Idle Timer Controller - ITC550-A
2011-2018 Ford F-53 Chassis
2011-2018 Ford F-59 Chassis
Contact InterMotive for additional vehicle applications

System Operation

The ITC550 system will shut off the vehicle's engine when left idling for an extended period of time in Park or Neutral. The default timer will shut off the engine after 5 minutes of idling if the Park Brake is set, and 15 minutes when Park Brake is not set. These times correspond to CARB's anti-idling requirements for diesels. Pressing the accelerator pedal or setting the Park Brake while idling will reset the timer. The engine shut-down timer can be modified with a laptop & cable during installation, or can be ordered from Intermotive with a custom timer value. Optional override inputs allow disabling the system with a key switch or when selected systems or equipment is in use.

Installation Instructions

Disconnect vehicle battery before proceeding with installation.

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

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.
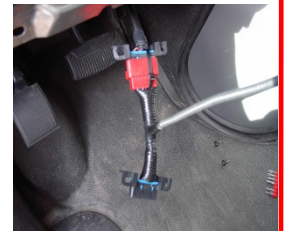It is important to avoid placing the module where it could encounter strong magnetic fields from high current cabling connected to motors, solenoids, etc. Also avoid radio frequency energy from antenna's or inverters next to the module. Finally, avoid high voltage spikes in vehicle wiring by always using diode clamped relays when installing upfitter circuits.

ITC550 Module

Remove the lower dash panel below the steering column area and find a suitable location to mount the Idle Timer Controller module and relays. Locate the module in an area away from any high heat sources (engine heat, heater ducts, etc.) or where mechanical damage could occur (tilt wheel, Park Brake mechanism, etc.). Ensure there is adequate harness length for the mounting location. Do not mount the module until all wire harnesses are routed and secure. The last step of the installation is to mount the module and the relays.

Data Link Harness

1. Locate the vehicle's OBDII Data Link Connector. It will be located below the lower left dash panel.
2. 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.
3. Mount the black connector from the Idle Timer Controller Data Link Harness in the former location of the vehicle OBDII connector.
4. Secure the ITC550 harness so that it does not hang below the lower dash panel.
5. Plug the 6-pin connector from the Data Link Harness into the 6-Pin connector on the module.

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Page 1 of 9

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ITC550-A-010219-INS

Ignition Switch Connector (P7 Plug and Play Connector)

1. Remove the lower steering column trim cover. Locate the ignition switch connector and disconnect it from the switch.

2. Plug the OEM connector into the mating connector on the Intermotive Ignition harness.

3. Plug the Intermotive Ignition harness into the OEM ignition switch.

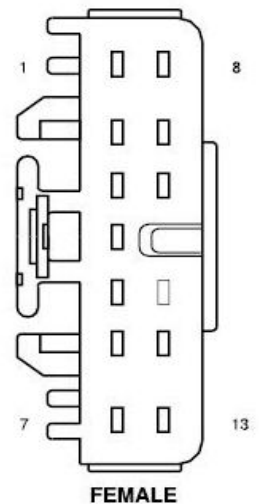4. Attach the 12-Pin connector of the ITC550-A Harness to the ITC550-A Module 12-pin connector.
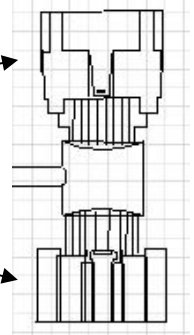
Ignition Switch connections

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

Performing one step at a time, 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. Cut the tubing to 1" lengths for this purpose.

Ignition Switch Connectors

1. Remove the lower steering column trim cover. Locate the ignition switch connector and disconnect it from the switch.

2. Note the Pin Numbers on the connector per drawing.

3. Locate Pin #2 Light Green/Violet wire, Pins 7 and 12 (both Yellow wires), and Pin 8 Gray/Yellow wire.

4. Find a place on the vehicle Ignition Harness with ample space to install the white 2-pin connector pigtails (supplied with the ITC550).

5. Cut the Ignition Switch Pin #2 Light Green/Violet wire and attach the *ignition switch side* to the **female** 4-pin connector Purple wire.

6. Attach the *Harness side* of the Pin #2 Light Green/Violet wire to the **male** 4-pin connector Pink wire.

7. 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.

8. Attach the *Harness side* of Pins #7 and #12 to the **male** 4-pin connector Red wire.

9. Cut the Ignition Switch Pin #8 Yellow/Gray wire and attach the *ignition switch* side to the **female** 4-pin connector Brown wire.

