Authorized Field Change

AFC 03903

Date: April, 2003

Subject File: ENGINE

Subject: Allison Transmission Upshifting Complaints in International 4300 and 4400 Models with DT 466 Engines Built in Escobedo Between July 25, 2002 and November 22, 2002

Model: 4300
Start Date: 07/25/2002 End Date: 11/22/2002

Model: 4400
Start Date: 07/25/2002 End Date: 11/22/2002

Engine Family: DT 466

DESCRIPTION

The vehicles described above may exhibit poor transmission upshifting. To correct this issue, the engine ECM must be re-programmed.

SERVICE PROCEDURE

NOTE – When performing the service procedure in this AFC letter, you must click on the box marked "Check if replacing module on the vehicle" to insure that the latest information is available for your vehicle.

NOTE – To perform this procedure, the EZ-Tech service tool must be used. The ECM cannot be re-programmed without the EZ-Tech service tool. To acquire this tool, contact Mr. Eric Brown at International Truck and Engine Corporation phone number 260–461–1894.

IMPORTANT – Record the **Customer Parameters** before programming the ECM. The **Customer Parameters** may change after the ECM is re-programmed and may need to be changed back to the settings the vehicle had when it arrived in the shop.

Re-program the ECM using the EZ-Tech service tool and NETS 3.1 software. Follow the instructions attached to this letter.

NOTE – NETS 3.3 software can also be used.

STARTING THE NETS SOFTWARE

1. When the EZ Tech is started, you should see the screen below. With Engine Diagnostics selected, choose the **International NETS** button. If you don't see the International Main Screen, click on the **International Diagnostics** shortcut as shown below.

Figure 1

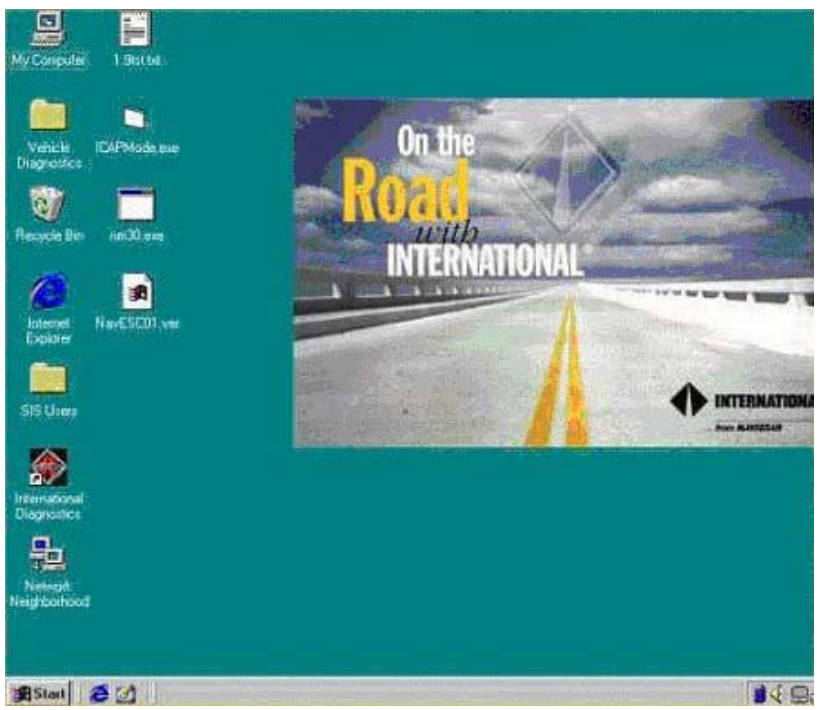


Figure 2

2. The following window appears. Click **OK**.

STARTING THE NETS SOFTWARE (CONT.)

