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Coding Information

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**Title:** Vehicle Programming Information Associated with Engine: MaxxForce 2010-2012 I6 & V8

**Applies To:** MaxxForce 2010-2012 I6 & V8

## CHANGE LOG

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

<p>04/22/2026 - Updated Retired Links</p> <p>09/10/2025 - Added Allison Transmission info</p> <p>06/12/2025 - Link added for Vehicle Programming Resource Center</p> <p>09/23/2015 - Initial Article Release</p>
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## DESCRIPTION

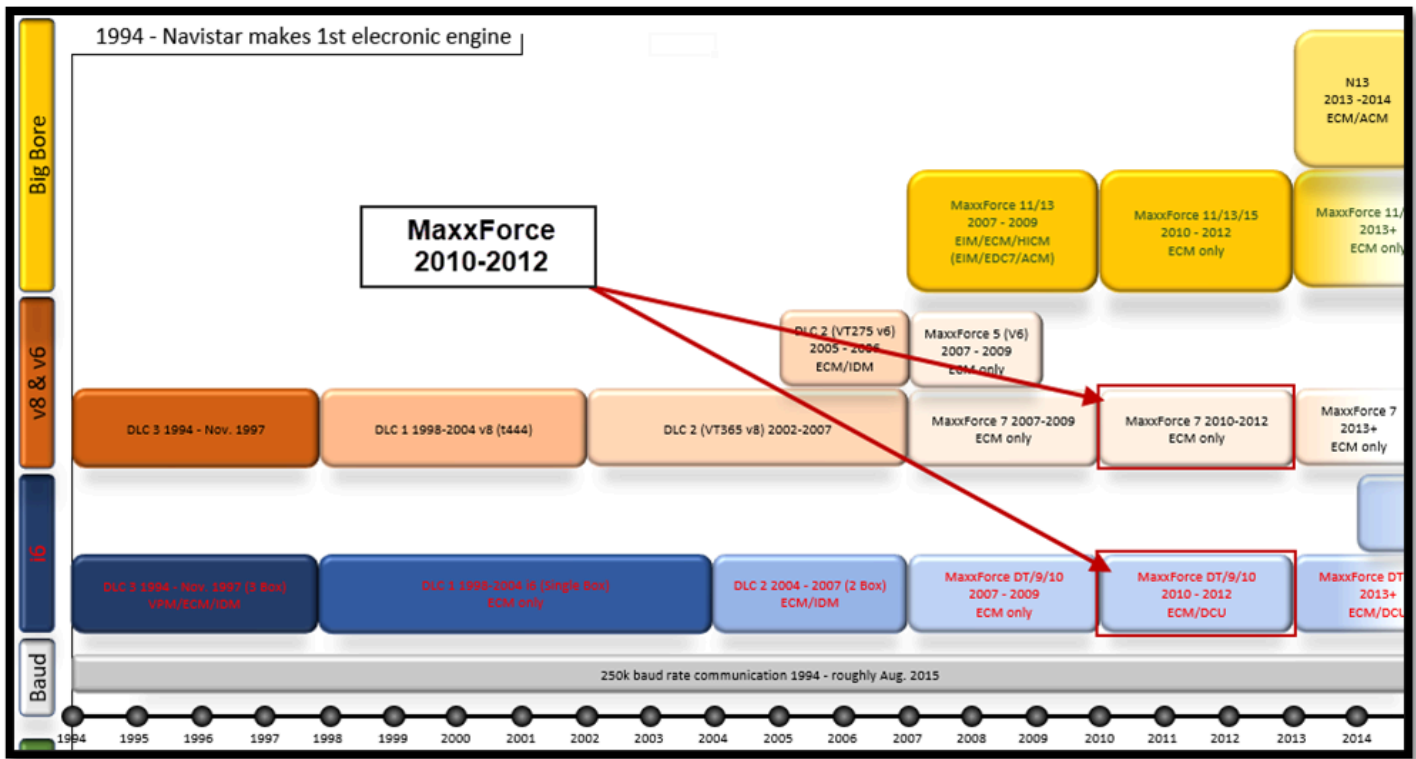
This document enables technicians to:

1. Accurately identify second 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



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## 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.