10. Attach the *Harness side* of the Pin #8 Yellow/Gray wire to the **male** 4-pin connector Green wire.

11. Attach the eyelet connected to the Black wire to a chassis ground.

12. Plug the 4-pin Ignition connectors into the ITC550 Harness.

13. Attach the 12 Pin connector of the ITC550 Harness to the ITC550 Module.

14. Reattach the OEM Ignition Switch Connector to the Ignition Switch.

FEMALE

F-53 and F-59 Chassis - Front of the Ignition Switch Connector

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Page 2 of 9

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Module and Relays Mounting

Ensure all harness are properly connected and routed, and are not hanging below the dash area. Mount the module using two-sided tape or mounting screws. Mount the relay bank using one or more screws through the relay mounting tab holes.

Optional Shutdown indicators and override inputs

There are 3 optional signals with "flying lead" wires provided for connecting to external equipment or devices as described below. These three signals are located on the ITC550 module's 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 before 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.

Override Low input - Blue wire, pin #5. Applying ground to this input will prevent engine shutdown, and can be connected to equipment such as a PTO, pumps, compressors, etc. *This pin may already be used for the shutdown disable keyed switch.
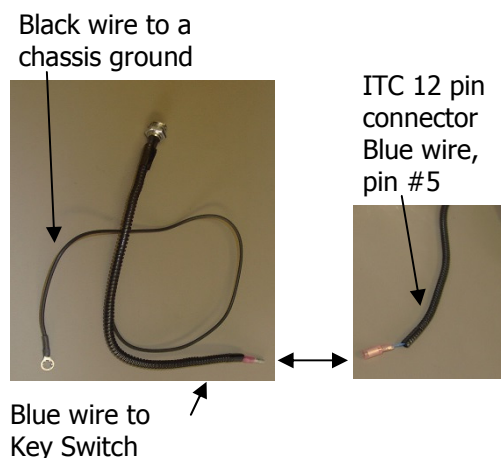
- Ensure that unused flying leads will never make electrical contact with anything by taping, cutting, or extracting the wires (pin extraction requires Molex tool).

Reconnect the vehicle 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

1. Locate a suitable place to mount the Key Switch. (Within 30" from the ITC module)

2. Drill a 1/2 inch hole to mount the Key Switch. (Be careful not to damage OEM harnessing).

3. Mount the Key Switch.

4. Locate the ITC 12 pin connector Blue wire, pin #5.

5. Connect the male key switch bullet connector to the ITC 12 pin connector Blue wire, pin #5 female bullet connector.

6. Connect the eyelet connected to the Black wire to a chassis ground.

Black wire to a chassis ground

ITC 12 pin connector Blue wire, pin #5

Blue wire to Key Switch

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Page 3 of 9

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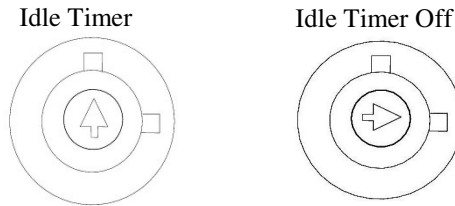products@intermotive.net
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Operation Instructions

The optional key 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   Idle Timer Off

Reconfiguring the Minimum Engine Shut Down Temperature and Shut Down Timers via laptop (Using Tera Term)

Requirements

- USB to Serial Communication cable (part number A-IPU) which is a one time purchase. This is required for all programming and is recommended to be kept in a central location
- Laptop computer (programming is done while the module is on the vehicle.

Reconfiguration

Ensure the proper drivers are installed on your PC for the USB to Serial Communication cable available from InterMotive. All driver files are located online at: http://www.ftdichip.com/Drivers/VCP.htm

1. Find the correct drivers for your PC 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 assistance. Numerous terminal communication programs can be used to communicate with the ITC550 module, such as Hyper Terminal or Tera Term. The following instructions are for using the free application Tera Term.

2. Download and install the Tera Term application from: http://logmett.com/index.php?/download/tera-term-475-freeware.html

3. Once the installation process is complete, plug the Communication cable into one of the computer's USB ports.

4. Ensure the vehicle's key is off and plug the other end of the download cable into the port labeled 'COMM' on the module.

