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Title: Vehicle Programming Information Associated with Engine: MaxxForce 2013+ I6 & V8

Applies To: MaxxForce 2013+ I6 & V8

CHANGE LOG

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

```
01/02/2025 - Added "SID 908" info, and link to ik2600273
09/26/2026 - Fixed broken link
06/10/2025 - Added Vehicle Programming Resource Center Link
05/28/2025 - Initial Article Release
```

DESCRIPTION

This document aims to enable technicians to:
1. Accurately identify third generation MaxxForce medium duty engine control systems.
2. Understand the programming intricacies related to these systems.
3. Autonomously execute programming tasks without needing technical support.

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Timeline
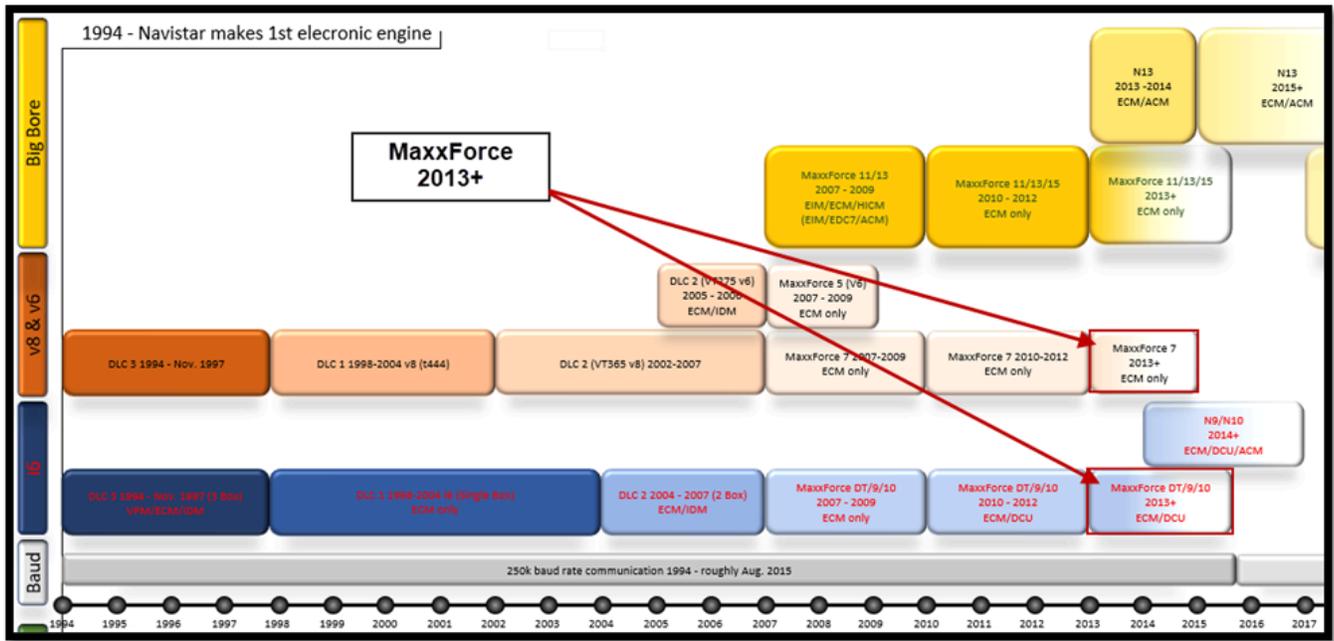
Software/Hardware Integrations

- **Navistar Engine Diagnostics (NED):** Supported. Used for diagnostics & parameter changes.
- **NavKal:** Supported. Used for flashing the entire ECM.
- **HeRo:** Supported.
- **DLB:** Supported.
- **360 Write Up:** Supported.
- The programming station works with this engine type.

How MaxxForce 2013+ Modules Work

ECM: **E**ngine **C**ontrol **M**odule. The ECM holds both the caibration and the parameters. MaxxForce 2013+ ECMs are dealer programmable. Both the calibration and parameters can be changed/programmed. I6 uses a different ECM than a V8.

DCU: **D**oser **C**ontrol **U**nit. The DCU contains a calibration and is dealer programmable using NavKal. I6 uses a DCU while V8 does not use a DCU.

Functional info: This type of ECM and DCU communicates on the 1939 (CAN) data link. Only the 1939 data link is used for communicating with NED. The 1939 data link is used for the entire NavKal process.

