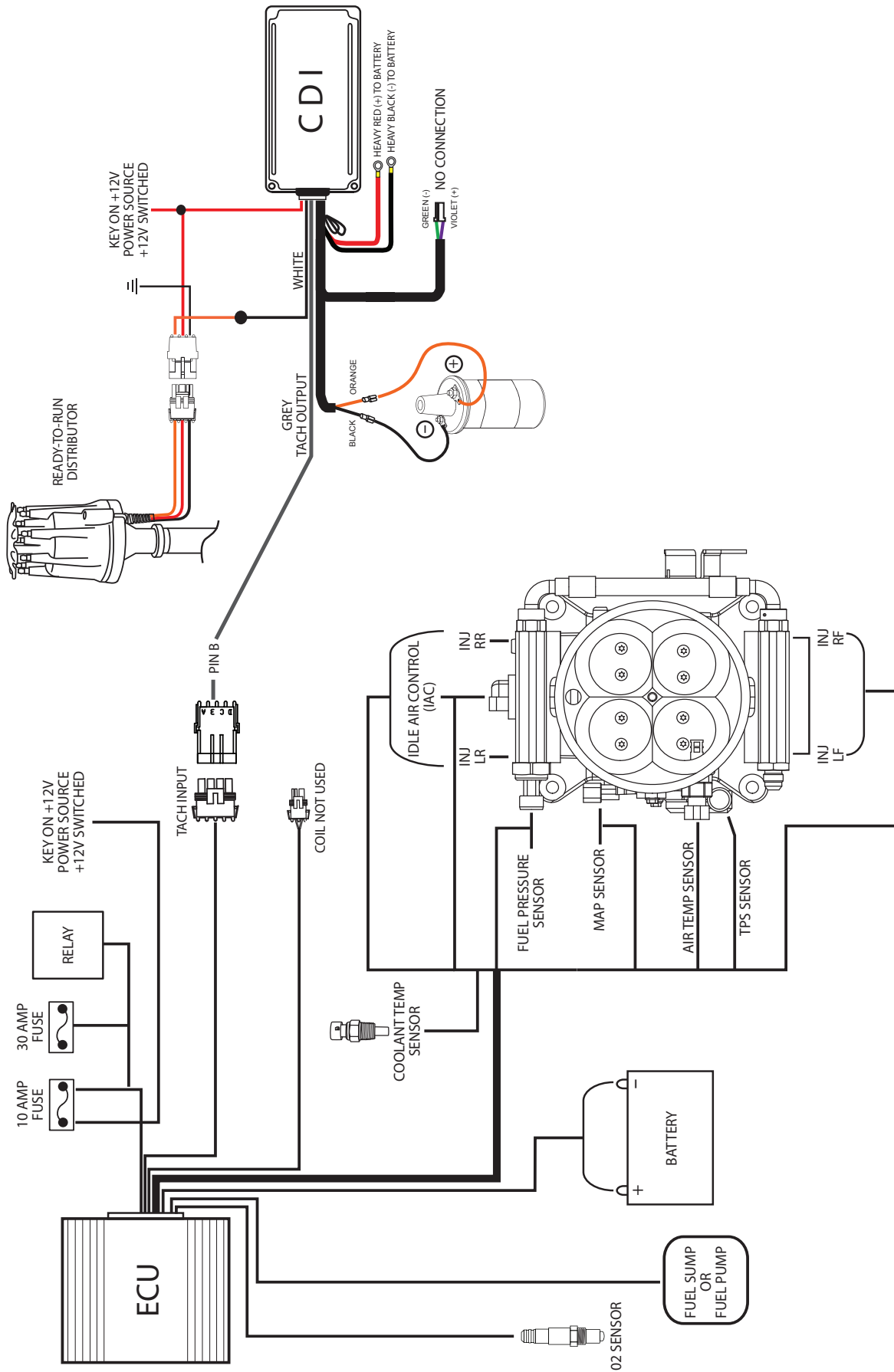
## WIRING w/ READY TO RUN DISTRIBUTOR

(No Ignition Control)



