An ISO 9001:2008 Registered Company

Idle Timer Controller - ITC523-A

2005-2007 Ford Super Duty

Contact InterMotive for additional vehicle applications

System Operation

The ITC523-A system will shut off gas or diesel engines that are left idling for an extended period of time. The default timer will shut off the engine after 5 minute of idling.

Installation Instructions

WARNING
Disconnect the battery to prevent setting a check engine light.

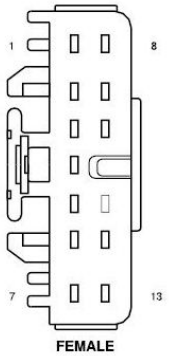
Disconnect the vehicle's battery before proceeding with installation.

Remove the lower dash panel below the steering column area and find a suitable location to mount the Idle Timer Controller module. Do not mount the module until all wire harnesses are routed and secure (last step of the installation is to mount the module and the relays).
It is the installer's responsibility to route and secure all wiring harnesses where they cannot be damaged by sharp objects, mechanical moving parts and high heat sources. Failure to do so could result in damage to the system or vehicle and create possible safety concerns for the operator and passengers.
It is important to avoid placing the module where it could encounter strong magnetic fields from high current cabling connected to motors, solenoids, etc. Also avoid radio frequency energy from antenna's or inverters next to the module. Finally, avoid high voltage spikes in vehicle wiring by always using diode clamped relays when installing upfitter circuits.

Data Link Harness

- Locate the vehicle OBDII Data Link Connector. It will be located below the lower left dash panel.
- Remove the mounting screws for the OBDII connector. Plug the red connector from the Idle Timer Controller Data Link T- Harness into the vehicle OBDII connector. Ensure the connection is fully seated and secured with the supplied wire tie.
- Mount the black connector from the Idle Timer Controller Data Link Harness in the former location of the vehicle OBDII connector.
- Secure the ITC523-A harness so that it does not hang below the lower dash panel.
- Plug the 6-pin connector from the Data Link Harness into the 6-Pin connector on the module.

Ignition Switch connections



2005-2007 Super Duty - Front of the Ignition Switch Connector

In the following instructions, the **male** pigtail has Green, Red, and Pink wires, the **female** has Purple, Blue, and Brown wires.

Perform only one step at a time, and attach the correct color wire to the white 4-pin connector pigtails. These connections must be made by using solder and the supplied heat shrink tubing. The tubing should be cut to 1" lengths for this purpose.

2005-2007 Super Duty Ignition Switch Connectors

- Remove the lower steering column trim cover. Locate the ignition switch connector and disconnect it from the switch.
- Note the Pin Numbers on the connector.
- Locate Pin #2 Dark Blue/Orange wire, Pins 7 and 12 (both Yellow wires), and Pin 8 Gray/Yellow wire.
- Find a place on the vehicle Ignition Harness with ample space to install the white 2-pin connector pigtails. (Supplied with the ITC523-A.)
- Cut the Ignition Switch Pin #2 Dark Blue/Orange wire and attach the ignition switch side to the **female** 4-pin connector Purple wire.
- Attach the Harness side of the Pin #2 Dark Blue/Orange wire to the **male** 4-pin connector Pink wire.
- Cut the Ignition Switch Pins #7 and #12 (Both Yellow wires) and attach the ignition switch side of both wires to the **female** 4-pin connector Blue wire.
- Attach the Harness side of Pins #7 and #12 to the **male** 4-pin connector Red wire.
- Cut the Ignition Switch Pin #8 Gray/Yellow wire and attach the ignition switch side to the **female** 4-pin connector Brown wire.
- Attach the Harness side of the Pin #8 Gray/Yellow wire to the **male** 4-pin connector Green wire.
- Attach the eyelet connected to the Black wire to a chassis ground.
- Plug the 4-pin Ignition connectors into the ITC523-A Harness.
- Attach the 12 Pin connector of the ITC523-A Harness to the ITC523-A Module.
- Attach the 4 Pin connector of the ITC523-A Harness to the ITC523-A Module.
- Reattach the OEM Ignition Switch Connector to the Ignition Switch.

