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**Countries:**

**Availability:** ISIS, FleetSIS, NotSIR

**Major System:** ELECTRICAL SYSTEM

**Current Language:** English

**Other Languages:** NONE

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Coding Information

|                  |                           |                                   |                         |              |                         |                |                    |
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**Title:** LT and ProStar with feature code 0008TSJ Auto Start Stop Troubleshooting

**Applies To:** LT and ProStar

## Change Log

Please refer to the change log text box below for recent changes to this article:

07/06/2017 - Updated article to include LT model.  
 06/28/2017 - Added J1939 Multiplexing parameters to Cummins parameter list.  
 02/04/2015 - Added parameter list for Cummins ISX engine and the Body Controller.

## Description

Feature code 0008TSJ for auto start stop is a feature that will allow you to preset values in the body controller to allow the truck to start when the battery voltage or engine oil temperature reaches the preset value. The truck will then run for a preset time after battery voltage is within programmed value or oil temperature is at programmed value.

- For operators manual for auto start stop [Click Here](#).

## Troubleshooting

- Auto Start/Stop Troubleshooting for ProStar® and LoneStar® (S08358) [Click Here](#).
- Auto Start/Stop Troubleshooting for ProStar® and LoneStar® (S08358 PDF) [Click Here](#).

### NOTE:

**System Description is Chapter 7**

**Troubleshooting is Chapter 8**

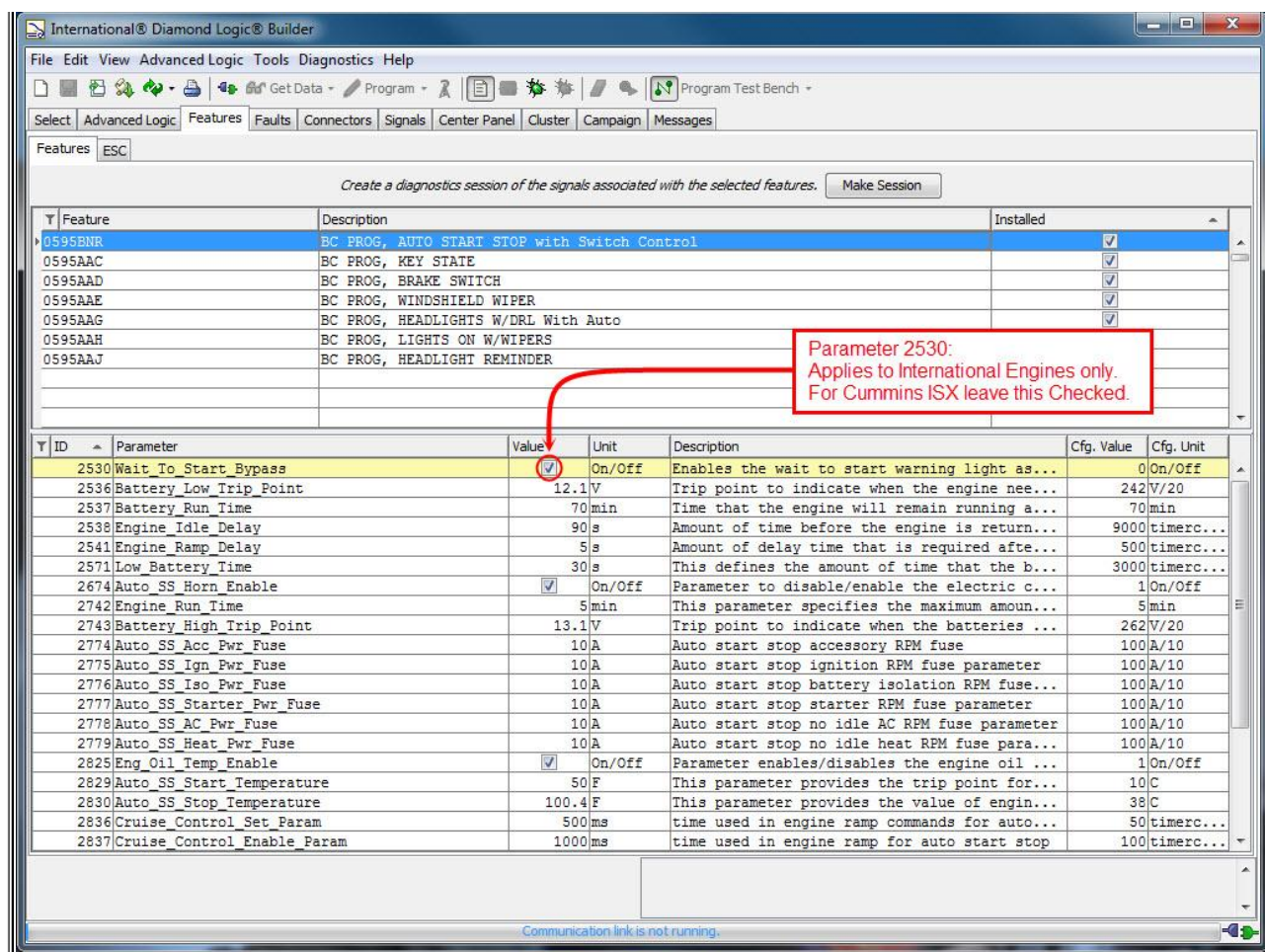
- Below are updated ECM and Body Controller Auto Start Stop Default Settings, these settings provide optimal performance.
  - If the customer has Idle Shutdown Enabled, then Idle Shutdown With Parking Brake Set and In PTO must be set to Disable
  - If Idle Shutdown shuts the engine off during an Auto Start event, the Auto Start/Stop system will be disabled.
  - The Diamond Logic Builder (DLB) Parameter list is designed for optimal battery life.
  - Changing the parameters below may result in poor system performance or shortened battery life.