5. A prompt will appear to give this connection setup a name. It is recommended to use something meaningful such as "ITC Config".
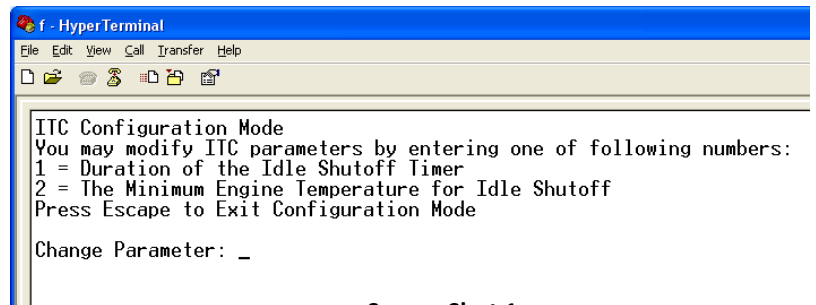
The next window will prompt to select the COM port to setup the connection on. Typically, the highest numbered COM port will be the InterMotive Communication cable.

Note: The COM port number can be confirmed in 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.'

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Page 4 of 9

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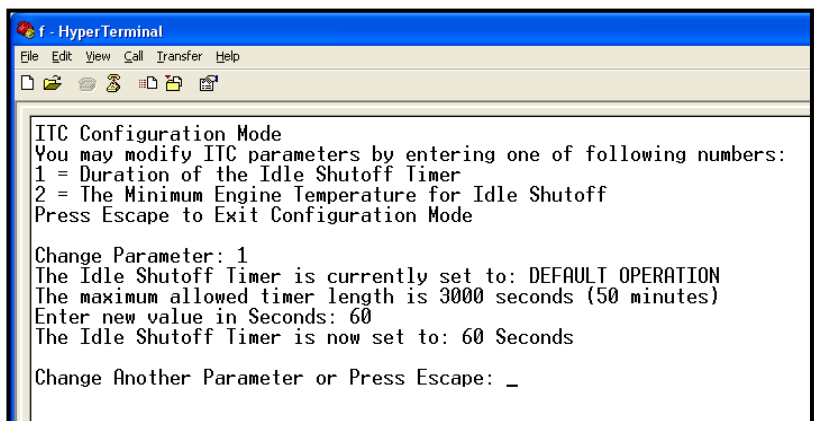In the next window, several of the default parameter for the Port Settings need to be changed. Change the Bits per second to: **57600**, Data bits: **8**, Parity: **None**, Stop bits: **1**, and Flow control: **None**. HyperTerminal setup is now complete.

1. Turn the vehicle key to the ON position. The ITC550 module will wakeup and text will display on the open HyperTerminal window.

2. If text does not appear, unplug the 6 pin connector from the ITC550 module, wait several seconds and plug the connector back in.

3. If, text still does not appear, go to File > New Connection and try re-configuring the HyperTerminal as described above. If unsuccessful, contact InterMotive for further assistance.

4. With communication established, type in the word "config" (followed by the enter key) and the screen will look like Screen Shot 1.

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

6. 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.

7. 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.

8. Press escape when parameters are set correctly.

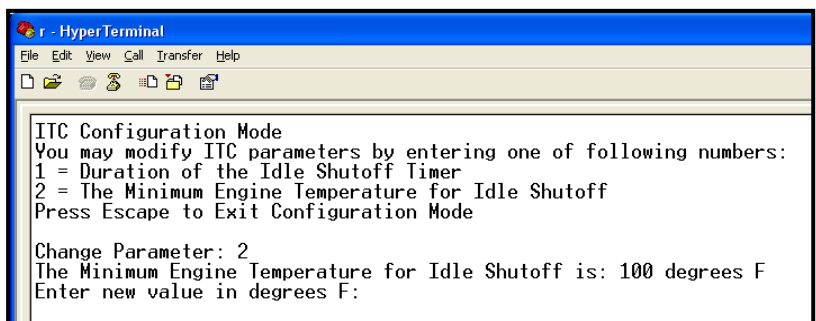9. When finished, key off ignition and disconnect the Communication cable.

```
ITC Configuration Mode
You may modify ITC parameters by entering one of following numbers:
1 = Duration of the Idle Shutoff Timer
2 = The Minimum Engine Temperature for Idle Shutoff
Press Escape to Exit Configuration Mode

Change Parameter: _
```
Screen Shot 1

```
ITC Configuration Mode
You may modify ITC parameters by entering one of following numbers:
1 = Duration of the Idle Shutoff Timer
2 = The Minimum Engine Temperature for Idle Shutoff
Press Escape to Exit Configuration Mode

Change Parameter: 1
The Idle Shutoff Timer is currently set to: DEFAULT OPERATION
The maximum allowed timer length is 3000 seconds (50 minutes)
Enter new value in Seconds: 60
The Idle Shutoff Timer is now set to: 60 Seconds

Change Another Parameter or Press Escape: _
```
Screen Shot 2

```
ITC Configuration Mode
You may modify ITC parameters by entering one of following numbers:
1 = Duration of the Idle Shutoff Timer
2 = The Minimum Engine Temperature for Idle Shutoff
Press Escape to Exit Configuration Mode

Change Parameter: 2
The Minimum Engine Temperature for Idle Shutoff is: 100 degrees F
Enter new value in degrees F:
```
Screen Shot 3