MaxxForce 2013+ I6 (MaxxForce DT/9/10)	MaxxForce 2013+ V8 (MaxxForce 7)
1939 CAN Data Link ECM DCU	1939 CAN Data Link ECM
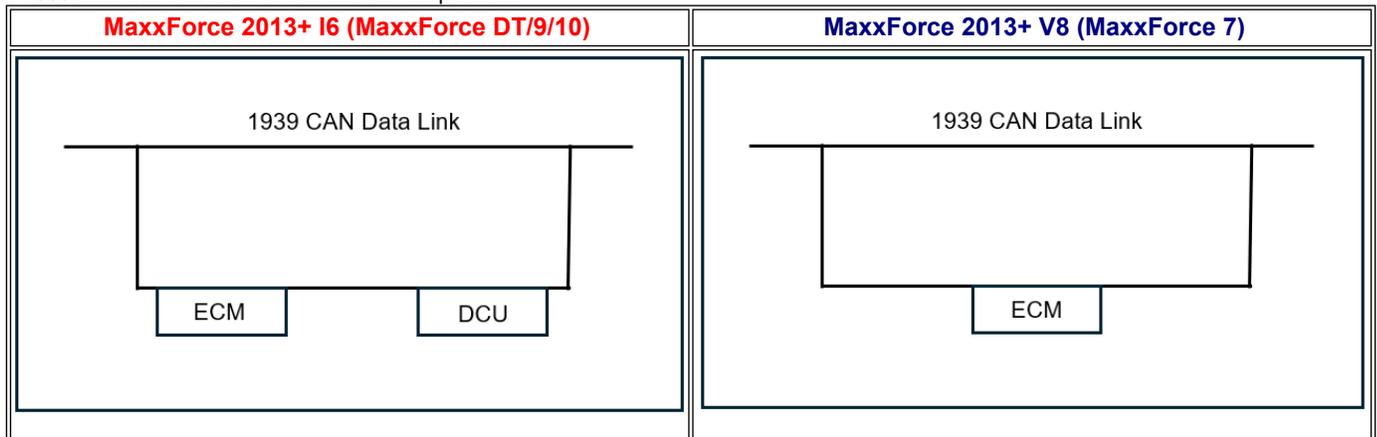
To see reference photos go to "Maxxforce 2013+ Module Part Information" section below.

Connecting To A MaxxForce 2013+ Engine
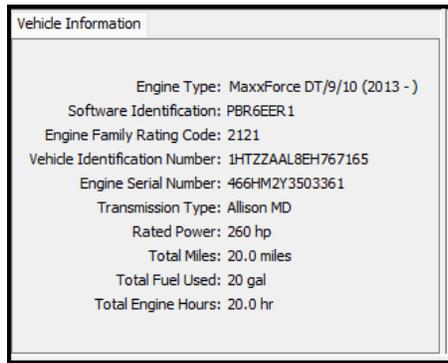
When NavKal connects to a 2013+ MaxxForce I6 or V8 engine, you should see data similar to the screenshot above. (further description is below)

Engine Type	MaxxForce DT/9/10 (2013-) (or V8)
Software Identification	Will show an 8-digit ECM calibration name.
Engine Family Rating Code	(ERFC) should show a 4-digit number.
Vehicle Identification Number	Will show the full 17-digit VIN.
Engine Serial Number	Will show the full 14-digit ESN.
Transmission Type	It should correctly reflect the installed transmission. (Unless the vehicle has an Eaton automated manual transmission - then it is normal for NED to show an Allison transmission)
Rated Power	It should correctly show the rated horsepower.
Total Miles	It should show the correct total vehicle distance. - NavKal shows total miles from the ECM parameter for total miles. - NED shows total miles from the instrument cluster.
Total Fuel Used	It should show correct total fuel used.
Total Engine Hours (not shown in screenshot above)	It should show correct total engine hours.

When connecting NavKal to a 2013+ MaxxForce DT/9/10 or a 2013+ MaxxForce 7, if you are prompted to select the engine type, you need to select "MaxxForce DT/9/10 (2013 -)" or "MaxxForce 7 (2013 -)" (shown in red box and blue box below, respectively).

It is common to confuse this engine type with the MaxxForce DT/9/10 (2010-2012) or the MaxxForce 7 (2010 - 2012). Selecting the wrong engine type will result in either error 84 or 89 during the NavKal programming process. You can use the bullet points below to tell the difference between 2010-2012 vs 2013+ MaxxForce DT/9/10.

- **Looking for sales code 0012XAN, 0012UNN, or 0012UNP is the only way for technicians to tell the difference between a 2010-2012 and a 2013+ (including 2015).**
- **2013+ MaxxForce DT/9/10 will show 0012XAN, 0012UNN, or 0012UNP in the Service Portal "Components" tab.**

- **2010-2012 MaxxForce DT/9/10 will not show 0012XAN, 0012UNN, or 0012UNP in the Service Portal "Components" tab.**

0012NUT	ENGINE, DIESEL {MaxxForce DT} EPA 2010, 300HP @ 2200 RPM, 860 lb-ft Torque @ 1300 RPM, 2400 RPM Governed Speed, 300 Peak HP (Max)
0012TSY	FAN DRIVE {Borg-Warner SA85} Viscous Type, Screw On
0012UAU	RADIATOR Aluminum; 2-Row, Cross Flow, Over Under System, 1045 Sqln Louvered, with 373 Sqln CAC, with 369 Sqln LTR, with In-Tank Transmission Oil Cooler
0012UXG	EMISSION, CALENDAR YEAR for 2010; MaxxForce DT Engines
0012VBR	AIR CLEANER with Service Protection Element
0012VXT	THROTTLE, HAND CONTROL Engine Speed Control; Electronic, Stationary, Variable Speed; Mounted on Steering Wheel
0012WTA	FAN DRIVE SPECIAL EFFECTS Fan Cooling Ring with Fan Shroud Effects, Engine Mounted
0012WZE	CARB IDLE COMPLIANCE Does Not Comply with California Clean Air Idle Regulations

- You cannot use the EPA date shown with the engine information in the Service Portal to determine if you're working with a 2010-2012 or if it is a 2013+.

