# Idle Timer Controller - ITC515-A

**2015-2019 Ford Transit (A-ITC515-A)**
**2020-2024 Ford Transit (B-ITC515-A)***
**2022-2024 Ford Transit with SYNC4 (G-ITC515-A)****

*** Uses the Ford 24-Pin "T" Gateway Harness**
**** Uses the Ford 26-Pin "T" Gateway Harness**
**Contact InterMotive for additional vehicle applications**

## Overview

The ITC515-A system will shut off gas or diesel engines that are left idling for an extended period of time in Park or Neutral. The default timer works as follows: with the Park Brake disengaged, the engine will shut off after 15 minutes of idling. If the Park Brake is applied, the idle time is decreased to 5 minutes. This is similar to CARB diesel anti-idling requirements.

## Installation Instructions

**Disconnect vehicle battery before proceeding with installation.**


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.

## CAUTION

All electronic products are susceptible to damage from Electrostatic Discharge or ESD. Ground yourself before handling or working with the module and harnessing by first touching chassis ground, such as the barrel of the cigarette lighter.

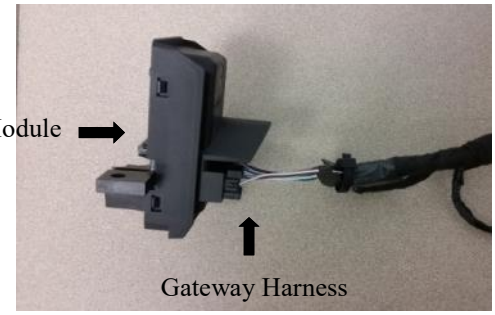
### ITC515 Module

Remove the lower dash panel below the steering column area and find a suitable location to mount the Idle Timer Controller module. Locate the module in an area away from any external heat sources (engine heat, heater ducts, etc.). Do not mount the module until all wire harnesses are routed and secure. The last step of the installation is to mount the module.

## Data Link Harness (A-ITC515-A)

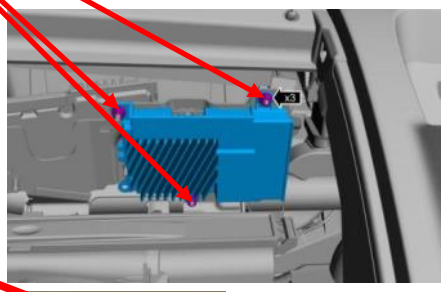
1. Locate the vehicle OBDII Data Link Connector, located below the lower left dash panel.
2. Remove the mounting screws for the OBDII connector. Plug the red connector from the Idle Timer Controller Data Link T- Harness into the vehicle OBDII connector. Ensure the connection is fully seated and secured 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 ITC515-A 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.

## Gateway Plug and Play Harness (B-ITC515-A)




1. Locate the vehicles Gateway Module. It will be mounted below the lower left dash panel.
2. Remove the harness behind the Gateway module by pressing the locking tab and pulling outward.
3. Plug the Female side of the InterMotive Gateway Harness into the back of the Gateway module. Ensure the connection is fully seated and secured by the locking tab.
4. Plug the Male side of the InterMotive Data Link Harness into the Gateway harness.
5. Secure the ITC515-A harness so that it does not hang below the lower dash panel.
6. Plug the free end of the Data Link harness into the mating 6-pin connector on the ITC515-A module.

## Gateway Plug and Play Harness (G-ITC515-A)



1. Locate the vehicles Gateway Module. It will be mounted behind the glove compartment.
2. Press the tabs inward on the sides of the glove compartment and fully lower it.
3. Remove the 3 nuts securing the Gateway module to the vehicle.
4. Remove the 26-pin connector from the side of the Gateway module and plug into the mating connector on the G-AIM516-B harness.
5. Plug the male 26-pin connector from the G-AIM516-B harness into the Gateway module.
6. Reinstall the Gateway module and the glove compartment.
7. Plug the free end of the Data Link harness into the mating 6-pin connector on the G-AIM516-B module.