## WIRING w/ READY TO RUN DISTRIBUTOR & CDI BOX

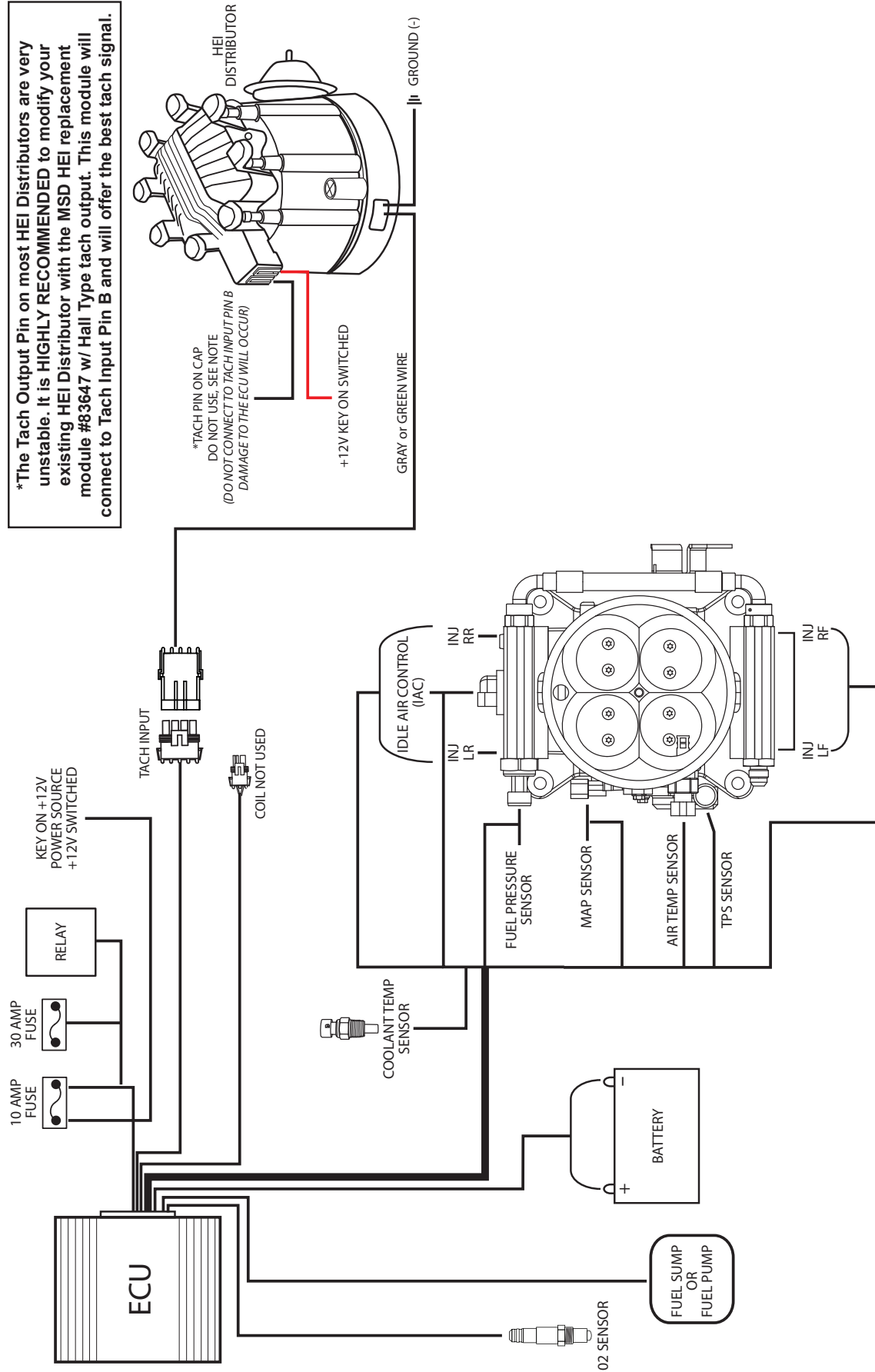
(No Ignition Control)



