ITC950
Idle Timer Controller
2014-2019 Isuzu NPR 6.0L Gasoline Engine
Contact InterMotive for additional vehicle applications

Introduction

The ITC will shut off the vehicles engine if left idling for an extended period of time. The default timer will shut off the engine after 3 minutes of idling (transmission must be in Park or Neutral).

Installation Instructions

Disconnect vehicle battery before proceeding with installation

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

IMPORTANT—READ BEFORE 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.
Avoid placing the modules where they could encounter strong magnetic fields from high current cabling connected to motors, solenoids, etc. Avoid radio frequency energy from antennas or inverters next to the module. Avoid high voltage spikes in vehicle wiring by always using diode clamped relays when installing upfitter circuits.

ITC Module Installation

Remove the lower dash panel below the steering column and find a suitable location to mount the module. Mount the module in an area away from any external heat sources (engine heat, heater ducts, etc.). Do not actually mount the module until all wire harnesses are routed and secure. The last step of the installation is to mount the module. When installing the harnesses, leave several inches of take-out such that the module can be removed if necessary.

InterMotive Inc.
12840 Earhart Ave.
Auburn, CA 95602

Phone: (530) 823-1048
Fax: (530) 823-1516
Page 1 of 8

www.intermotive.net
products@intermotive.net
ITC950-010720-INS

ITC Module Installation (Continued)

Data Link Harness

1. Locate the vehicles OBDII Data Link Connector located below the lower left dash panel under the steering wheel area. See picture.

2. Remove OEM OBDII connector by pinching the sides and pushing it out the rear of the OEM bracket.

3. Install the white ITC950 data link harness OBDII connector into the OEM bracket by pushing it in from the rear.

4. Plug the red connector from the ITC950 data link harness into the vehicles OBDII connector. Ensure the connection is fully seated and secure with the supplied wire tie.

5. Secure the harness so that it does not hang below the lower dash panel.

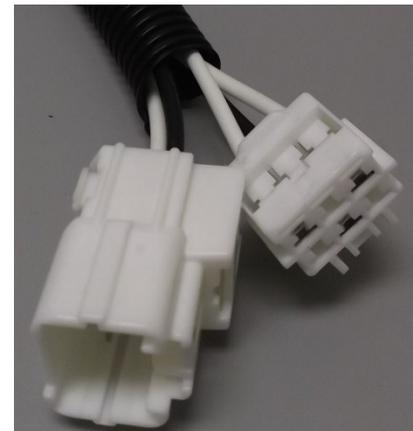6. Plug the 6 pin connector into the ITC950 module.

OEM OBDII bracket with White ITC950 connector installed, with Grey OEM connector in lower right

ITC950 Ignition Switch Harness

This harness T's into the vehicles ignition switch and runs signals to the ITC950 module using the 12 pin connector.
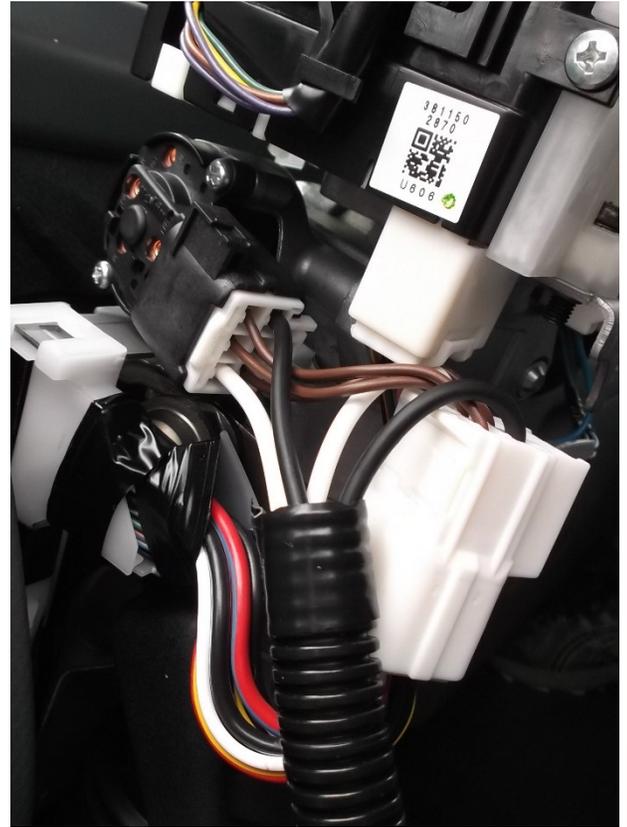