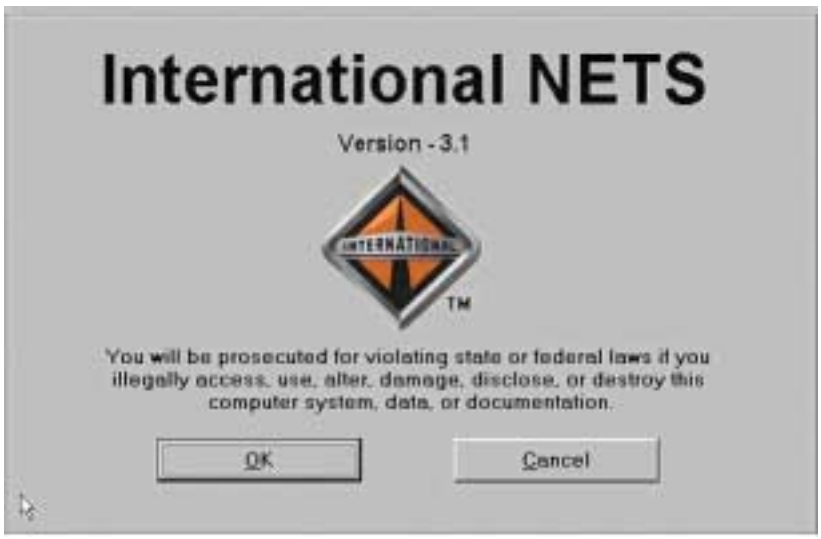


Figure 3

3. The main NETS screen will appear.

Figure 4

4. Just like the previous versions of NETS, the Navistar NETS 3.1 includes 4 steps:
   a. **GET:** Retrieves the data from the truck, saves it to the EZ Tech and passes it to Tech Service. This stage takes place at the truck with no need to have a phone line available.
   b. **SEND:** During this step the data retrieved from the truck is sent via modem/network to International. In order to perform this operation you must be connected to your phone or DCN II line so data can be transmitted. There is no need to be connected to the truck during this process.

STARTING THE NETS SOFTWARE (CONT.)

c. **RECEIVE:** Once the files containing the truck and engine data have been transmitted to International and processed, the system will update the information for the latest changes in parameters. During the RECEIVE step, these files containing the new information are electronically transmitted back to the EZ-Tech.

d. **PROGRAM:** The last step takes place back at the truck where the files containing the new engine or truck data are transmitted back to the engine ECM. Same as the GET process this stage takes place at the truck with no need to have a phone line available.

PROGRAMMING (OR REPROGRAMMING) AN ECM OR VPM

IMPORTANT – On vehicles equipped with Allison MD electronic transmissions and ABS Brakes, **the ECU's MUST BE DISCONNECTED** prior to beginning the GET process or any programming/reprogramming operation using NETS.

IMPORTANT – For programming and reprogramming operation to be successful the instructions provided on the screen and this manual must be strictly followed at all times. Always verify that all connections are solid and make sure that the key is in the right position according to the instructions.

GET Operation

The first step in using Navistar NETS is to get data from the truck. When the cables are properly connected to the truck, the user can click on Get Data. This will bring up a screen where the user can enter the 8-digit chassis number of the truck. This number must be used in order to properly identify the vehicle to Tech Service. It is important that the user enter the proper chassis number. The chassis number is the last 8 positions of the truck's VIN number.

When the user clicks Get Data, data will be taken from the truck and put into the laptop. This process should take less than one minute. This procedure must be completed successfully for any further steps to work. This step must be completed even if there is a brand new blank module in the truck. This is because the database will need to know the module serial number for future servicing. If the module, for some reason, has a different Chassis number than the truck, enter in the truck's chassis number. The program will then prompt you saying that the chassis number entered does not match the one on the module. Verify correct chassis is entered, and click OK. When the module gets reprogrammed, it will then report the correct chassis number in the future.

It is possible that some errors could occur during the get process. Most of these problems can be solved by checking a few important things:

- Prior to selecting Get Data, is the truck key on?
- Is the truck-computer interface cable securely attached to both the truck and to the computer?
- Is the interface cable attached to the communications port on the back of the computer?
- Is the correct cable being used?
- Are the ABS and transmission unplugged?

1. Make sure the ignition key is **ON**.

   Click on the **Get Data** button to start the GET process.

PROGRAMMING (OR REPROGRAMMING) AN ECM OR VPM (CONT.)