Module Location

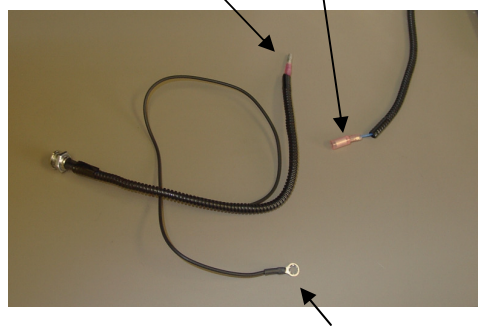
- Locate the module in an area away from any external heat sources. (Engine heat, Heater ducts, etc...)
- Mount the module with two-sided tape or mounting screws.

Optional Shutdown indicators and override inputs

- There are 2 optional signals with "flying lead" wires provided for connecting to external equipment or devices as described below. These three signal are located on the ITC523-A modules 12 pin connector.
- Warning beeper, lamp or LED output - Orange wire, Pin #2. This signal provides 12V when active. The maximum allowed draw on this circuit is 1/2 amp. If an LED is used it must also have an integral resistor wired in series. Attach this Orange wire to the positive input for the LED or beeper. Attach a ground wire to the negative input. This output pulses repeatedly during the final 30 seconds of Shutdown.
- Override High input - Green wire, pin #4. Applying 12V to this input will prevent engine shut down, and can be connected to equipment such as a PTO, pumps, compressors, etc.
- Ensure that unused flying leads will never make electrical contact with anything by taping, cutting, or extracting the wires (pin extraction requires Molex tool).
- Reconnect the vehicle's battery. If the module's factory default settings do not need to be changed (below), proceed to the Post Installation Check List section.

Optional shutdown disable keyed switch

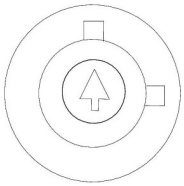
- Locate a suitable place on the dash to mount the Key Switch. (Within 30" from the ITC module)
- Drill a 1/2 inch hole to mount the Key Switch. (Be careful not to damage OEM harnessing behind the dash.)
- Mount the Key Switch onto the dash.
- Locate the ITC 12 pin connector Blue wire, pin #5.
- Connect the male key switch bullet connector to the ITC 12 pin connector Blue wire, pin #5 female bullet connector.
- Connect the eyelet connected to the Black wire to a chassis ground.



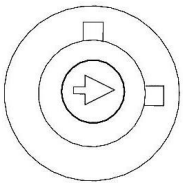
Operation Instructions

- This keyed switch will turn the idle timer on or off.
- To turn the idle timer on, insert the key into the switch and position the arrow in the up position.
- To turn the idle timer off, insert the key in the switch and position the arrow pointing to the right.

Idle Timer On



Idle Timer Off



Optional—Reconfiguring the Shut Down Timer and Minimum Engine Shut Down Temperature

Follow these steps to reconfigure the Minimum Engine Shut Down Temperature and/or Shut Down Timer:

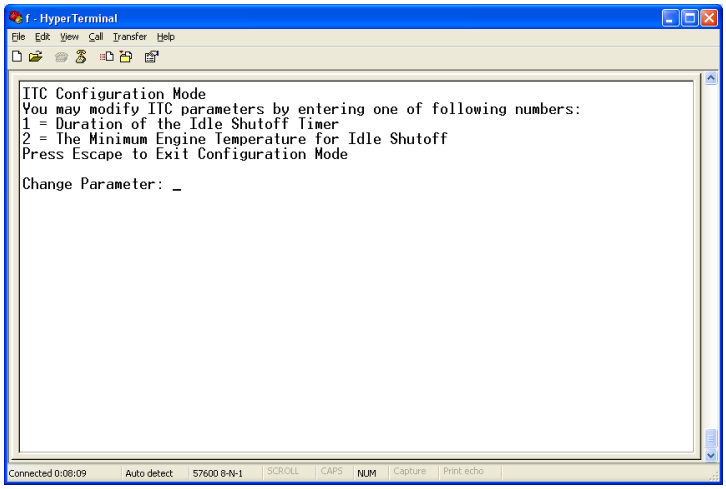
- Ensure that the proper drivers are installed for the USB to Serial Communication cable provided by InterMotive. All driver files are located online at: http://www.ftdichip.com/Drivers/VCP.htm
- Find the correct drivers for your system and follow the steps to download the latest version (located under the "Driver Version" heading). If unsure about the installation process, please contact InterMotive for further assistance.
- Once the installation process is complete, plug the Communication cable into one of your computer's USB ports.
- Ensure the vehicle's key is off and plug the other end of the download cable into the port labeled 'COMM' on the module.
- Open the communication application HyperTerminal. This program can be found under: Start > All Programs > Accessories > Communications > HyperTerminal.

