

1986-95 Mustang Holley Terminator X Idle Air Control Motor Upgrade



Note: These instructions are intended for both existing setups requiring an upgrade and fresh builds looking to incorporate this upgraded system from the start.

Note: For easier access on 1986-93 Mustangs, it is highly recommended to remove the passenger seat and the blower box when routing the wiring harness through the firewall grommet on vehicles equipped with a Holley ECU mounted beneath the front passenger seat.

Note: Disconnect the negative battery cable and verify that the vehicle's electrical system is completely de-energized before proceeding.

Installation Steps -

- 1.) Disconnect and remove any existing Idle Air Control (IAC) motor assembly from the vehicle.
- 2.) Install the provided Idle Air Control (IAC) motor assembly onto the vehicle using the supplied gasket and hardware. Tighten the mounting hardware evenly to 89 in-lbs (10 N·m). (Figure 1.1)
- 3.) With the passenger seat removed and the blower box out of the way, begin routing the supplied wiring harness through the vehicle. Route the harness until it reaches the proper location to connect to the Idle Air Control (IAC) motor assembly. Ensure the harness is routed away from moving components, sharp edges, and heat sources. Once the harness is properly routed, connect it to the Idle Air Control (IAC) motor assembly. (Figure 1.1, 1.2)
- 4.) Move over to the J1B connector on the Holley wiring harness (the smaller of the two connectors attached to the Holley Terminator X ECU). Identify pin locations 1, 2, 8, and 9, then remove the clear cavity plugs from these pin locations. (Figure 1.3, 1.4)
- 5.) The J1B connector is equipped with a terminal locking tab. Using a small flat-blade screwdriver, gently push the longer white locking tab inward just enough to unlock the terminal retention mechanism. Do not apply excessive force, as the locking tab only needs to move slightly to release the terminals.

- 6.) Insert the terminal on the **green** wire (**A**) into pin location **8** of the J1B connector.
 - 7.) Insert the terminal on the **blue** wire (**B**) into pin location **9** of the J1B connector.
 - 8.) Insert the terminal on the **red** wire (**C**) into pin location **1** of the J1B connector.
 - 9.) Insert the terminal on the **black** wire (**D**) into pin location **2** of the J1B connector.
 - 10.) Using a small flat-blade screwdriver, gently push the two white locking tabs inward just enough to engage the terminal retention mechanism. Do not apply excessive force, as the locking tabs only need to move slightly to lock the terminals into place. Once the locking tabs are engaged, gently tug on each inserted wire to verify that the terminals are securely locked in the connector. **Note: Gently tug on other wires in this connector to ensure they did not slip loose while installing the IAC wires.** Reconnect the J1B connector to the Holley Terminator X ECU, ensuring it is fully seated and the locking mechanism is securely engaged.
- Note:** At this time, reconnect the negative battery cable to the vehicle. Turn the ignition key to the ON position without starting the engine. Connect a laptop with the Holley software installed to the Holley Terminator X ECU to begin the calibration and setup process.

Programming Steps -

- 1.) Once connected and online in the Holley software, select the Idle icon, then navigate to the Idle Settings tab. (Figure 1.5)
- 2.) In the Idle Settings Menu, locate the IAC Control section. Change the Advance Idle Control setting to GM LSx/LTx DBW. (Figure 1.5) **Note:** The optimal setting may vary from vehicle to vehicle depending on the vehicle's tune and combination of modifications. We understand that the Fox Body Mustang does not utilize a drive-by-wire (DBW) throttle system. However, during installation and testing on our vehicle, we found that the GM LSx/LTx DBW setting provided better idle recovery. When using the GM LSx setting, the engine would occasionally stall after a quick rev as engine speed returned to idle.

Because each vehicle and calibration is different, results may vary depending on the engine combination, modifications, and tune. We recommend testing both the GM LSx/LTx DBW and GM LSx settings and selecting the option that provides the best idle quality and overall operation for your specific application.

- 3.) Select IAC Type and change the setting to Stepper. (Figure 1.5)
- 4.) Save the calibration file, then cycle the ignition OFF and back ON. Start the engine and verify proper Idle Air Control (IAC) system operation. Confirm that the vehicle idles correctly and that all functions operate as intended. (Figure 1.5)

Note: The Holley system may prompt you to perform a Throttle Position Sensor (TPS) Autoset reset if the engine does not start immediately after installation.