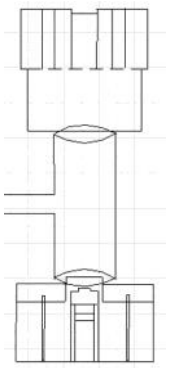
## ITC515-A Harness (12-Pin Connector and 4-Pin Connector)

Most Ignition Switches are no longer designed to supply power directly to vehicle systems that require key position dependent power. For this reason, many vehicles have electronically controlled Ignition Power outputs that are electrically isolated from the actual Ignition Switch signals. If the desired isolated Ignition Output is not available on a vehicle, a relay must be installed to separate the ignition switch signal from the switched power the load requires. The relay that is used must include a voltage suppression diode to prevent damaging sensitive electronics.

### Transit Ignition Switch Connector (P5 Plug and Play)

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

1. Plug the OEM connector into the mating connector on the Intermotive Ignition harness.
2. Plug the Intermotive Ignition harness into the OEM ignition switch.
3. Attach the 12-Pin connector of the ITC515-A Harness to the ITC515-A Module 12-pin connector.
4. Attach the 4-Pin connector of the ITC515-A Harness to the ITC515-A Module 4-Pin Connector.

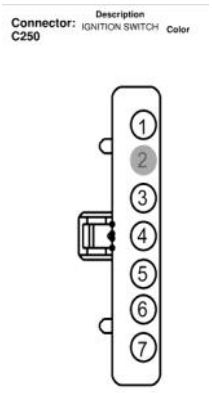


Part # S-H41H1

**Performing one step at a time, attach the correct color wire to the white 2-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.**

### Transit Ignition Switch Connections (blunt cut)

1. 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.
2. Locate Pin #1 Brown/Yellow wire.
3. Locate Pin #6 Violet/Green wire.
4. Find a place on the vehicle Ignition Harness with ample space to install the white 2-pin connector pigtails. (Supplied with the ITC515-A.)
5. Cut the Ignition Switch Pin #1 Brown/Yellow wire and attach the ignition switch side to the female 2-pin connector Red wire.
6. Attach the Harness side of the Pin #1 Brown/Yellow wire to the male 2-pin connector Blue wire.
7. Cut the Ignition Switch Pin #6 Violet/Green wire and attach the ignition side wire to the female 2-pin connector Brown wire.
8. Attach the harness side of the Pin #6 Violet/Green wire to the male 2-pin connector Yellow wire.
9. Attach the 2-pin Ignition connectors to the ITC515-A Harness.
10. Attach the 12 Pin connector of the ITC515-A Harness to the ITC515-A Module.
11. Attach the 4 Pin connector of the ITC515-A Harness to the ITC515-A Module.
12. Reattach the OEM Ignition Switch Connector to the Ignition Switch.




Ford Transit
front of the Ignition
Switch Connector

## 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 signal are located on the ITC515-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.

**Override Low input** - Blue wire, Pin #5. Applying ground 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).

## ITC515 Module Mounting

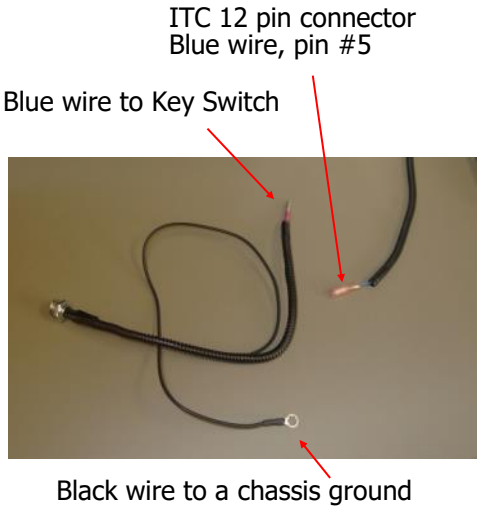
Ensure all harnesses are properly connected and routed, and are not hanging below the dash area. Mount the module using screws or double sided tape and reinstall all removed panels.