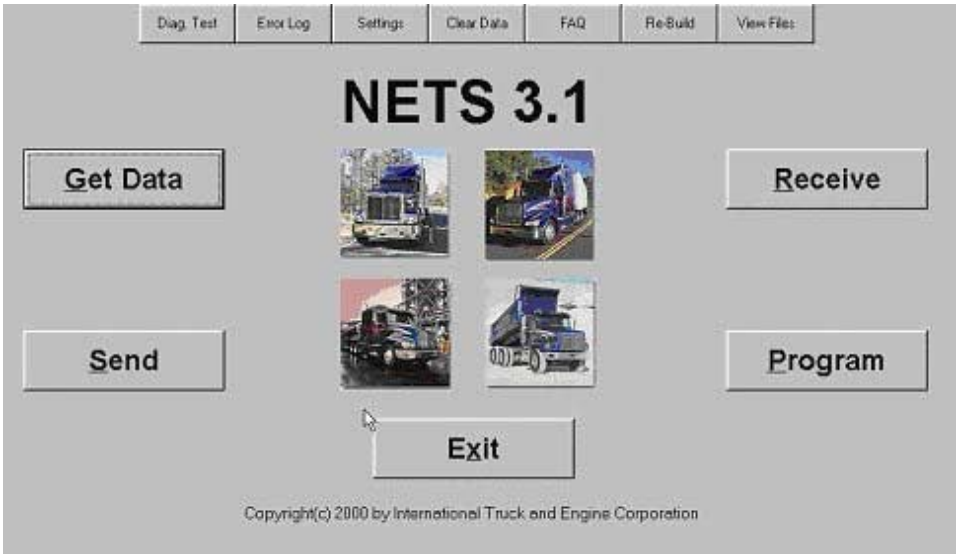


Figure 5

2. The window below will appear.

   Enter the last 8 digits of the VIN number.

   Check VPM/ECM for all vehicles except those equipped with the VT-365. Check ECM2/IDM2 for VT-365 equipped vehicles.

   Click **Get Data**

NOTE – When replacing a module on vehicle, it is mandatory to enter mileage. If the checkbox for replacing module is checked, a place to enter mileage will appear (along with gallons and hours).

PROGRAMMING (OR REPROGRAMMING) AN ECM OR VPM (CONT.)

Figure 6

3. Read the note and click **Yes**.

Figure 7

4. Turn the ignition key off and back on and then click **OK**.

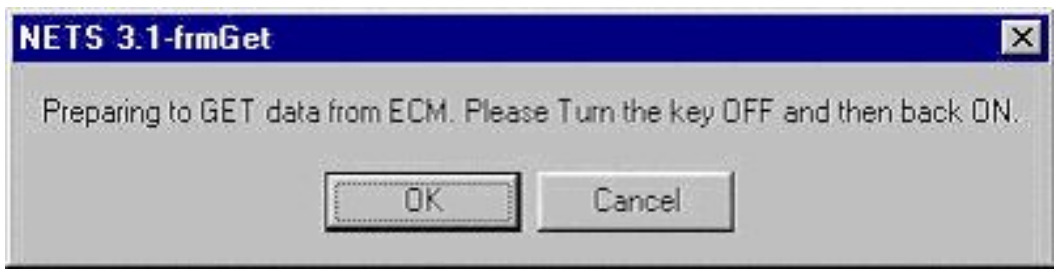


Figure 8

5. Navistar NETS then reads data from the ECM module.

   Please Wait...

PROGRAMMING (OR REPROGRAMMING) AN ECM OR VPM (CONT.)

NOTE – If the message "Engine controller is not responding" appears on the screen, the power is ON and all electronic auxiliary equipment is disconnected. After verifying this try again.