- You will be prompted to give this connection setup a name. We suggest something meaningful such as "ITC Config".
- The next window will prompt you to select the COM port to setup the connection on. Typically, the highest numbered COM port will be the InterMotive Communication cable.
- **Note**: This can be double-checked on Windows XP by right-clicking on 'My Computer' and selecting 'Properties.' From this window select the 'Hardware' tab and click on 'Device Manager.' In the Device Manager window, expand the 'Ports' menu and the download cable will display as 'USB Serial Port.'

- In the next window, several of the default parameter for the Port Settings need to be changed.
- Change the Bits per second to: **57600**, Data bits: **8**, Parity: **None**, Stop bits: **1**, and Flow control: **None**.
- HyperTerminal setup is now complete.
- Turn the vehicle key to the ON position. The ITC523-A module should wakeup and text should display on the open HyperTerminal window.

If text does not appear, unplug the 6 pin connector from the ITC523-A module, wait several seconds and plug the connector back in.

- If, after above step, text does not appear, go to File > New Connection and try re-configuring the HyperTerminal as described above. If unsuccessful, contact InterMotive for further assistance.
- With communication established, type in the word "config" (followed by the enter key) and the screen should look like Screen Shot 1.

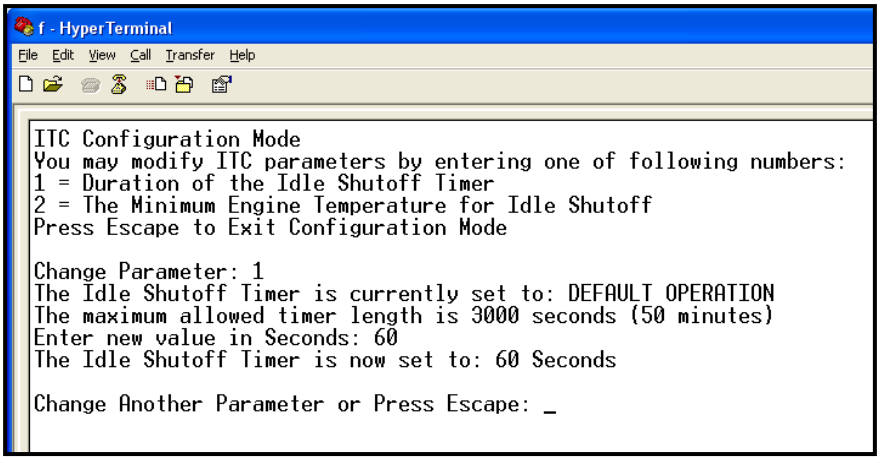


Screen Shot 1

Reconfiguring the Shut Down Timer and Minimum Engine Shut Down Temperature (Continued)

- Enter the Parameter to be changed:
  1. change idle timer duration
  2. adjust minimum engine temperature for shutdown.