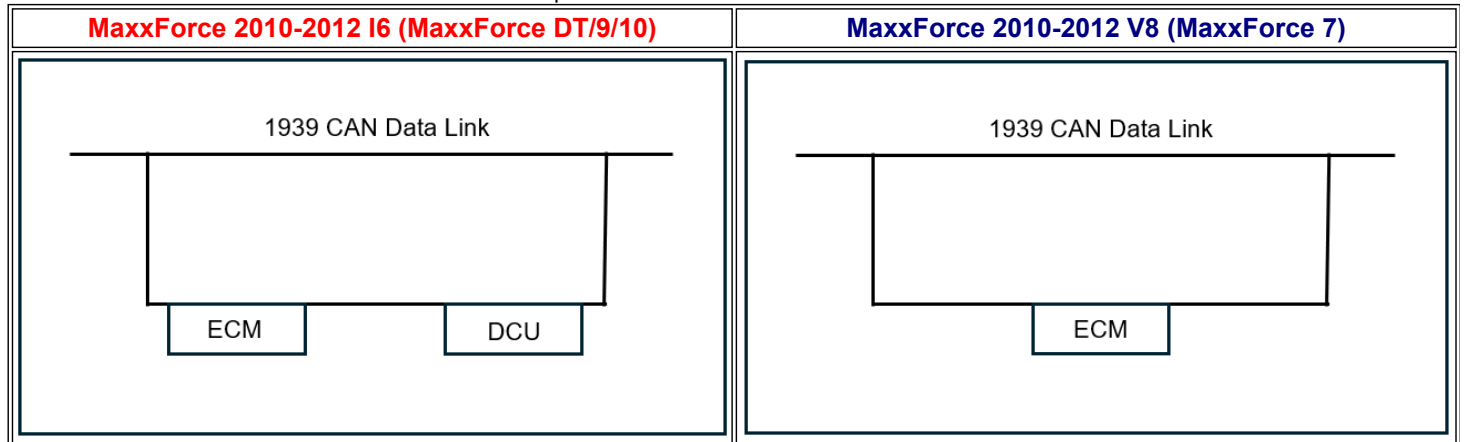
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## How MaxxForce 2010-2012 Modules Work

**ECM: Engine Control Module.** The ECM holds both the calibration and the parameters. MaxxForce 2010-2012 ECMs are dealer programmable. Both the calibration and parameters can be changed / programmed. I6 uses a different ECM than a V8.

**DCU: Doser Control Unit.** The DCU contains a calibration and is dealer programmable using NavKal. An I6 uses a DCU while a V8 does not use a DCU

**Functional info:** This type of ECM and DCU communicate 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

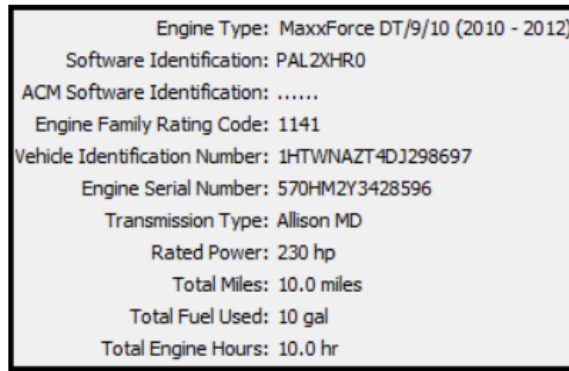


To see reference photos go to [Maxxforce 2010-2012 Module Part Information](#) section below.

