

# Authorized Field Change

# NAVISTAR<sup>®</sup>

AFC 14904

---

**Date:** September 2014

**Subject File:** Engine

**Subject:** Programming the Powertrain.

Model: ProStar<sup>®</sup>+ 122-inch sleeper and TranStar<sup>®</sup> 8600 built with 0006DDN driveshafts

Start Date: 23 June 2011 End Date: 18 April 2014

Engine Family: MaxxForce<sup>®</sup> 13

Engine Family: Navistar<sup>®</sup> N13

Model: ProStar<sup>®</sup>+ 122-inch sleeper and built with 0006DDN driveshafts

Engine Family: Cummins<sup>®</sup> ISX

Unit Code:

Start Date: 07 August 2013 End Date: 18 April 2014

## DESCRIPTION

This AFC ensures engine torque parameters are properly matched to specified driveline.

## PARTS INFORMATION

No parts required for this AFC.

## SERVICE PROCEDURE



**WARNING:** To prevent property damage, personal injury, and / or death, park vehicle on hard flat surface, turn the engine off, set the parking brake, and install wheel chocks to prevent the vehicle from moving in both directions.



**WARNING:** To prevent personal injury and / or death, always wear safe eye protection when performing vehicle maintenance.

## **SERVICE PROCEDURE (CONT.)**

1. Bring vehicle into shop and park on flat surface.
2. Shift transmission to Park or Neutral, set parking brake, and install wheel chocks.

**NOTE: For Cummins® ECM Calibration Downloading without InCal CD, perform Steps 3 - 9.**

3. Log onto <https://quickserve.cummins.com>
4. Click Service tab.
5. Click Related Information tab.
6. Click Calibration Downloads link.

**NOTE: When the Calibration download screen pops up, the user has the option to select Engine Calibration, Doser Calibration, or NextGen Cense Calibration.**

7. Select correct calibration type.
8. Perform Engine Calibration downloads as follows:
  - a. Enter Engine Serial Number (ESN) and Engine Control Module (ECM) Code (without revision number).
  - b. Click Download Zip File and File Download window will open.
  - c. Click Open or Save on File Download window to extract it to C:\Intelect\INSITE\CalibrationWorkspace folder.
9. For Doser calibration download, extract it to C:\ or D:\root drive.

**NOTE: Perform Steps 10 - 20 to perform Cummins Programming.**

**NOTE: When using an Inline 5 or Inline 6, you can connect directly to the ECM using a programming connection. This will tap into the 3-pin triangle connector. If programming through the 9-pin American Trucking Association (ATA), you will need to pull the fuses for Antilock Brake System (ABS), Transmission Control Module (TCM), Body Controller (BC), cluster, and any module that is transmitting data on J1939 datalink. This will reduce the amount of datalink traffic to allow stable programming.**

10. Hook up a battery charger to ensure ECM voltage is above 12.5 volts.
11. Connect to ECM.
12. Click Features and Parameters icon.
13. Record ECM part number and calibration code.
14. Click Calibration Selection.
15. Click icon to download calibrations to ECM.

## SERVICE PROCEDURE (CONT.)

**NOTE: The calibration MUST have been released 29 May 2014 or after.**

16. Double-click calibration workspace, desired month of calibration, automotive, engine configuration you are working on, and then select ECM part number.
17. Sort through list and find ECM code you are working on and double-click selection.
18. Follow on-screen prompts.

Features and Parameters	ECM Value	Units
ISX12/15 CM2350 X102/X101		
CM2350A		
System ID and Dataplate		
Calibration Information		
Calibration Software Phase	091E0006	
Calibration Time/Date Stamp	92613211021	
DO Option	1870	
ECM Code	EF10055.17	
Other Options		
SC Option	12169	
Customer Information		
ECM Information		
Maintenance Monitor		
OEM Ambient Air Temperature Sensor		Disable
Parking Brake Switch		Enable
Powertrain Protection		
Driveshaft / Axle Torque Limit	14400	ft <sup>3</sup> /lb
Limit 1 Gear Ratio 1	0.50	
Limit 1 Gear Ratio 2	1.50	
Limit 1 Torque Limit 1	1750	ft <sup>3</sup> /lb
Limit 2 Gear Ratio 1	1.51	
Limit 2 Gear Ratio 2	9.00	
Limit 2 Torque Limit 2	1750	ft <sup>3</sup> /lb
Limit 3 Gear Ratio 1	9.01	
Limit 3 Gear Ratio 2	16.5	
Limit 3 Torque Limit 3	1050	ft <sup>3</sup> /lb
Maximum Torque at Zero Vehicle Speed	1050	ft <sup>3</sup> /lb
Torque Limit Switch		Disable
PTO		Disable
Remote Accelerator Pedal or Lever		Enable
Variable Valve Timing		
Vehicle Speed Sensor Anti-Tampering		Enable
Vehicle Speed Source		Enable
Maximum Engine Speed without Vehicle Speed Source	900	RPM
Number of Transmission Tailshaft Gear Teeth	16	
Rear Axle Ratio	2.47	
Tire Size	512	revs/mi