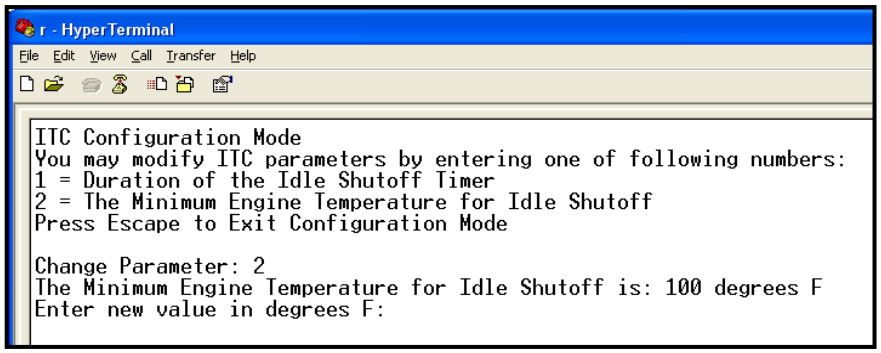
- If 1 is selected, the screen will look like Screen Shot 2. Key in a new Idle Shutdown Time, in seconds, followed by the Enter key. Note that changing this value from the default setting will cause Park Brake to have no effect on the Idle Timer duration. To restore the default setting, enter the number 10,000 followed by the Enter key.



Screen Shot 2

- If 2 is selected, the screen will look like Screen Shot 3. Key in a new minimum warm up temp in degrees F, followed by the Enter key.

- **Press escape when parameters are set correctly.**
- When finished, key off ignition and disconnect the Communication cable.



Screen Shot 3

Post Installation Check List

Putting the module into Test Mode.

Start the engine. Test mode can be entered by holding down the Service Brake then setting and releasing the Park Brake 4 times within a 10 second period. If successful, LED10 on the ITC523-A module will be lit. Release the Service Brake. When this Test Mode is active, the shut off timer is reduced to 15 seconds. LED 9 will come on for 1 second at the start of the shut off timer.

A Park Brake, Service Brake, or Accelerator Pedal input will reset the timer. LED 9 will light to verify each input has reset the timer. Also verify function of any light or buzzer connected to the optional indicator output. During the final 5 seconds the indicator should flash or sound multiple times until the engine is shut off. Confirm LED10 goes off when engine is shut off. Turn off the ignition. Status LED will light briefly.

If the ITC523-A fails any step in the Post Installation Check List, review the installation instructions and check all connections. If necessary, call InterMotive technical support at (530) 823-1048.

- Reinstall the column trim cover and under dash panel.

Idle Timer Controller - ITC523-A
2005-2007 Ford Super Duty

Contact InterMotive for additional vehicle applications

Please leave this page in vehicle

System Operating Instructions

ITC523-A Overview

- The ITC523-A system is an idle timer engine shut off system. It automatically stops the engine if the vehicle is left idling for an extended period of time, in Park or Neutral, without operator input.
- Default operation: the engine will shut off after 5 minute of idling. A custom timer length and minimum engine warm-up temperature may be set by the vehicle manufacturer. When that time expires and the engine is above warm up temp (default 100° F) the engine will shutoff regardless of Park Brake state.