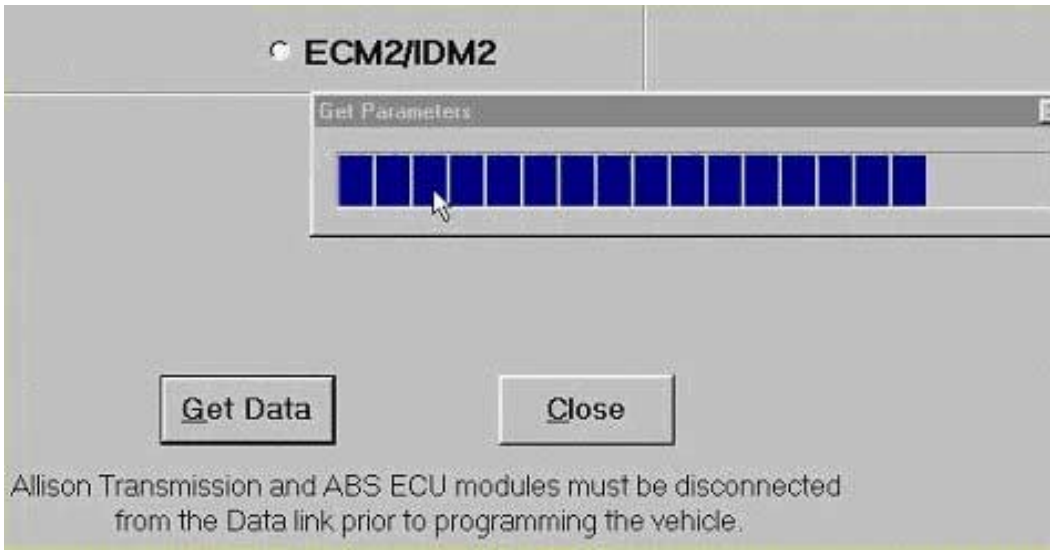


Figure 9

6. Once the data has been retrieved from the ECM the following message will appear: Verify the VIN number and click **OK** to complete the GET process.

Figure 10

SEND Operation

In this step, data is transferred from the local computer (EZ-Tech), to the computers at Tech Service. If you are installing a new module, Tech Service does not need to do anything with the files. The files will automatically be processed and sent back within 15 minutes. If you are making changes, you should FAX (260-461-1820) the program request form found on ISIS (a copy of the form is included at the end of this manual) with the requested programming changes. Send this form after sending the data.

From the send screen, you can send information, one chassis number at a time. However, you can do as many chassis numbers as you want in one session. NETS is a network application, it needs to be connected to the International network in order to communicate properly with Tech Service either directly (DCN-II), or through a modem/network connection. After you have connected to the network, you can choose the Chassis number to

send. This file will then be sent to the Tech Service computers. This transmission can take anywhere from a couple of seconds (if on DCN-II) to several minutes (if using a modem/network). Once the file is successfully sent, Tech Service can begin processing the data.

If any errors occur during the transmission, try again. Occasionally phone lines can have trouble, so it may take more than one try to send the file. There is no harm in sending the same data more than once if Tech Service has not started service programming. If Tech Service has started processing, resending the file will clear out any work they have done up to this point. Check with Tech Service before resending data. If a file is sent more than once, only the most recently sent file will be used by Tech Service.

To perform the SEND operation:

In order to perform this step you MUST have the following:

- A dedicated Phone line or DCN II network connection.
- The modem/network card must be installed to the EZ-Tech. If the modem/network card is not installed the computer must be shut off before the card can be installed. You will not lose data from the GET operation.
- The Modem/network adapter must be connected to the modem/network card and the phone line. There is no need to be connected to the truck to perform the SEND process.
- If using a phone connection, make sure that you have an user ID (DYYXXXX) and a valid password so you can access the International DCN II.