Engine :	International : MAXXFORCE 9 315HP/2200 GOV EPA 2010, 315HP @ 2000 RPM, 950 lb-ft Torque @ 1200 RPM, 2200 RPM Governed Speed, 315 Peak HP (Max) (0012NUV)

- You cannot use the "Emissions, Calender Year Date" listed in the Service Portal Components tab to determine if you're working with a 2010-2012 or if it is a 2013+.

0012UXG	EMISSION, CALENDAR YEAR for 2010; MaxxForce DT Engines

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Source Addresses

- The ECM broadcasts source address 0 (zero).
- The DCU broadcasts source address 61 (sixty one).
- The ECM and DCU source addresses are broadcast only on the 1939 data link.
- These source addresses can be seen in the sniffer in either NED or NavKal.
- If you are using a Nexiq Communication cable, you could check the Nexiq Device Tester to see if source addresses 0 & 61 show on the 1939 data link.

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MaxxForce 2013+ Module Parts Information

- If you need engine identification information, please see [IK2600242](#).
- See [IK2600273](#) for help visually identifying various modules.
- SID numbers are important to consider when replacing an i6 ECM of this era. See [TR2600003](#) for more information on ECM SID numbers.
- MaxxForce 2013+ I6 (MaxxForce DT/9/10): Look up ECM part number by VIN. Should have "SID 913" on the label. It is very common to use an ECM with the wrong SID number for this specific engine type; however, that ECM will not be programmable to your 2013+ VIN.
- MaxxForce 2013+ V8 (MaxxForce 7): Look up ECM part number by VIN. Should have "SID 908" on the label

MaxxForce 2013+ I6 (MaxxForce DT/9/10) ECM & DCU	MaxxForce 2013+ V8 (MaxxForce 7) ECM	"SID 908" on 2013+ MaxxForce 7 ECM label

For additional information and photos see [IK2600273](#)

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MaxxForce 2013+ Horsepower Quotes

Horsepower increases are supported for these types of I6 & V8 engines. Follow the process outlined in IK2600069 to submit a case file for a horsepower quote. If the engine you're considering is already rated at the highest possible rating, then no increases are available. These are a few different ratings that are the highest in their class. See the chart below for the highest ratings. There is no need to submit a case requesting a horsepower quote for an engine that is already at one of these ratings, as there are no increases available.

Rating	Engine	Torque Range	Horsepower	Torque
12NUM	MxF DT	Standard	230	660
12NUT	MxF DT	High	300	860
12NUW	MxF 9	Standard	330	950
12NUZ	MxF 10	High	350	1150

International does not support changes from standard torque ratings (and vice versa). Therefore, if you have a MaxxForce DT engine with a rating of 12NUM, it is not possible to increase it to a higher one. If you submit a case file with this type of request, you will receive the response that there are no increases available.
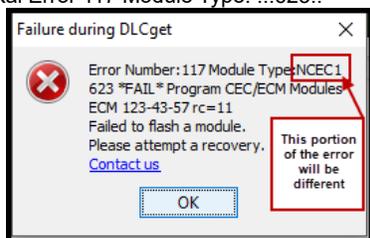
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MaxxForce 2013+ Engine Swaps

See IK2600047 for information about engine swaps. Programming changes may be needed in order to accommodate an engine swap. There are some instances where International CANNOT support an engine swap. If you have any doubts about whether your engine swap will be supported by International, please start a case file with the Vehicle Programming group and we will let you know if International will support the swap. It is advisable to do this BEFORE swapping the engine. The potential negative outcome would be that you install an engine that International cannot support, then we would not be able to provide you with the correct programming.

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Common Programming Issues With MaxxForce 2013+ Systems

- NavKal Error 117 Module Type: ...623..
  -
  - This error can be caused by communication from other modules interfering with NavKal's communication on the data link.
    - Fix - Either pull transmission/ABS fuses, or use the programming station. See TL2900048 for information about the programming.
- NavKal **Error 8** indicates that NavKal expected to see a module on the data link, but couldn't detect it.
  - Fix - IK2600252 provides troubleshooting steps and direction.
- NavKal **Error 84 or 89** indicates that you are using an ECM that has the wrong SID number or you have selected the wrong engine type in NavKal.
  - Possible Symptom: ECM loses VIN or ESN after key cycle once NavKal programming is completed.
    - Fix - Use the ECM that says "SID913" on the label. See TR2600003 for more information on the ECM SID numbers.
- NED: In order to accommodate the installation of an open breather, parameter 69250 must be changed. That parameter is dealer programmable through NED. A case file is NOT needed.

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Other Resources

RC2600001 - Vehicle Programming Resource Center

Master Service Information Site

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