Ignition Power Restore and Restart

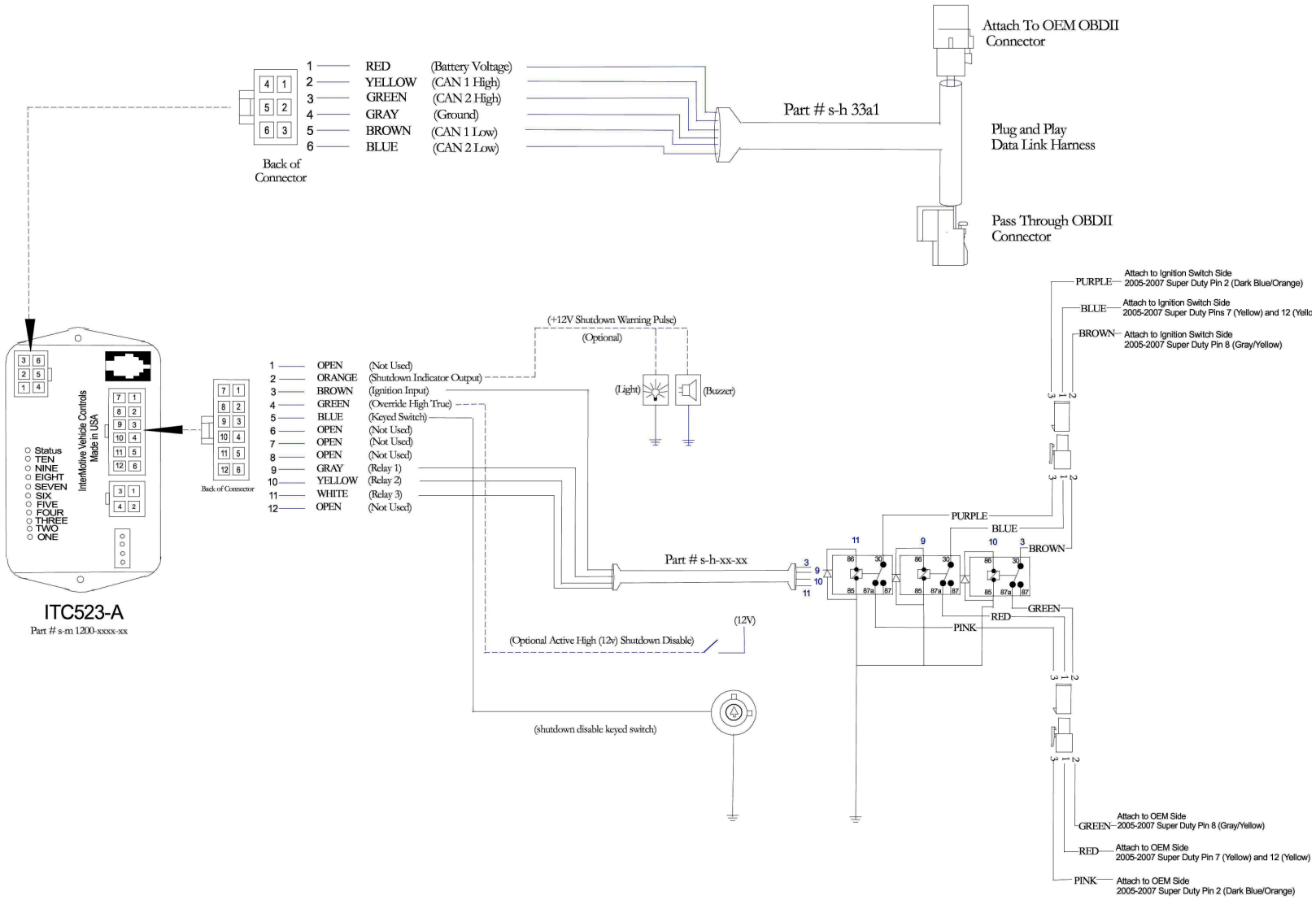
- ITC523 switches off Ignition power to stop the engine and minimize battery draw. Ignition power is restored once the key is moved from the Run position to either the Start or Off positions.
- When ITC523 has switched off Ignition power, there is still a small power draw from the battery. This draw could potentially drain the battery if the key is left in the vehicle for an extended period of days. For this reason, as well as to prevent theft, the key should always be removed from the Ignition once the operator has finished with the vehicle.

Optional shutdown indicators.

- An installer supplied optional indicator light or buzzer may be wired to the Shut off Indicator Output.
- If a light or buzzer is connected to the optional indicator output, it will flash or sound repeatedly during the final 30 seconds prior to Shut off.

Timer override inputs.

- If the driver applies the Parking Brake, Service Brake, or presses the Accelerator Pedal, the shut off timer will be reset.
- Timer Override inputs are provided to allow vehicle equipment (PTO, compressor, etc….) to disable the shut off timer when equipment is in use.
- Once the optional equipment is switched off the ITC523-A will resume Idle Timer sequence.
- A keyed switch will be installed that enables the idle timer to be turned on or off.



Submit product registration at www.intermotive.net

If the ITC523-A fails any step in the Post Installation Check List, review the installation instructions and check all connections. If necessary, call

InterMotive Technical Support @ (530) 823-1048.

ITC523A-091013-CAD