1. Click on the **Send Data** button to start the SEND process.

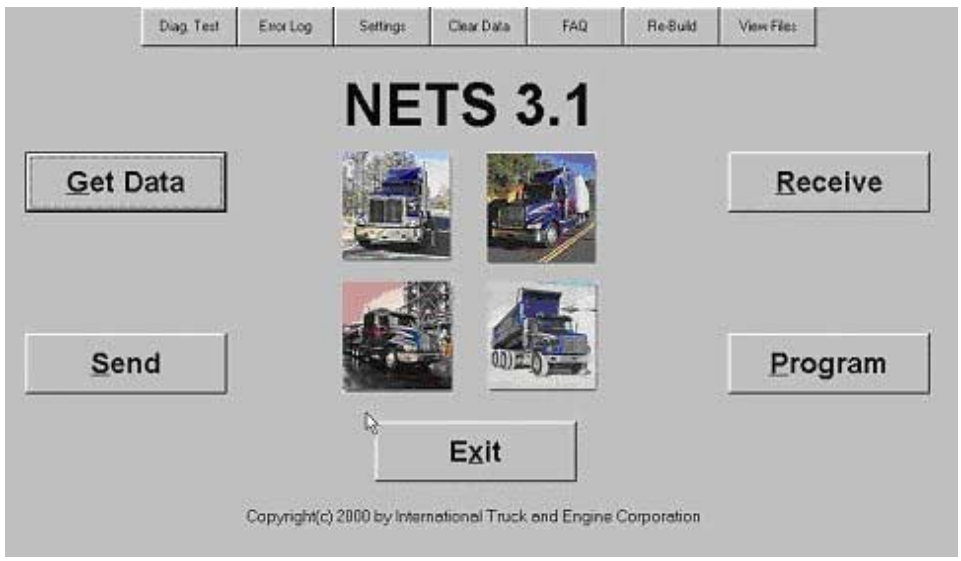


Figure 11

2. The window below will appear:

   Click the desired chassis or Select All. Then click **Send**. You can also select multiple VINs by holding the “Ctrl” key while clicking on the desired ones. Once you click on the Send Data button the EZ-Tech will initiate the connection with International.

PROGRAMMING (OR REPROGRAMMING) AN ECM OR VPM (CONT.)

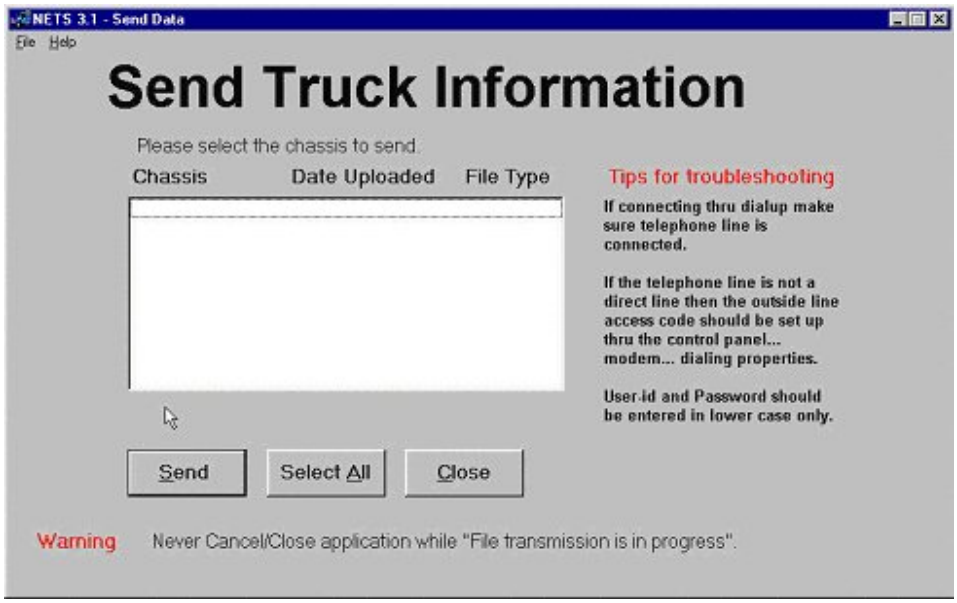


Figure 12

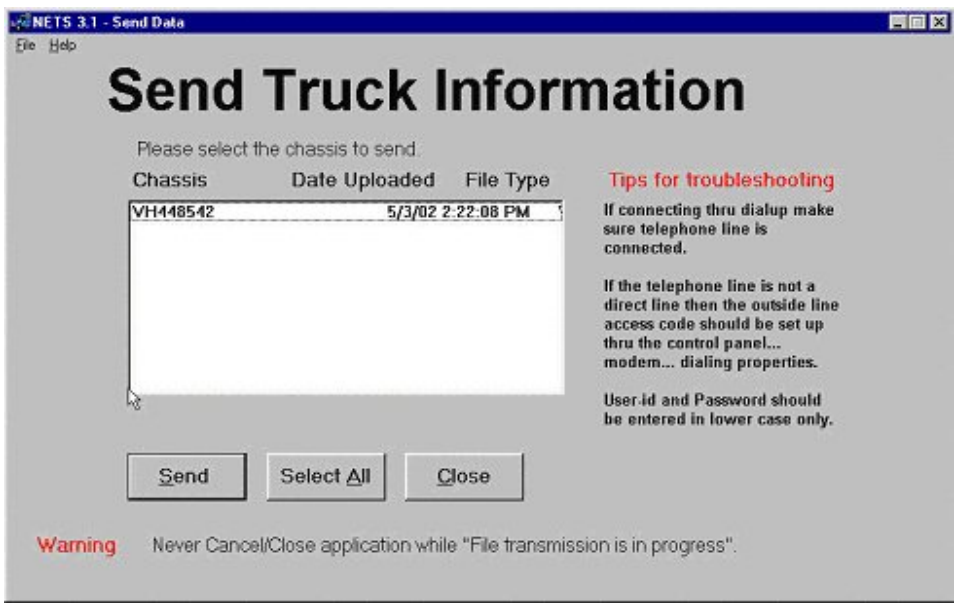


Figure 13

3. The following window asks you to select modem/network (phone) or Direct DCN II network connection. If using phone, make sure that your cable and lines are connected to modem/network. Click desired setting and then click Connect.