0000314341

**Figure 1. ECM Screenshot.**

19. The following parameters (Figure 1 and Table 1) need to be manually programmed after ECM calibration has been updated:

**Table 1. Cummins Parameter Change.**

Parameter Description	Setting
Powertrain Protection	Enable
Driveshaft / Axle Torque Limit	14400

## SERVICE PROCEDURE (CONT.)

**Table 1. Cummins Parameter Change. (cont.)**

<b>Parameter Description</b>	<b>Setting</b>
Limit 1 Gear Ratio 1	0.50
Limit 1 Gear Ratio 2	1.50
Limit 1 Torque Limit 1	1750
Limit 2 Gear Ratio 1	1.51
Limit 2 Gear Ratio 2	9.0
Limit 2 Torque Limit 2	1750
Limit 3 Gear Ratio 1	9.01
Limit 3 Gear Ratio 2	16.5
Limit 3 Torque Limit 3	1050
Maximum Torque at Zero Vehicle Speed	1050
Maximum Engine Speed without Vehicle Speed Source	900

20. Once parameters are manually manipulated, left-click on parameter page and select "Send to ECM."

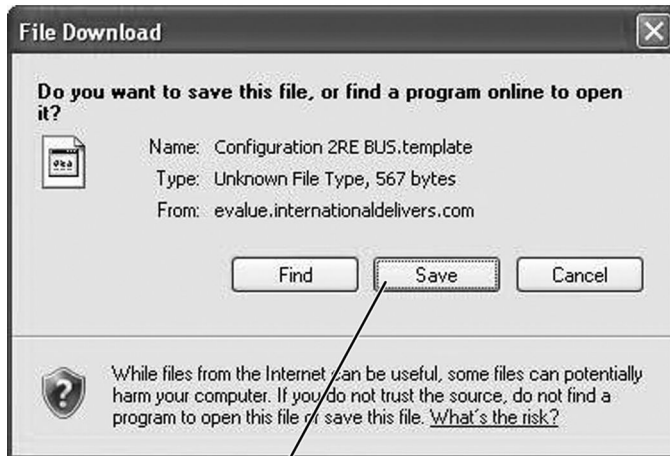
## SERVICE PROCEDURE (CONT.)

For MaxxForce® 13 2010-2012 template, [click here](#).

For MaxxForce® 13 2013 and later template, [click here](#).

Navistar® For N13 with SCR template, [click here](#).

**NOTE: Perform Step 21 to download template for programming MaxxForce® 13 and Navistar® N13 powertrains.**



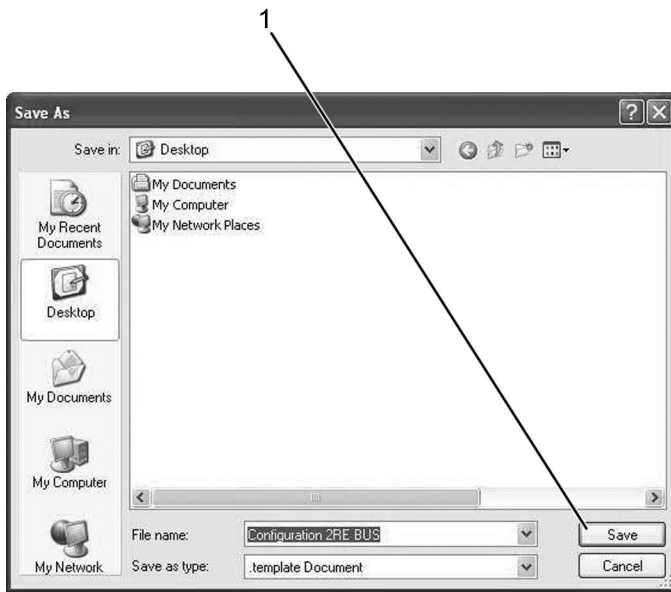
1

0000314342

**Figure 2. Download Template.**

1. Save button

## SERVICE PROCEDURE (CONT.)



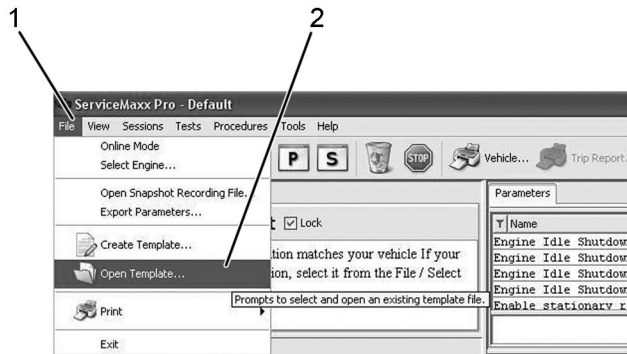
0000314343

**Figure 3. Save Template.**

1. Save button

21. Download template by clicking on Save button (Figure 2, Item 1) and save template to desktop by clicking on Save button (Figure 3, Item 1).