TPS Autoset Reset Steps -

- 1.) Cycle the ignition key to the OFF position, then back to the ON position.
- 2.) Navigate to the Sync to ECU drop-down menu. (Figure 1.6)
- 3.) Select TPS AutoSet from the Sync to ECU drop-down menu. If prompted, cycle the ignition key to the OFF position, then back to the ON position to begin the procedure. (Figure 1.7)
- 4.) Click ok, If prompted click start when the ignition is on and engine is not started. (Figure 1.8)
- 5.) Slowly depress the accelerator pedal until it reaches the floor, then slowly release it. Repeat this procedure one additional time for a total of two complete pedal cycles. (Figure 1.9)
- 6.) Once the procedure is complete, click Done. The TPS AutoSet reset is now complete. (Figure 2.0)

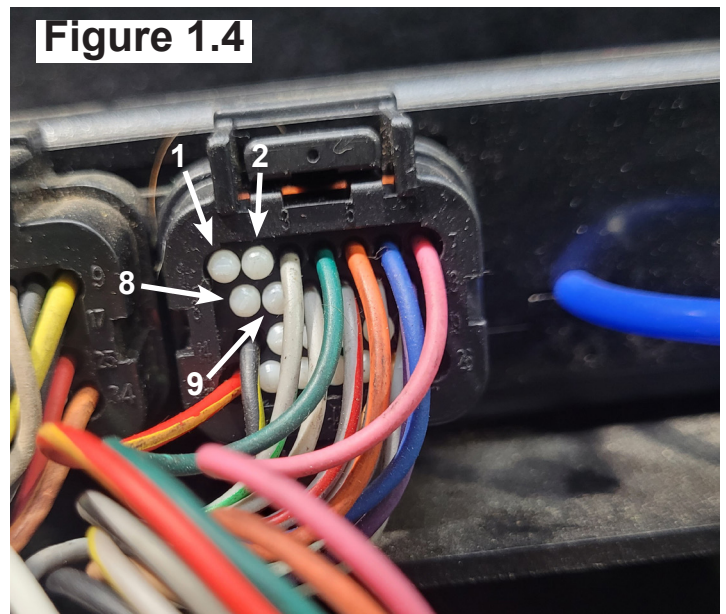
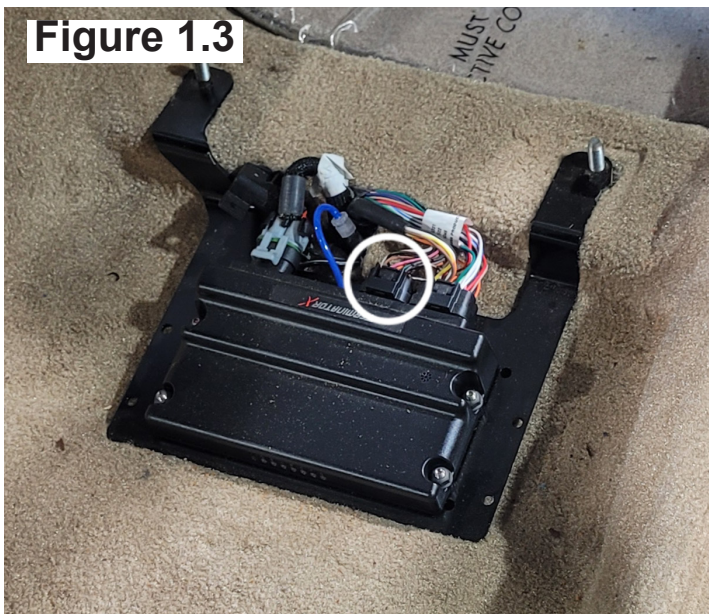
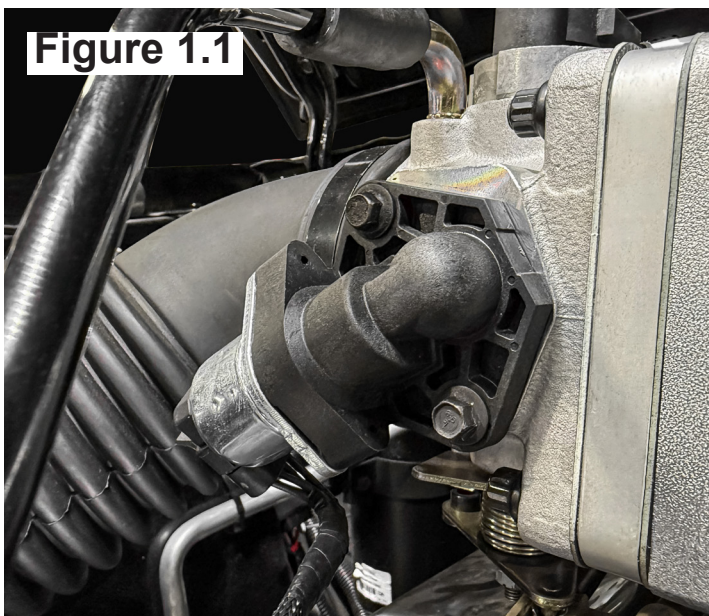