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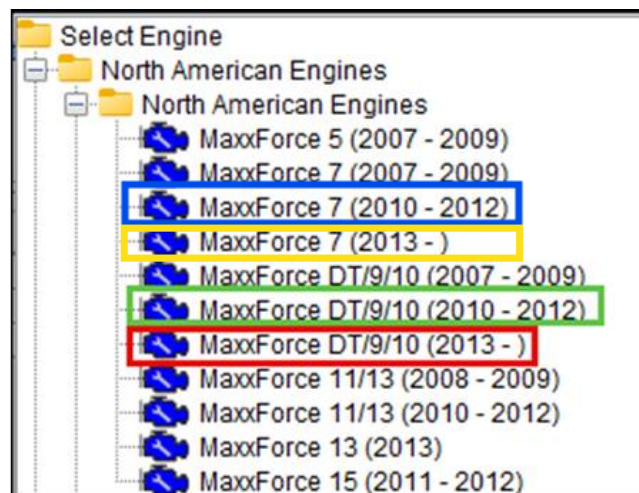
## Connecting To A MaxxForce 2010-2012 Engine

When NavKal connects to a MaxxFace DT/9/10 (2010-2012) engine, you should see data similar to the screenshot above (further description is below).



Engine Type	MaxxFace DT/9/10 (2010-2012) or MaxxFace 7 (2010-2012), respectively.
Software Identification	Will show an 8-digit calibration name.
ACM Software Identification	Will show an 8-digit calibration name (DCU was not connected during above picture).
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	Should correctly reflect the installed transmission (unless the vehicle has an Eaton automated manual transmission, in which case it is normal for NED to show an Allison transmission)
Rated Power	Should correctly show the rated horsepower.
Total Miles	Should show correct total vehicle distance. <ul style="list-style-type: none"> <li>• NavKal shows total miles from the ECM parameter for total miles.</li> <li>• NED shows total miles from the instrument cluster.</li> </ul>
Total Fuel Used	Should show correct total fuel used.
Total Engine Hours (not shown in screenshot above)	Should show correct total engine hours.

When connecting NavKal to a 2010-2012 MaxxFace DT/9/10 or a 2010-2012 MaxxFace 7, if you are prompted to select the engine type, you will need to select MaxxFace DT/9/10 (2010-2012) or MaxxFace 7 (2010 - 2012) (shown in the green and blue boxes below respectively).



It is common to confuse this engine type with the MaxxFace DT/9/10 (2013+) or the MaxxFace 7 (2013+). Selecting the wrong engine type will result in either error 84 or 89 during the NavKal programming process. Refer to the bullet points below to tell the difference between 2010-2012 vs 2013+ MaxxFace 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+.
- 2013+ MaxxFace DT/9/10 will show 0012XAN, 0012UNN, or 0012UNP in the Service Portal "Components" tab.

<a href="#">0012VXT</a>	THROTTLE, HAND CONTROL Engine Speed Control, Electronic, Stationary, variable Speed, Mounted on Steering Wheel
<a href="#">0012WTA</a>	FAN DRIVE SPECIAL EFFECTS Fan Shroud Effects, Engine Mounted
<a href="#">0012WZC</a>	CARB IDLE COMPLIANCE 5 Min., Tamper-Proof Engine Shutdown System, Complies with California Clean Air Regulations, Does Not Certify Engine for Low-NOx Extended Idling
<a href="#">0012XAN</a>	OBD COMPLIANCE for 2013 OBD (On Board Diagnostics)

MaxxForce DT/9/10 (2013) Has 12XAN

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

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

- Do not use the EPA date shown with the engine information in the Service Portal to determine if you are 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 )
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- Do not use the Emissions, Calender Year Date listed in the Service Portal Components tab to determine if you are working with a 2010-2012 or if it is a 2013+.