## WIRING w/ HEI DISTRIBUTOR

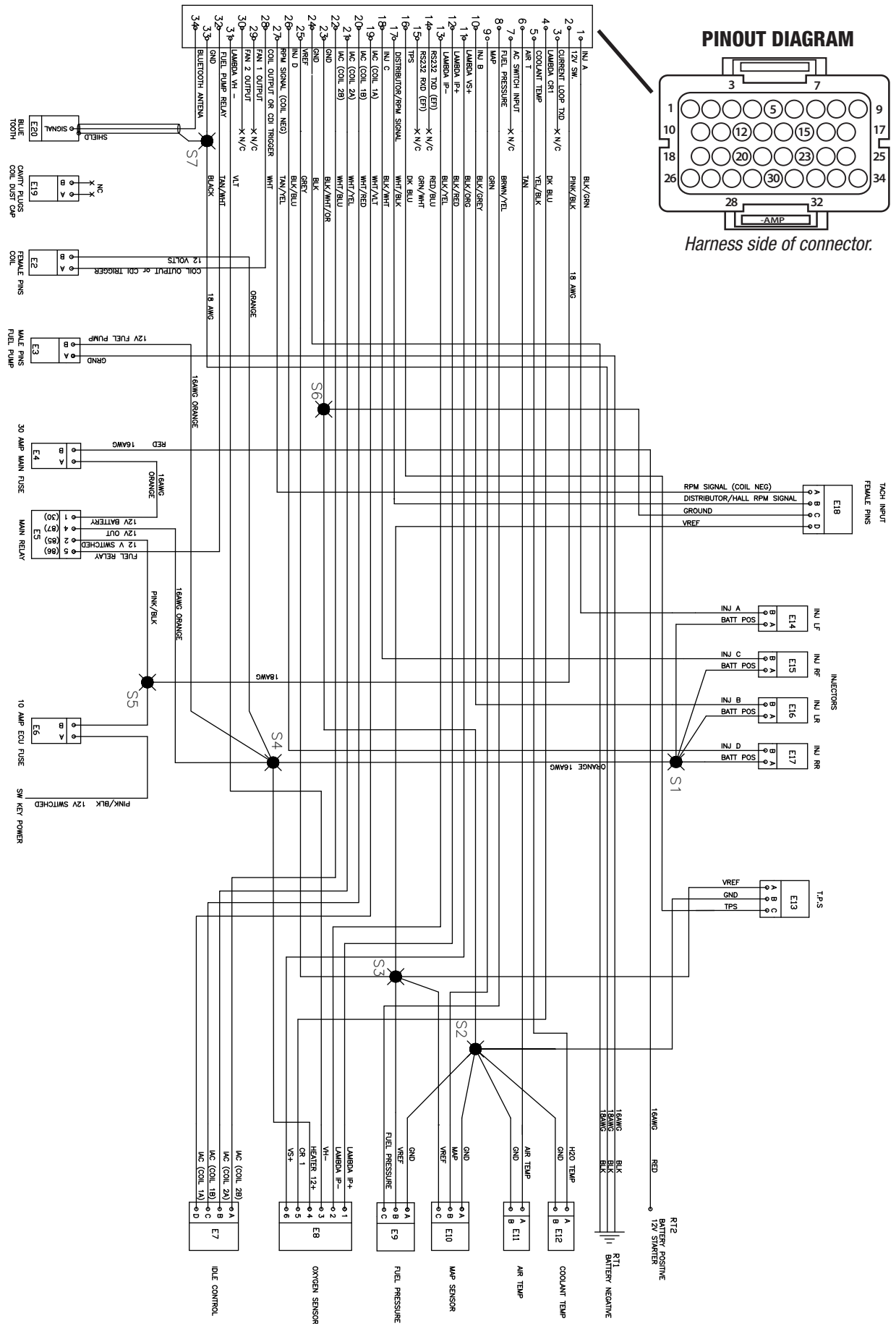
(No Ignition Control)

\*The Tach Output Pin on most HEI Distributors are very unstable. It is HIGHLY RECOMMENDED to modify your existing HEI Distributor with the MSD HEI replacement module #83647 w/ Hall Type tach output. This module will connect to Tach Input Pin B and will offer the best tach signal.