Figure 1.5

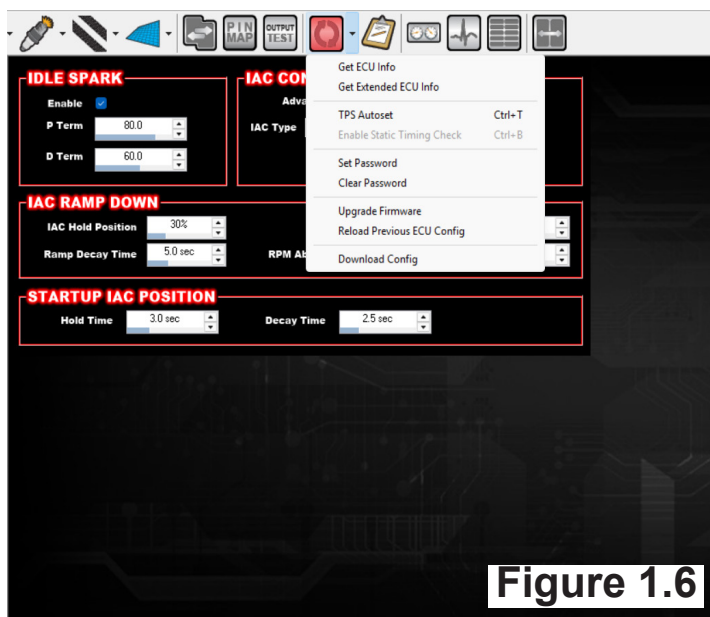
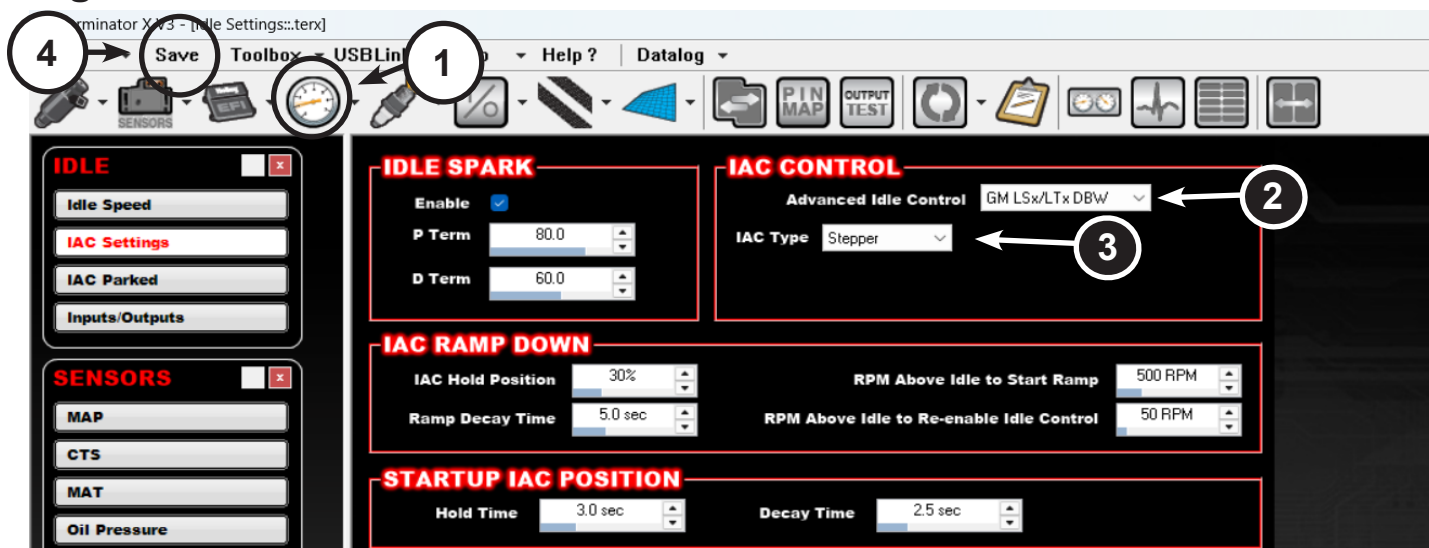