ITC950 Ignition Switch Harness

Ignition Switch Connectors Mate with Isuzu Switch and Harness

InterMotive Inc.
12840 Earhart Ave.
Auburn, CA 95602

Phone: (530) 823-1048
Fax: (530) 823-1516
Page 2 of 8

www.intermotive.net
products@intermotive.net
ITC950-010720-INS

ITC950 Ignition Switch harness (cont.)

1. Remove the upper and lower steering column trim covers by removing three torx screws from the bottom cover.

2. Locate the ignition switch connector and unplug it from the switch.

3. Install the ITC950 ignition switch harness between the Ignition Switch and the OEM harness.

4. Route the ITC950 harness down the steering column and secure with cable ties.

5. Plug the 12 Pin ITC connector into the ITC module.

6. Connect the ground eyelet to chassis ground. Find an appropriate location and ground the harness eyelets with a screw.

7. There are two sections of the ignition switch harness. These are normally supplied already plugged together with their 4 pin in-line connectors, but allow installing these sections separately if desired.

Back side of Isuzu ignition switch with ITC950 harness "T" installed between the switch and OEM harness.

ITC 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 ITC modules 12 pin connector.

ITC 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 have either an integral resistor or one wired in series. (A typical value would be 13V/0.02A= 650 ohms. 680 ohms is a recommended standard value. Use 1/2W resistor). Attach this Orange wire to the positive input for the LED or beeper. Attach a ground wire to the negative side of the circuit. This output pulses repeatedly during the final 30 seconds leading to idle shutdown.

ITC 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/White 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).

InterMotive Inc.
12840 Earhart Ave.
Auburn, CA 95602

Phone: (530) 823-1048
Fax: (530) 823-1516
Page 3 of 8

www.intermotive.net
products@intermotive.net
ITC950-010720-INS

Post Installation Testing

ITC Testing (ITC module must be visible for this test)

1. Start the engine.

2. Enter ITC Test Mode by pushing and holding the Service Brake while setting and releasing the Park Brake 4 times within 10 seconds. When successful, LED10 on the ITC module will be lit.

3. Release the Service Brake. When this 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. Confirm that Park Brake, Service Brake, or Accelerator Pedal input will reset the timer. LED 9 will light to verify each input.

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

5. Verify engine shuts off and LED10 goes off.

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

7. Mount the ITC module after the above post installation checks are successfully completed.

The ITC950 system is properly installed only if it passes all of the above steps. If any irregular operation is observed, contact InterMotive at 530-823-1048 for technical assistance.

Final assembly

Ensure all harnesses are properly routed, and are not hanging below the dash area.
Reinstall the steering column trim cover and under dash panel. Installation is complete.

InterMotive Inc.
12840 Earhart Ave.
Auburn, CA 95602

Phone: (530) 823-1048
Fax: (530) 823-1516
Page 4 of 8

www.intermotive.net
products@intermotive.net
ITC950-010720-INS

ITC950
Operating Instructions
Idle Timer Controller
2014-2019 Isuzu NPR 6.0L Gasoline Engine
Contact InterMotive for additional vehicle applications

System Overview

The ITC will shut off the vehicles engine if left idling for an extended period of time. The default timer will shut off the engine after 3 minutes of idling (transmission must be in Park or Neutral).

Idle Timer Controller (ITC) Operation

Default operation - the engine will shut off after 3 minutes of idling if the transmission is in either Park or Neutral.

Custom operation - A different idle shutoff time may have been programmed into the system by the final stage manufacturer.