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Page 5 of 9

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Post Installation Check List

Putting the module into Test Mode

It is recommended to mount the module after all post installation checks are complete.

1. Start the engine.

2. Enter Test mode by holding down the Service Brake then setting and releasing the Park Brake 4 times within a 10 second period. When successful, LED10 on the ITC550-A module will be lit.

3. 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 or Accelerator Pedal input will reset the timer. LED 9 will light to verify each input has reset the timer.

4. Verify function of any light or buzzer connected to the optional indicator output. During the final 5 seconds the indicator will flash or sound multiple times until the engine is shut off.

5. Confirm LED10 goes off when engine is shut off.

6. Turn off the ignition. Status LED will light briefly.

Enabling/Disabling Service Brake Override Input

By default the Service Brake is not an override input. To enable or disable the Service Brake as an override input, perform the following programming sequence.

1. With key in run and engine off, put the module into test mode as described in the previous section. When successful, LED10 on the module will be lit.

2. Once in test mode, set the park brake and press and release the service brake 4 times within a 10 second period. When successful, LED9 will flash. LED9 flashes six times if service brake override is enabled and three times if disabled.

ITC550 Module

Ensure all harness are properly connected and routed, and are not hanging below the dash area. Mount the ITC550 module using screws or double sided tape. Reinstall the column trim cover and the lower dash panel.

If the ITC550 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.

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Page 6 of 9

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Leave in vehicle
Operating Instructions Idle Timer Controller - ITC550-A
2011-2018 Ford F-53 Chassis
2011-2018 Ford F-59 Chassis

ITC550 Overview

The ITC550 system is an idle timer engine shut off system. It automatically shuts down 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 minutes of idling with Park Brake set, or 15 minutes without Park Brake set (assumes engine is warmed up). A custom single timer length and minimum engine warm-up temperature may be set by the vehicle manufacturer.

Ignition Power Restore and Restart

The ITC550 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 ITC550 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 5 seconds prior to Shut off.

Timer override inputs

If the driver applies the Park Brake or presses the Accelerator Pedal, the shut off timer will be reset and start counting over.

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 ITC550 will resume Idle Timer sequence.

An optional keyed switch may be installed that enables the idle timer to be turned on or off.

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Page 7 of 9

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If the ITC550-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.