22. Open ServiceMaxx™ and connect to engine.



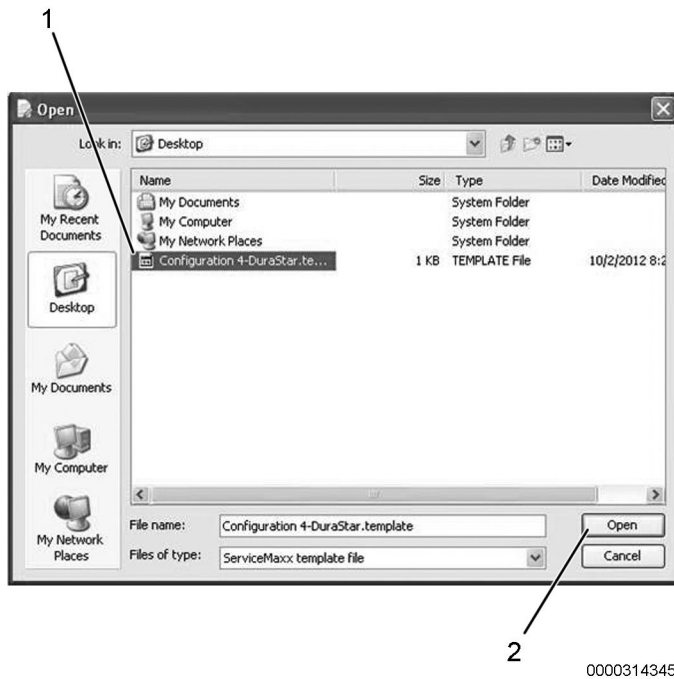
0000314344

**Figure 4. Open Template.**

1. File tab  
2. Open Template

23. Click File tab (Figure 4, Item 1) and then Open Template (Figure 4, Item 2).

## SERVICE PROCEDURE (CONT.)

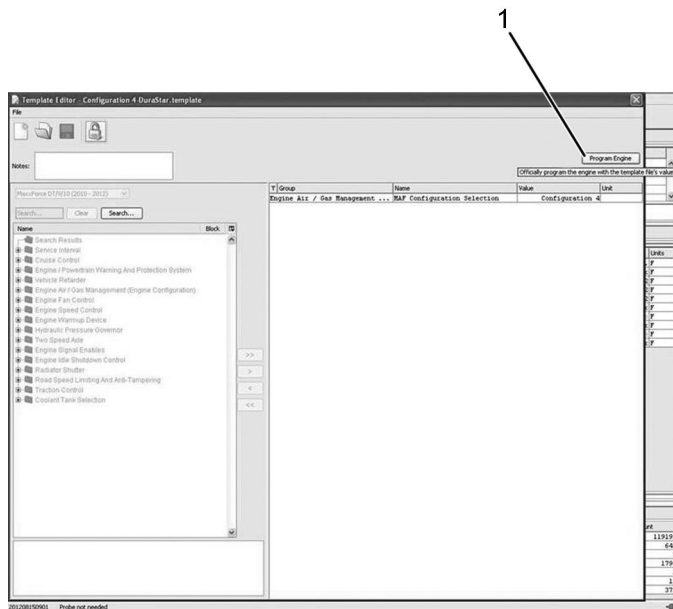


**Figure 5. Open Template.**

1. Template on desktop
2. Open button

24. Locate template on desktop (Figure 5, Item 1) and click Open button (Figure 5, Item 2).

## SERVICE PROCEDURE (CONT.)

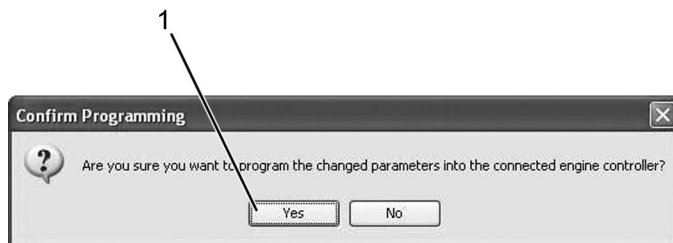


0000314346

**Figure 6. Program Engine.**

1. Program Engine button

25. Click Program Engine button (Figure 6, Item 1) to apply template to vehicle.



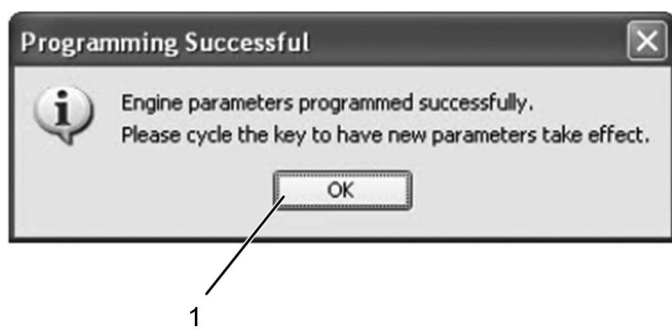
0000314347

**Figure 7. Program Parameters.**

1. Yes button

26. Click Yes button (Figure 7, Item 1) to program parameters.

## SERVICE PROCEDURE (CONT.)



**Figure 8. Programming Complete.**

1. OK button

27. ServiceMaxx™ will then prompt you to cycle key. Once complete, click OK button (Figure 8, Item 1) and programming is complete.

28. Remove battery charger.

29. Remove wheel chocks.