Ignition Power Restore and Restart - After an automatic idle shutoff, the ignition key must be cycled off, then back to Run, before ignition power will be restored, and the vehicle can be restarted by turning the key to Start.
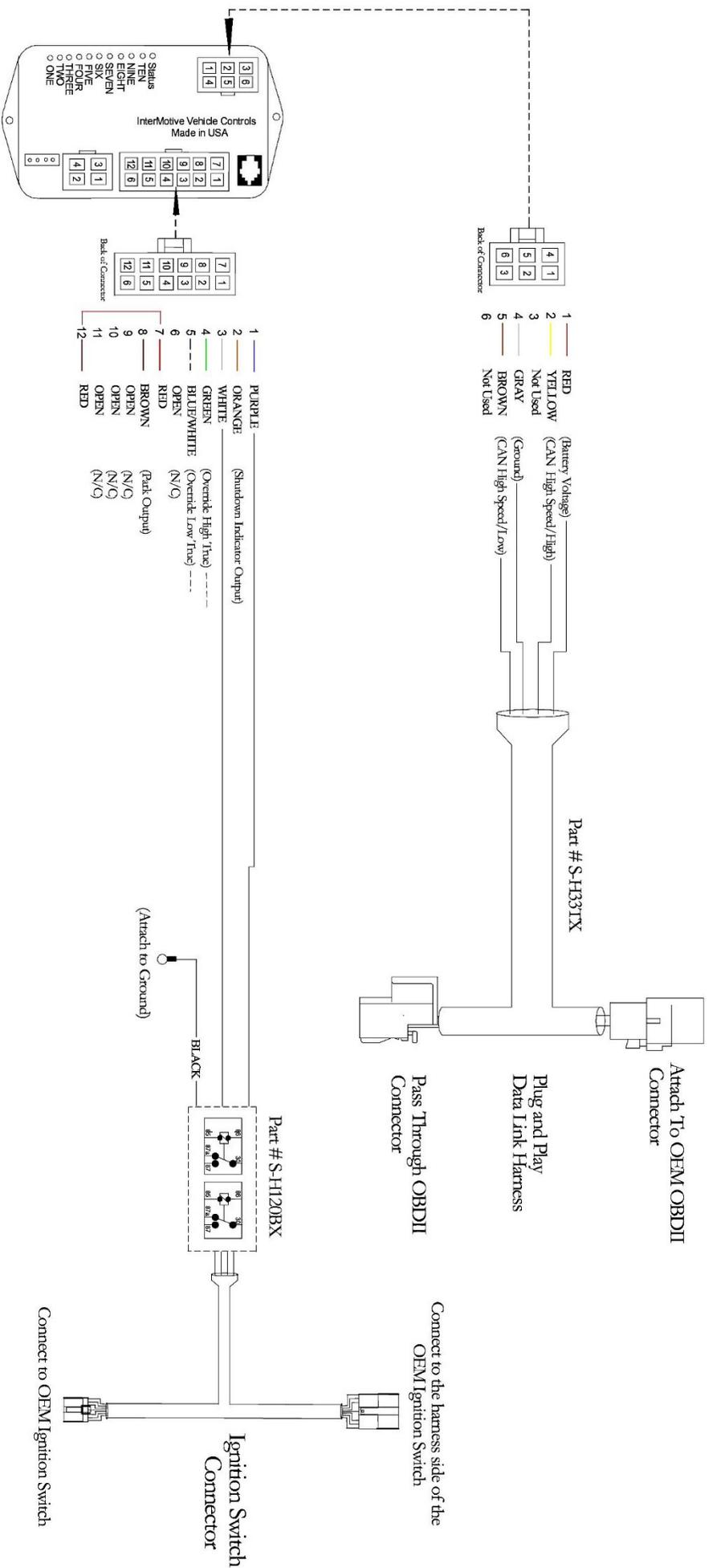
When ITC950 has switched off Ignition power, there is still a small power draw from the vehicle battery. This draw could potentially result in a dead battery if the key is left ON and in the vehicle for several days. For this reason, as well as to prevent theft, the key should always be removed from the Ignition once the operator has finished with the vehicle.

Optional Shutdown Indicators - The vehicle's final stage manufacturer may have installed an optional indicator lamp or beeper which ITC can use to warn of impending idle shut down. If installed, it will flash or sound repeatedly during the final 30 seconds prior to shut down.

Applying Service Brake, Accelerator pedal or Park Brake will restart the shut down timer back to the beginning.