### Reconnect 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 key switch

1. Locate a suitable place on the dash to mount the Key Switch, within 30" from the ITC module.
2. Drill a 1/2 inch hole to mount the Key Switch, being careful not to damage OEM harnessing behind the dash.
3. Mount the Key Switch onto the dash.
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.

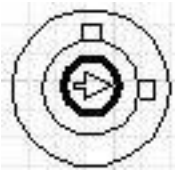



This keyed switch will enable or disable the idle timer function

- 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



## Reconfiguring the Shut Down Timer and Minimum Engine Shut Down Temperature (optional)

### Requirements

- USB to Serial Communication Cable (part number a-IPU) which is a one time purchase. This kit 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

1. 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
2. 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.
2. Once the installation process is complete, plug the Communication cable into one of your computer's USB ports.
3. 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. Open the communication application HyperTerminal. This program can be found under: Start > All Programs > Accessories > Communications > HyperTerminal.
6. A prompt will appear to give this connection setup a name. It's recommended to use something meaningful such as "ITC Config".

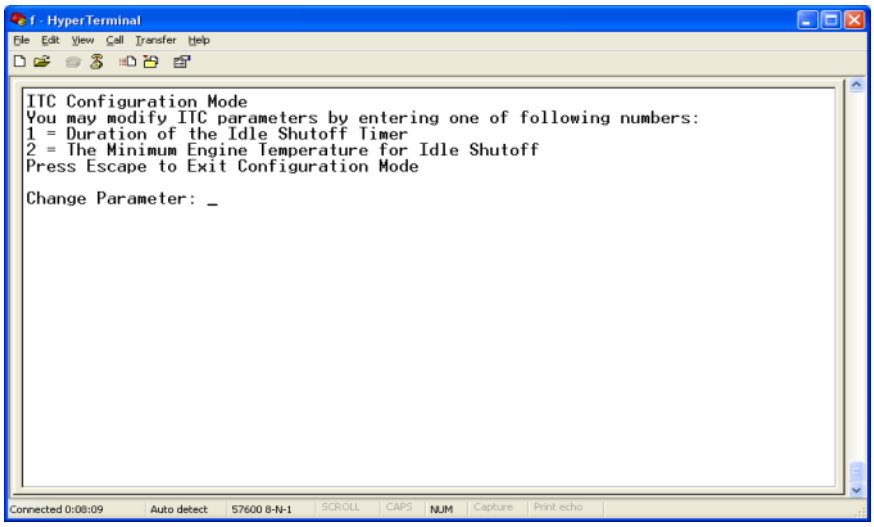
The next window will prompt to select the COM port to setup the connection on. Typically, the highest numbered COM port will be the InterMotive Communication cable.

**Note**: This can be double-checked on Windows 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.'

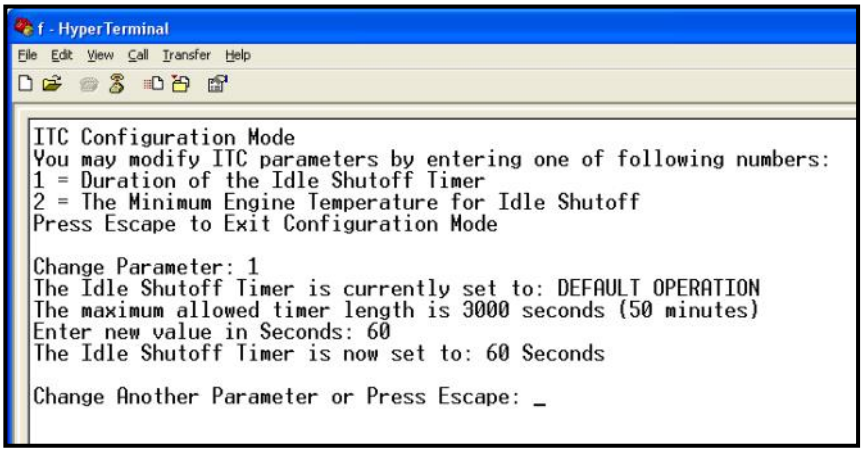
## Reconfiguring the Shut Down Timer and Minimum Engine Shut Down Temperature (continued)

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.