### LABOR INFORMATION

Operation number must appear on all claims.

**Table 2. Labor Information**

Operation No.	Description	Time
A40-14904-1	Recalibrate ECM, Cummins® ISX	0.5 hr
A40-14904-2	Recalibrate ECM, MaxxForce® 13 or Navistar® N13	0.4 hr

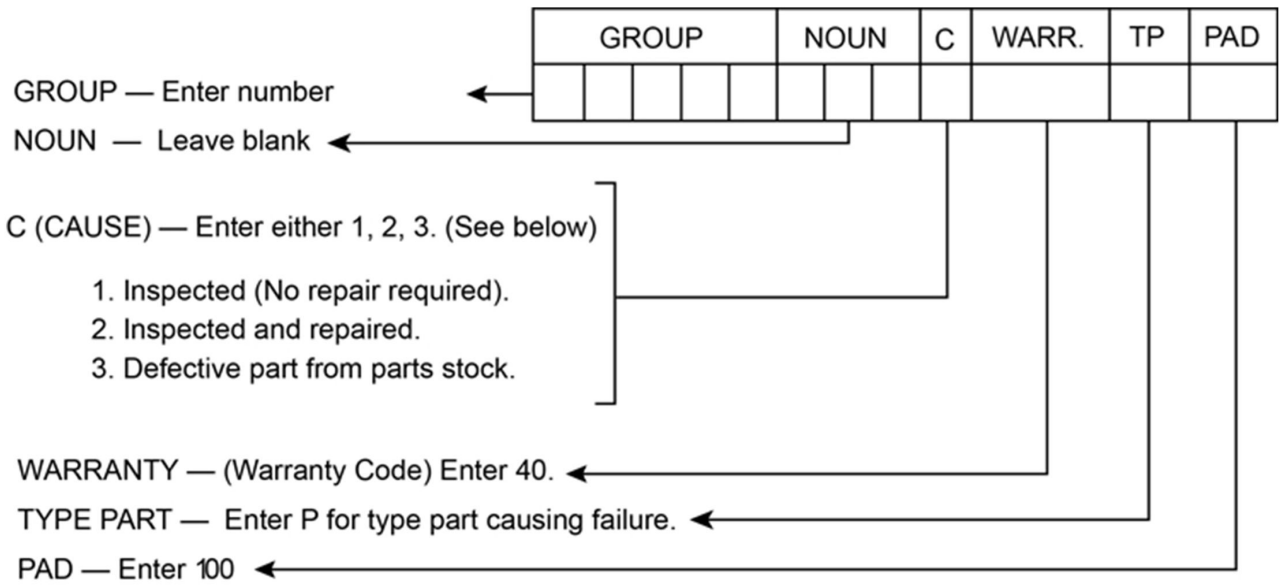
### ADMINISTRATIVE PROCEDURE

Expense is to be charged to Warranty. Claims are to be submitted in the normal manner, making reference to Authorized Field Change Number 14904.

It is important that the coding be completed properly to assist in processing the warranty claim. Complete instructions will be found in the Warranty Policy Manual, Section 7.1.8.

As with all claim submissions, items acquired locally must be submitted in the "Other Charges" tab. The cost of any bulk items (such as a bag of cable tie straps, roll of wire, barrel of oil, or tube of silicone) should be prorated for the cost of the individual pieces / amount used during each repair.

To ensure this important improvement is made in a timely manner, all claims for 14904 activity must be submitted by 17 September 2015 or within the normal warranty period for the vehicle, if after 17 September 2015.



0000047910