Figure 1.6

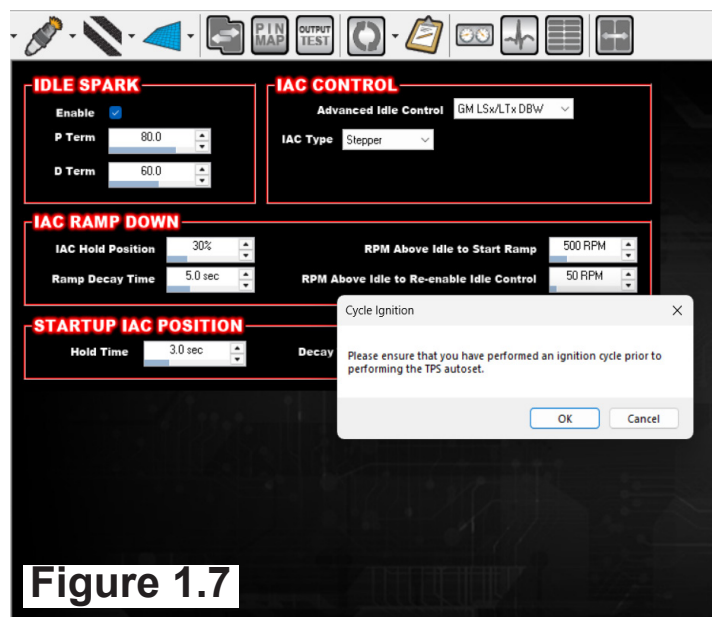


Figure 1.7

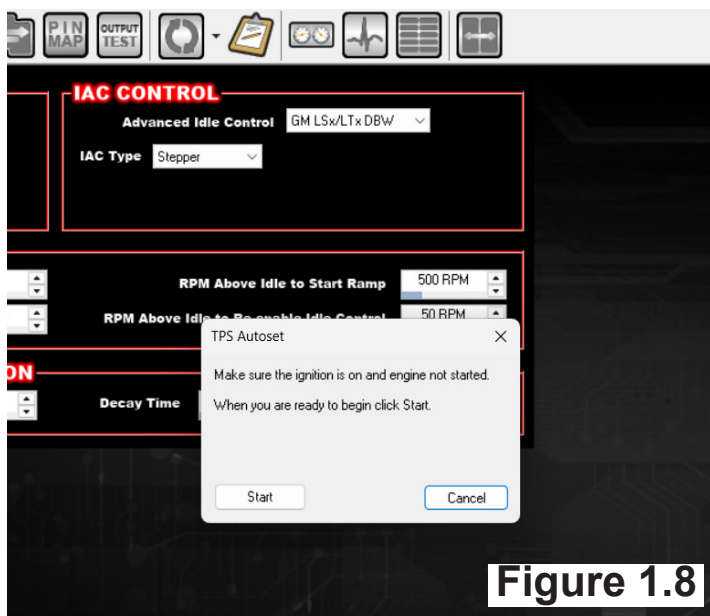


Figure 1.8