Timer Override Inputs - The ITC950 provides Timer Override inputs which the final stage vehicle manufacturer may have wired to other equipment (PTO, compressor, inverter, etc….). This allows certain equipment on the vehicle to prevent idle shut down as necessary.

Once the optional equipment is switched off the ITC950 will resume Idle Timer shut down operation.

InterMotive Inc.
12840 Earhart Ave.
Auburn, CA 95602

Phone: (530) 823-1048
Fax: (530) 823-1516
Page 5 of 8

www.intermotive.net
products@intermotive.net
ITC950-010720-OP

ITC950-A1 Module
S-M1200-62

InterMotive Vehicle Controls
Made in USA

Status
TEN
NINE
EIGHT
SEVEN
SIX
FIVE
FOUR
THREE
TWO
ONE

Back of Connector

1 — PURPLE — (Shutdown Indicator Output)
2 — ORANGE
3 — WHITE
4 — GREEN — (Override High 'True')
5 — BLUE/WHITE — (Override Low 'True')
6 — OPEN — (N/C)
7 — RED
8 — BROWN — (Park Output)
9 — OPEN — (N/C)
10 — OPEN — (N/C)
11 — OPEN — (N/C)
12 — RED

Back of Connector

1 — RED — (Battery Voltage)
2 — YELLOW — (CAN High Speed/High)
3 — Not Used
4 — GRAY — (Ground)
5 — BROWN
6 — Not Used — (CAN High Speed/Low)

Part # S-H331X

Attach To OEM OBDII
Connector

Plug and Play
Data Link Harness

Pass Through OBDII
Connector

(Attach to Ground)

BLACK

Part # S-H120BX

Connect to OEM Ignition Switch

Ignition Switch
Connector

Connect to the harness side of the
OEM Ignition Switch

Submit product registration at www.intermotive.net

If the ITC950 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.

Appendix A

Reconfiguring the minimum engine shut down temperature and shut down times (optional)

Requirements

- USB to Serial Communication cable (Intermotive part number s-h37a1) which is a one time purchase. This is required for all programming.

- Laptop computer (programming is done while the module is on the vehicle).

Reconfiguration

Ensure that the proper drivers are installed for the USB to Serial Communication cable provided by InterMotive. All drivers 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, contact InterMotive for further assistance.

2. Once the installation process is complete, plug one end of the cable into the PC's USB port.

3. Ensure the vehicle key is off and plug the other end into the ITC950 module's COM port.

4. Open the Microsoft communication application HyperTerminal. This program can be found under: Start > All Programs > Accessories > Communications > HyperTerminal.

5. A prompt will appear to give this connection setup a name. It is recommended to use something meaningful such as "ITC Config", which may be reused in the future.

The next window will prompt to select the "COM port" to use for communicating with the module. Even though this download cable plugs into a USB port, it is treated like a serial COM port by HyperTerminal. 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 connection will be displayed as 'USB Serial Port.'

InterMotive Inc.
12840 Earhart Ave.
Auburn, CA 95602

Phone: (530) 823-1048
Fax: (530) 823-1516
Page 7 of 8

www.intermotive.net
products@intermotive.net
ITC950-010720-INS

Reconfiguring the Minimum Engine Shut Down Temperature and Shut Down Times (cont)

In the next HyperTerminal window, several of the default parameters for the Port Settings need to be changed.   Change the Bits per second to: **57600**, Data bits to: **8**, Parity: **None**, Stop bits: **1** and Flow control: **None.** HyperTerminal setup is now complete. The above setup information will be stored under the connection name. This step will not need to be done again in HyperTerminal.

1. Turn the vehicle key to the ON position. The ITC950 module will wakeup and text will be displayed on the open HyperTerminal window.

2. If nothing appears, unplug the 6 pin Data Link connector going into the ITC950 module, wait several seconds, and plug the connector back in.

3. If still nothing appears, 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 or 2.

6. If 1 is selected, the screen will look like Screen Shot 2. Key in a new Idle Shutdown Time in seconds. This new shut down time will be used regardless of Park Brake on or off. Restoring the default 5/15 minute timing can be done by setting this time to 10,000.