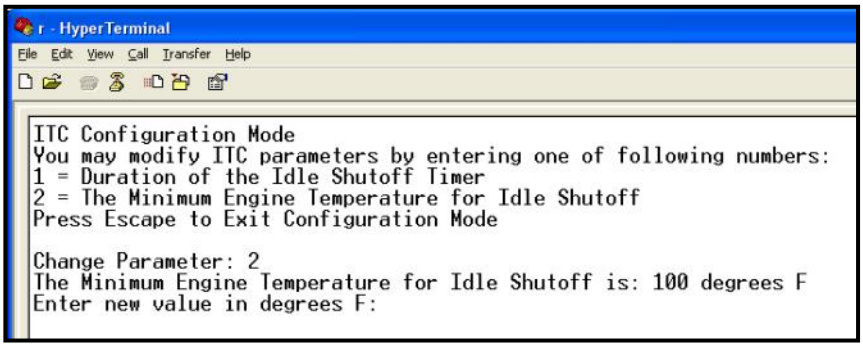
1. Turn the vehicle key to the ON position. The ITC515-A module will wakeup and text will display on the open HyperTerminal window.
2. If text does not appear, unplug the 6 pin connector from the ITC515-A module, wait several seconds and plug the connector back in.
3. If text still does not appear, go 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 number (1 or 2) of the parameter to be changed:
6. Change idle timer duration
7. Adjust minimum engine temperature for shutdown.
8. 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. 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.
9. If 2 is selected, the screen will look like Screen Shot 3. Key in a new minimum warm up temperature in degrees F, followed by the Enter key.
10. Press ESC key when parameters are set correctly.
11. When finished, key off ignition and disconnect the Communication cable.




Screen Shot 1




Screen Shot 2




Screen Shot 3

## Post Installation Check List

### Putting the module into Shut-Off Test Mode:

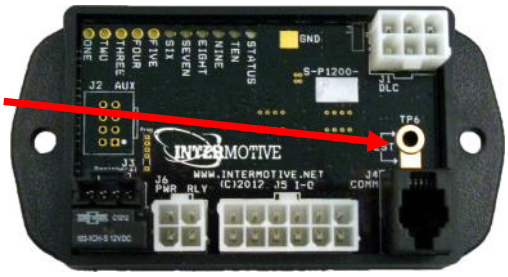
Start the engine. Test mode can be entered by holding down the Service Brake then setting and releasing the Park Brake 4 times within a 20 second period. When successful, LED10 on the ITC515-A module will be lit. Release the Service Brake. When this Test Mode is active, the shut off timer is reduced 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.

### Putting the module into Diagnostic Mode:

Place the ignition in the Run position. Diagnostics mode is entered by shorting the pads labeled "Test" on the Module. LED #2 will light to verify that the module is receiving High speed CAN Data.

<u>Diesel Only</u>: The Regen detect feature does not allow the engine to be shut off if Regen is active. The DPF Regen status of cleaning exhaust filter is monitored.




**If the ITC515-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.

# LEAVE IN VEHICLE
# Idle Timer Controller - ITC515-A
## 2015-2019 Ford Transit (A-ITC515-A)
## 2020-2024 Ford Transit (B-ITC515-A)*
## 2022-2024 Ford Transit with SYNC4 (G-ITC515-A)**

*** Uses the Ford 24-Pin "T" Gateway Harness**
**** Uses the Ford 26-Pin "T" Gateway Harness**

## Operating Instructions

The ITC515-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: with the Park Brake disengaged the engine will shut off after 15 minutes of idling. If the Park Brake is applied, the idle time is decreased to 5 minutes.

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.

Diesel Only: The Regen detect feature does not allow the engine to be shut off if Regen is active. The DPF Regen status of cleaning exhaust filter is monitored.

### Ignition Power Restore and Restart

ITC515 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 ITC515 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.