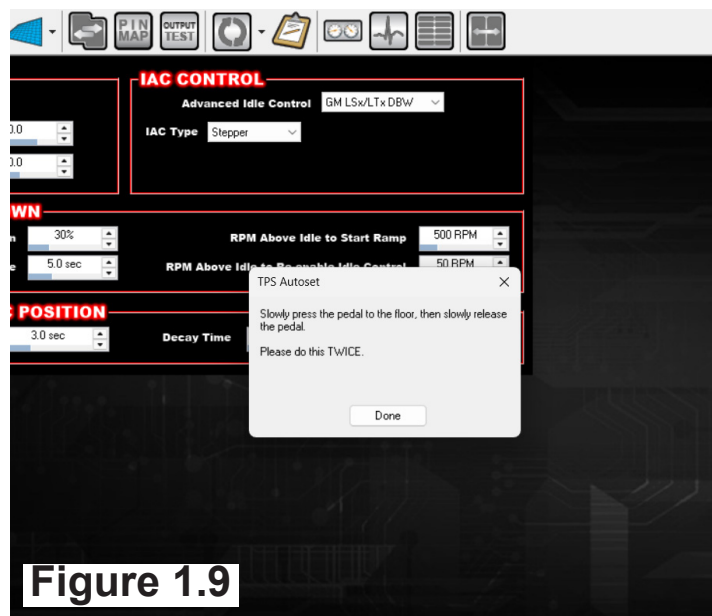


Figure 1.9

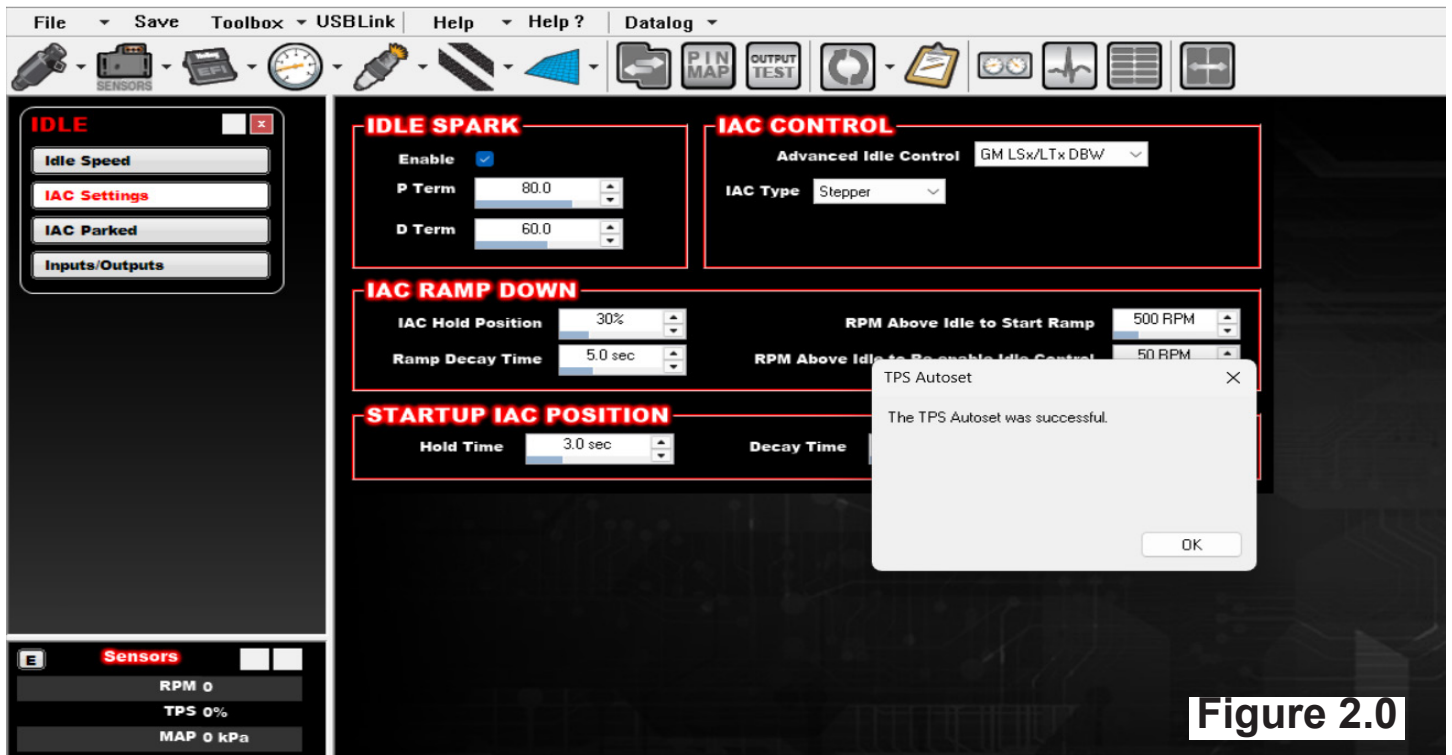


Figure 2.0

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