7. If 2 is selected, the screen will look like Screen Shot 3. Key in a new minimum warm up temp in degrees F. ITC950 will not shut the engine off until this temperature is reached.

8. Press escape when parameters are set correctly.

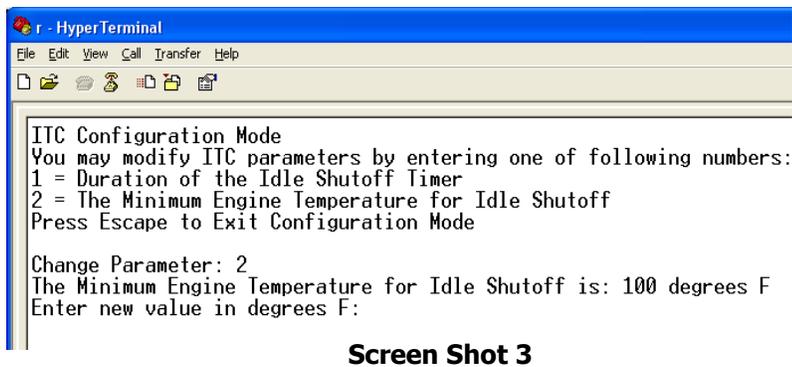9. When finished, key off ignition and disconnect the Communication cable.
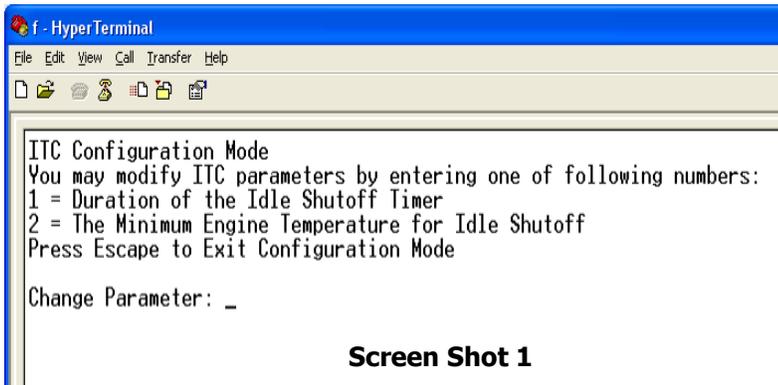
```
ITC Configuration Mode
You may modify ITC parameters by entering one of following numbers:
1 = Duration of the Idle Shutoff Timer
2 = The Minimum Engine Temperature for Idle Shutoff
Press Escape to Exit Configuration Mode

Change Parameter: _
```

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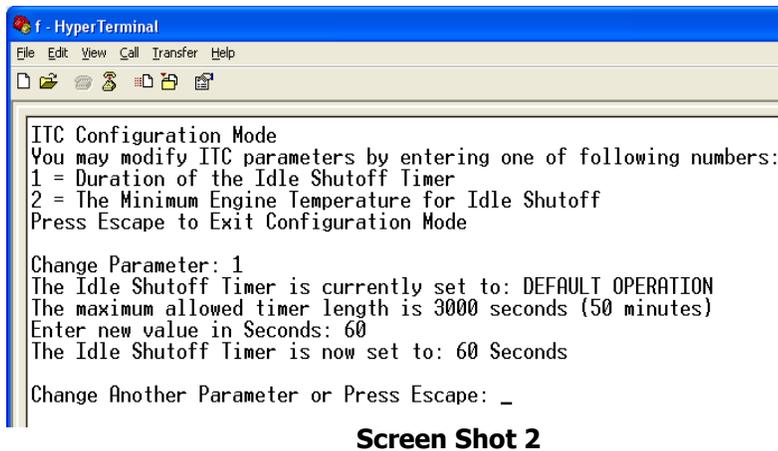
```
ITC Configuration Mode
You may modify ITC parameters by entering one of following numbers:
1 = Duration of the Idle Shutoff Timer
2 = The Minimum Engine Temperature for Idle Shutoff
Press Escape to Exit Configuration Mode

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

InterMotive Inc.   Phone: (530) 823-1048   www.intermotive.net
12840 Earhart Ave.   Fax: (530) 823-1516   products@intermotive.net
Auburn, CA 95602   Page 8 of 8   ITC950-010720-INS