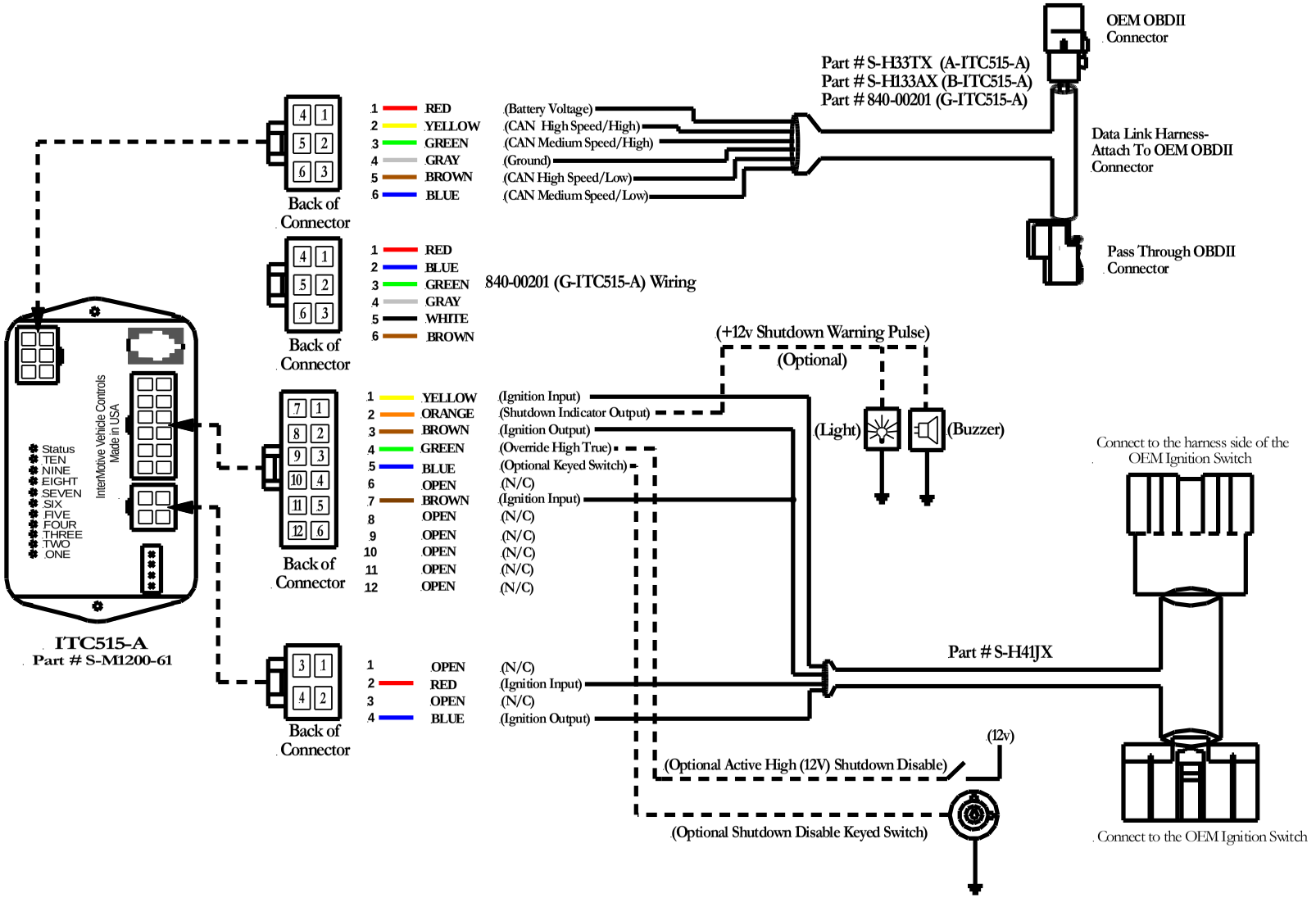
### Timer override inputs

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 ITC515-A will resume Idle Timer sequence.