ITC550-A
Part # SAM1200-18

Status
TEN
NINE
EIGHT
SEVEN
SIX
FIVE
FOUR
THREE
TWO
ONE

InterMotive Vehicle Controls
Made in USA

Back of Connector

1 —— OPEN —— (Not Used)
2 —— ORANGE —— (Shutdown Indicator Output)
3 —— BROWN —— (Ignition Input)
4 —— GREEN —— (Override Input)
5 —— BLUE —— (Keyed Switch)
6 —— OPEN —— (Not Used)
7 —— OPEN —— (Not Used)
8 —— OPEN —— (Relay 1)
9 —— GRAY —— (Relay 2)
10 —— YELLOW —— (Relay 3)
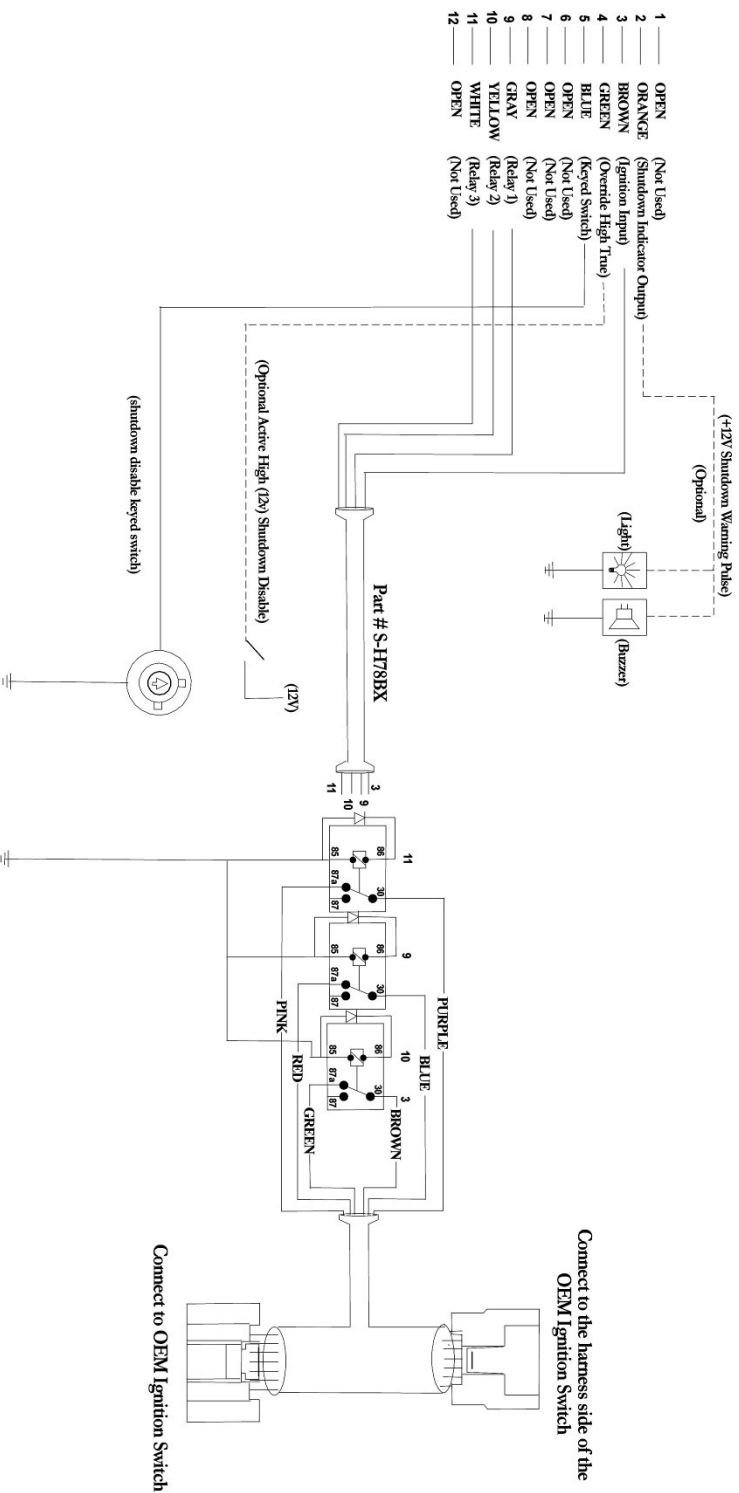11 —— WHITE —— (Not Used)
12 —— OPEN —— (Not Used)

Back of Connector

1 —— RED —— (Battery Voltage)
2 —— YELLOW —— (CAN 1 High)
3 —— GREEN —— (CAN 2 High)
4 —— GRAY —— (Ground)
5 —— BROWN —— (CAN 1 Low)
6 —— BLUE —— (CAN 2 Low)

(Optional Active High (12v) Shutdown Disable)

(shutdown disable keyed switch)

(+12V Shutdown Warning Pulse)

(Optional)

(Light)

(Buzzer)

Part # S-H78AX

(12V)

Part # S-H33AX

Pass Through OBDII Connector

Plug and Play Data Link Harness

Attach To OEM OBDII Connector

PINK
RED
GREEN
PURPLE
BLUE
BROWN

PINK—— Attach to OEM Side Pin 2 (Light Green/Violet)
RED—— Attach to OEM Side Pins 7 (Yellow) and 12 (Yellow)
GREEN—— Attach to OEM Side Pin 8 (Yellow/Gray)
BROWN—— Attach to Ignition Switch Side Pin 8 (Yellow/Gray)
BLUE—— Attach to Ignition Switch Side Pins 7 (Yellow) and 12 (Yellow)
PURPLE—— Attach to Ignition Switch Side Pin 2 (Light Green/Violet)