| LT with Cummins X15<br>ProStar with Cummins ISX 15L<br>Auto Start Stop Parameters |        |         |
|---|--------|---------|
| Cummins INSITE  |        |         |
| Idle Shutdown   | Enable |         |
| • Idle Shutdown Coolant Temperature Threshold                                     | 30     | °F      |
| • Percent Engine Load   | 90     | Percent |

|   |                |                      |
|---|----------------|----------------------|
| • Time Before Shutdown  | 00:05:00       | HH:MM:SS             |
| • Ambient Temperature Override  | Disable        |                      |
| • Greenhouse Gas Idle Shutdown  | Disable        |                      |
| • Idle Shutdown With Parking Brake Set  | Disable        |                      |
| • In PTO  | Disable        |                      |
| • Manual Override   | Disable        |                      |
| • Shutdown Accessory Relay  | Not Installed  |                      |
| • Warning Period  | Disable        |                      |
| <b>PTO</b>  | <b>Enable</b>  |                      |
| • PTO Speed 1 Device  | 0              |                      |
| • PTO Speed 2 Device  | 0              |                      |
| • PTO Speed 3 Device  | 0              |                      |
| • PTO Speed 4 Device  | 0              |                      |
| • PTO Speed 5 Device  | 0              |                      |
| • PTO Speed 6 Device  | 0              |                      |
| • PTO Speed 7 Device  | 0              |                      |
| • PTO Speed 8 Device  | 0              |                      |
| • Additional Switch Speed   | 1000           | RPM                  |
| • Maximum Engine Load   | 800            | Ft*lb                |
| • Maximum Speed <sup>1</sup>  | 1800           | RPM                  |
| • Maximum Vehicle Speed   | 6              | Mph                  |
| • Minimum Speed   | 500            | RPM                  |
| • Ramp Rate <sup>2</sup>  | 100            | Rpm/s                |
| • Resume Switch Speed <sup>3</sup>  | 1000           | RPM                  |
| • Set Switch Speed <sup>4</sup>   | 650            | RPM                  |
| <b>SAE J1939 Multiplexing</b>   |                |                      |
| • PTO On/Off Switch   | Enable         |                      |
| ↳   | Source Address | 33 - Body Controller |
| • PTO Set/Resume Switch   | Enable         |                      |
| ↳   | Source Address | 33 - Body Controller |
| <ol style="list-style-type: none"> <li>Set 'Maximum Speed' to 1800 RPM so the ECM is not governed at 1000 RPM. <ul style="list-style-type: none"> <li>This allows the engine to run at 1000 RPM or above, resulting in consistent engine speed when running in Auto Start Stop.</li> <li>Maximum Speed cannot be less than 1200 RPM</li> </ul> </li> <li>Set 'Ramp Rate' to 100 rpm/s for a smoother transition of engine speed while ramping.</li> <li>Set 'Resume Switch' Speed to 1000 RPM <ul style="list-style-type: none"> <li>If the momentary press for engine PTO does not happen, the ECM will still ramp the engine speed to 1000 RPM</li> </ul> </li> <li>Set 'Set Switch Speed' to 650 RPM so the initial set message from the BCM to ECM does not cause a sudden increase in engine speed.</li> </ol> |                |                      |
| <b>International Diamond Logic Builder (DLB) - ProStar Only</b>   |                |                      |
| BC PROG, AUTO START STOP with Switch Control  | 0595BNR        | Installed            |
| • 2530 - Wait To Start Bypass (Figure 1 below)  | Checked        | On/Off               |
| • 2536 - Battery Low Trip Point   | 12.1           | V                    |
| • 2537 - Battery Run Time   | 70             | min                  |