## P5 Plug and Play Ignition Switch Connector




## Submit product registration at www.intermotive.net

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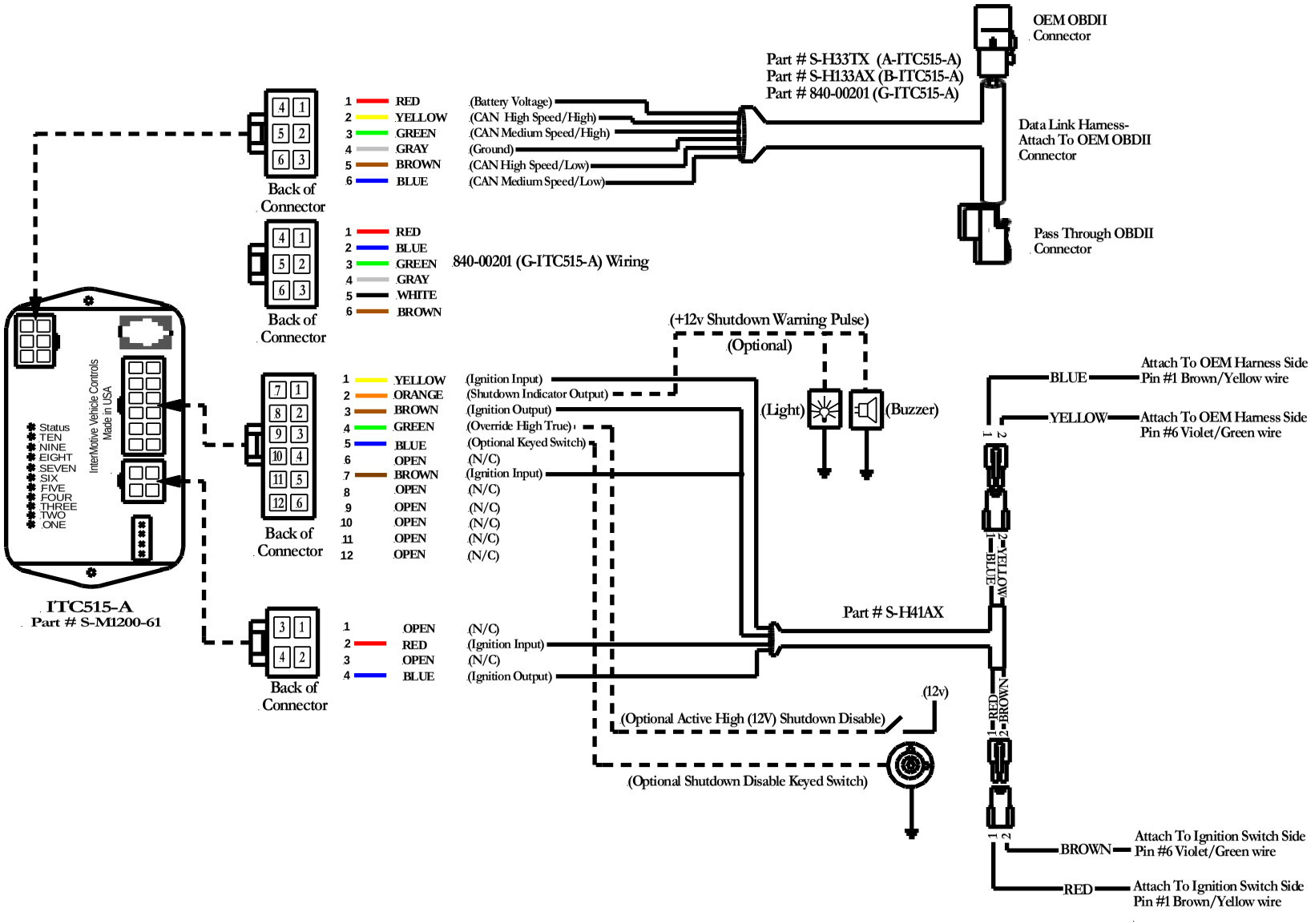
## Blunt Cut

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