<a href="#">0012UXG</a>	EMISSION, CALENDAR YEAR for 2010; MaxxForce DT Engines
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## Source Addresses

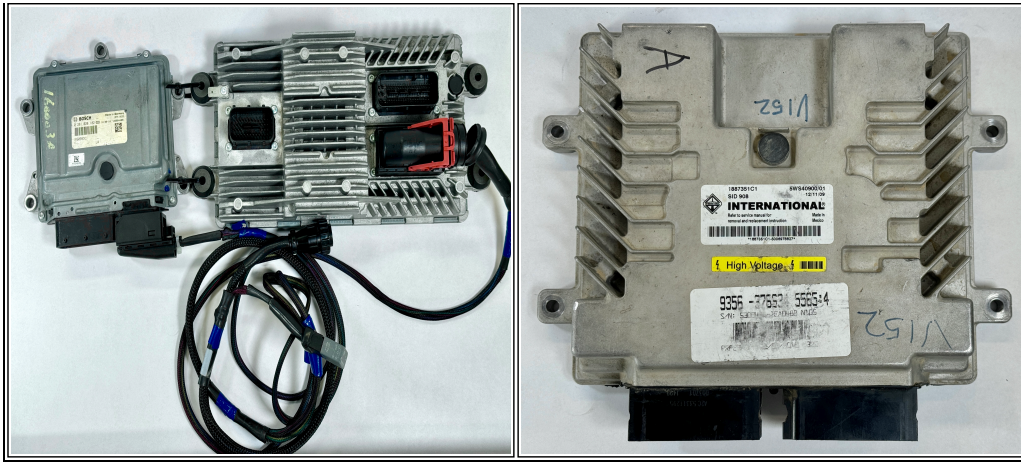
- The ECM broadcasts source address 0 (zero).
- The DCU broadcasts source address 61 (sixty-one).
- The ECM and DCU source addresses are broadcast only on the 1939 data link.
- These source addresses can be seen in the sniffer in either NED or NavKal.
- If you are using a Nexiq Communication cable, you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

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## MaxxForce 2010-2012 Module Parts Information

- \*If you need engine identification information, please see [IK2600242](#).
- \*SID numbers are important to consider when replacing an i6 ECM of this era. See [TR2600003](#) for more information on ECM SID numbers.
- **MaxxForce 2010-2012 I6 (MaxxForce DT/9/10):** Look up ECM part number by VIN. Should have "SID904" on 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 2010-2012 VIN. Using an ECM with the wrong SID number will result in either NavKal 84 or 89 error during blank module flashing.
- **MaxxForce 2010-2012 V8 (MaxxForce 7):** Look up ECM part number by VIN.

<b>MaxxForce 2010-2012 (MaxxForce DT/9/10) ECM &amp; DCU</b>	<b>MaxxForce 2010-2012 V8 (MaxxForce 7) ECM</b>



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

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## MaxxForce 2010-2012 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 in question is already rated at the highest possible rating, then no increases are available. These are a few different ratings that are highest in their class. See the chart below for those 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	N/A	330	950
12NUZ	MxF 10	N/A	350	1150

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

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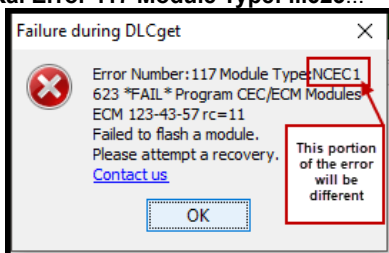
## MaxxForce 2010-2012 Engine Swaps

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 2010-2012 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 programming station. See [TL2900048](#) for information about the programming station.
- **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 upon key cycle after NavKal programming is completed.

- **Fix** - Use ECM that says "SID904" on the label. See [TR2600003](#) for more information on the ECM SID numbers.
- **Fault 609-19** after programming indicates corrupted ACM programming.
  - **Fix** - Start a case file with Vehicle Programming group (see [JK3000111](#) for instructions on how to start a case file) as remote support will be needed to use engineering software to flash the ACM.

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## **Other Resources**

[RC2600001 - Vehicle Programming Resource Center](#)

[Master Service Information Site](#)

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