|                                      |         |        |
|--------------------------------------|---------|--------|
| • 2538 - Engine Idle Delay           | 90      | s      |
| • 2541 - Engine Ramp Delay           | 5       | s      |
| • 2571 - Low Battery Time            | 30      | s      |
| • 2674 - Auto SS Horn Enable         | Checked | On/Off |
| • 2742 - Engine Run Time             | 5       | min    |
| • 2743 - Battery High Trip Point     | 12.7    | V      |
| • 2774 - Auto SS Acc Pwr Fuse        | 10      | A      |
| • 2775 - Auto SS Ign Pwr Fuse        | 10      | A      |
| • 2776 - Auto SS Iso Pwr Fuse        | 10      | A      |
| • 2777 - Auto SS Starter Pwr Fuse    | 10      | A      |
| • 2778 - Auto SS AC Pwr Fuse         | 10      | A      |
| • 2779 - Auto SS Heat Pwr Fuse       | 10      | A      |
| • 2825 - Eng Oil Temp Enable         | Checked | On/Off |
| • 2829 - Auto SS Start Temperature   | 50      | F      |
| • 2830 - Auto SS Stop Temperature    | 100.4   | F      |
| • 2836 - Cruise Control Set Param    | 500     | ms     |
| • 2837 - Cruise Control Enable Param | 1000    | ms     |
| • 2838 - Cruise Control Resume Param | 1500    | ms     |
| • 2839 - Key Chk Time                | 30      | s      |
| • 2861 - Low Temperature Time        | 15      | min    |
| • 2862 - High Temperature Time       | 1       | min    |
| • 2863 - Auto SS Engine CAP Delay    | 120     | s      |
| • 3031 - Auto SS Engine CAP Speed    | 1000    | RPM    |
| • 3032 - Auto SS Ambient Temp CAP    | 56.019  | F      |

Figure 1 - ProStar ISX Parameter



- For the correct International Engine parameters use ServiceMaxx and apply this [Template](#).
- For circuit diagram for auto start stop [Click Here](#).
- For troubleshooting use this [Session](#) in DLB.
  - Save session to desktop then follow procedure to load the session in DLB
- How to load session in DLB [Click Here](#).

### Description - Auto Start/Stop Engine Shuts Down Prematurely - ProStar

The customer may state the auto start stop will start the engine and then within a few minutes the engine will shut down. They may also mention the "Idle shutdown light" in the gauge cluster comes on just before the engine shuts down. The engine may not ramp to 1000RPM when auto start is engaged (idles only).

If the vehicle in question has feature code 595BVG in the body controller follow the below repair procedure to install feature code 595BNR.

### Repair Procedure

If the customer has the above concern, perform the repair procedure.

- [Feature change procedure](#)

If feature code 595BNR is installed and the customer complains of extended runtime, follow the parameter change procedure to change the battery high voltage trip point.

- [Parameter change procedure](#)

### Description - ProStar ISX units with Auto Start/Stop Turn on after 15mins

This issue is specific to **ISX Engine** ProStar. The customer complaint may state that when in no-idle mode the engine will start after 15 mins, but will not shut down after the 70 minute programmed time out. This could be due to a missing ZVR circuit between the oil temp sensor and the body controller. This results in the body controller sensing engine oil temperature is very cold, and will keep the engine running even though the timer threshold is met.

| Part #         | Description   | Qty           |
|----------------|---------------|---------------|
| 3535424C1      | Seal/Sleeve   | 2             |
| 3535303C1      | Terminal      | 2             |
| Source locally | 18 gauge wire | Cut to length |

### **Repair Procedure**

Verify Customer concern of the Auto Start / Stop system stays running. If the concern is verified, check with DLB for the engine oil temperature reading. If it reads -40F, perform the following repair procedure.

- [Rework instructions](#)

After performing the rework instructions, verify proper system operation.

### **Other Resources**

- [Master Service Information Page](#)

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