## MAIN HARNESS SCHEMATIC



## **E-STREET 2 EFI VACUUM CHART**

| <b>CAL. I.D</b> | <b>FUEL SYSTEM TYPE</b> | <b>CUBIC INCHES RANGE</b> | <b>CATEGORY</b> | <b>CAMSHAFT DURATION @ 0.050 LIFT</b> | <b>GAUGE PRESSURE IDLE VACUUM</b> | <b>IDLE SPEED</b> |
|-----------------|-------------------------|---------------------------|-----------------|---------------------------------------|-----------------------------------|-------------------|
| 35093V2I        | RETURN/SUMP 58 PSI      | 281-327                   | STOCK           | 210 OR LESS                           | 19.0 - 15.0                       | 650               |
| 35096V2I        | RETURN/SUMP 58 PSI      | 281-327                   | MILD            | 210 TO 230 DEG.                       | 17.5 - 16.5                       | 750               |
| 35099V2I        | RETURN/SUMP 58 PSI      | 281-327                   | RACE            | 210 OR LESS                           | 19.0 - 15.0                       | 850               |
| 36002V2I        | RETURN/SUMP 58 PSI      | 328-374                   | STOCK           | 210 OR LESS                           | 19.0 - 15.0                       | 650               |
| 36005V2I        | RETURN/SUMP 58 PSI      | 328-374                   | MILD            | 210 TO 230 DEG.                       | 17.5 - 15.0                       | 750               |
| 36008V2I        | RETURN/SUMP 58 PSI      | 328-374                   | RACE            | 230 OR GREATER                        | 11.0 - 10.0                       | 850               |
| 36011V2I        | RETURN/SUMP 58 PSI      | 375-400                   | STOCK           | 210 OR LESS                           | 20.0 - 18.0                       | 650               |
| 36014V2I        | RETURN/SUMP 58 PSI      | 375-400                   | MILD            | 210 TO 230 DEG.                       | 15.0 - 12.0                       | 750               |
| 36017V2I        | RETURN/SUMP 58 PSI      | 375-400                   | RACE            | 230 OR GREATER                        | 11.5 - 8.50                       | 850               |
| 36020V2I        | RETURN/SUMP 58 PSI      | 401-454                   | STOCK           | 210 OR LESS                           | 17.0 - 15.0                       | 650               |
| 36023V2I        | RETURN/SUMP 58 PSI      | 401-454                   | MILD            | 210 TO 230 DEG.                       | 14.0 - 12.0                       | 750               |
| 36024V2I        | RETURN/SUMP 58 PSI      | 401-454                   | RACE            | 230 OR GREATER                        | 11.0 - 9.0                        | 850               |
| 36025V2I        | RETURN/SUMP 58 PSI      | 455-502                   | RACE            | 230 OR GREATER                        | 11.0 - 9.0                        | 850               |

## **WARRANTY**

Edelbrock warrants the Edelbrock E-Street 2 EFI system to be free from defects in both workmanship and materials for a period of one year from date of purchase, provided that the product is properly installed and subjected to normal use and service, is not used for racing or competition purposes and that the product is not modified or altered in any way unless specified by our instructions. Our warranty service and repair facility is located at 2700 California Street, Torrance, CA 90503. Customers requiring warranty assistance should contact the dealer from whom they purchased the product. In turn, the dealer will contact Edelbrock, and we will determine the method of satisfying the warranty. Should Edelbrock determine that the product needs to be returned to the factory, it should be accompanied by proof of purchase and a clear description of the exact problem. The product must be returned freight pre-paid. If a thorough inspection of the product by the factory indicates defects in workmanship or material, our sole obligation shall be to repair or replace the product. This warranty covers only the product itself and not the cost of installation or removal.

**EDELbrock LLC SHALL NOT BE LIABLE FOR ANY AND ALL CONSEQUENTIAL DAMAGES OCCASIONED BY THE BREACH OF ANY WRITTEN OR IMPLIED WARRANTY PERTAINING TO THIS SALE, IN EXCESS OF THE PURCHASE PRICE OF THE PRODUCT SOLD.**

If you have any questions regarding this product or installation, please contact our Technical Department from 7:00 am - 5:00 pm, Pacific Standard Time, Monday through Friday at: 800-416-8628.



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