P7 Plug and Play Ignition Switch Connector

ITC550-A
Part # S-M1200-18

InterMotive Vehicle Controls
Made in USA

Status
TEN
NINE
EIGHT
SEVEN
SIX
FIVE
FOUR
THREE
TWO
ONE

Back of Connector

4	2	1
6	5	3

Back of Connector

1 —— RED (Battery Voltage)
2 —— YELLOW (CAN1 High)
3 —— GREEN (CAN2 High)
4 —— GRAY (Ground)
5 —— BROWN (CAN1 Low)
6 —— BLUE (CAN2 Low)

1 —— OPEN (Not Used)
2 —— ORANGE (Shutdown Indicator Output)
3 —— BROWN (Ignition Input)
4 —— GREEN (Override High True)
5 —— BLUE (Keyed Switch)
6 —— OPEN (Not Used)
7 —— OPEN (Not Used)
8 —— OPEN (Not Used)
9 —— OPEN (Relay 1)
10 —— GRAY (Relay 2)
11 —— YELLOW (Relay 3)
11 —— WHITE (Relay 3)
12 —— OPEN (Not Used)

(shutdown disable keyed switch)

(Optional Active High (12v) Shutdown Disable)

(+12V Shutdown Warning Pulse)
(Optional)

(Light)

(Buzzer)

(12V)

Part # S-H78BX

Part # S-H33AX

Attach To OEM OBDII Connector

Plug and Play Data Link Harness

Pass Through OBDII Connector

Connect to the harness side of the OEM Ignition Switch

PURPLE
PINK
RED
GREEN
BLUE
BROWN

Connect to OEM Ignition Switch
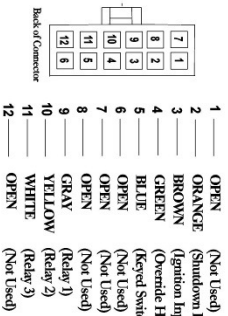
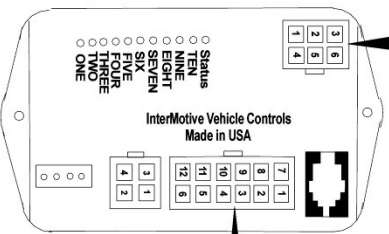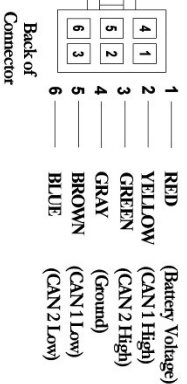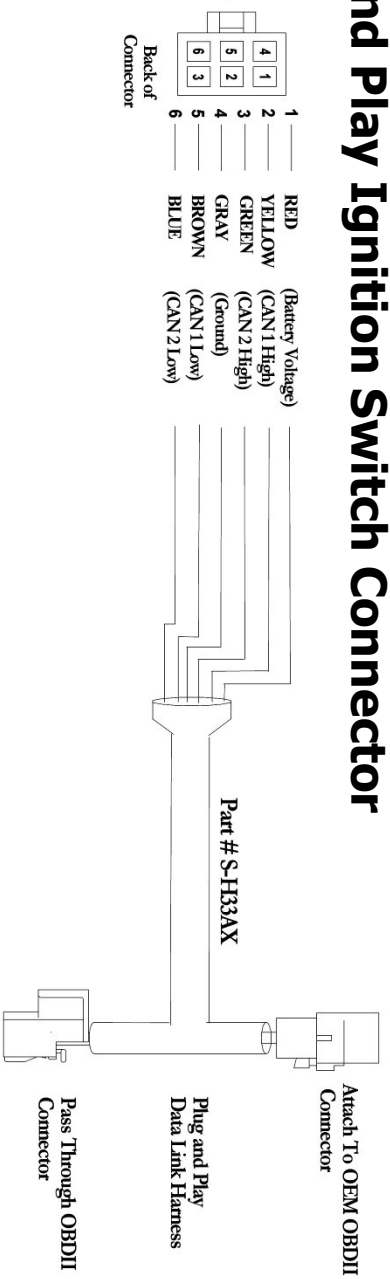**Submit product registration at www.intermotive.net**

If the ITC550-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.

ITC550-A-010219-CAD
Page 9 of 9