NOTE – If connecting using a phone line, clicking on the connect button the program will initiate a Password Entry screen as shown. Enter User ID and Password. Otherwise the process is the same as using DCN II.

Figure 14

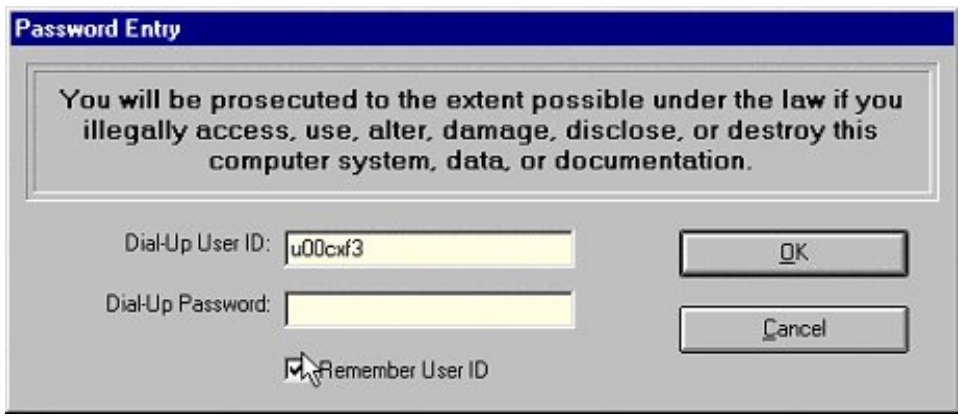


Figure 15

4. Wait while SEND is in progress.

Figure 16

5. Once connected the EZ-tech will start sending the selected file(s) to International. The EZ-Tech will send one file per VIN selected and will display a message indicating the number of files that were successfully sent. Please verify that the number of files successfully sent matches the amount of VINs previously selected. Click **OK** and then close the “Send data” window to continue with the process.

PROGRAMMING (OR REPROGRAMMING) AN ECM OR VPM (CONT.)

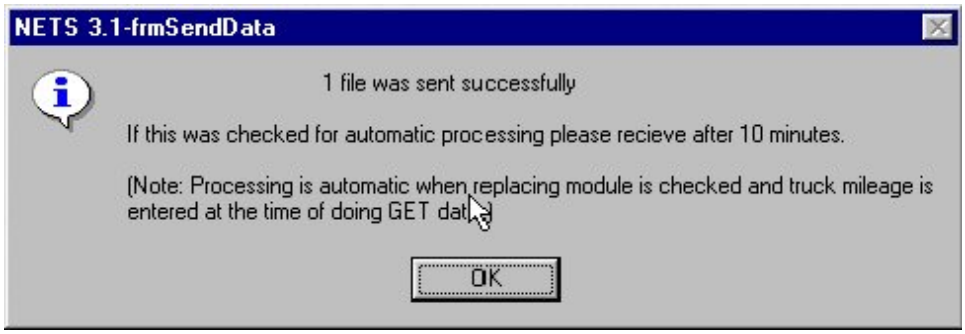


Figure 17

RECEIVE Operation

If checked as a new module, you can receive the file back in approximately 15 minutes. If not, after Tech Service receives your FAX with the parameters you wish to change, they will make the corrections and call you and let you know there is data ready to be received. As with the send portion of NETS, this receive portion will only work properly if connected to the International network. Once connected to the network, select a chassis number and click Receive Data. The receive process will take varying amounts of time, depending on the network connection.

After you have completed the SEND process the EZ-Tech can remain connected to International. If you are replacing a module the program will take approximately 15 minutes. Navistar NETS 3.1 allows you to initiate the RECEIVE process without having to talk to Tech Service.

1. Click on the **Receive** button at the main NETS 3.1 window to start the RECEIVE process.

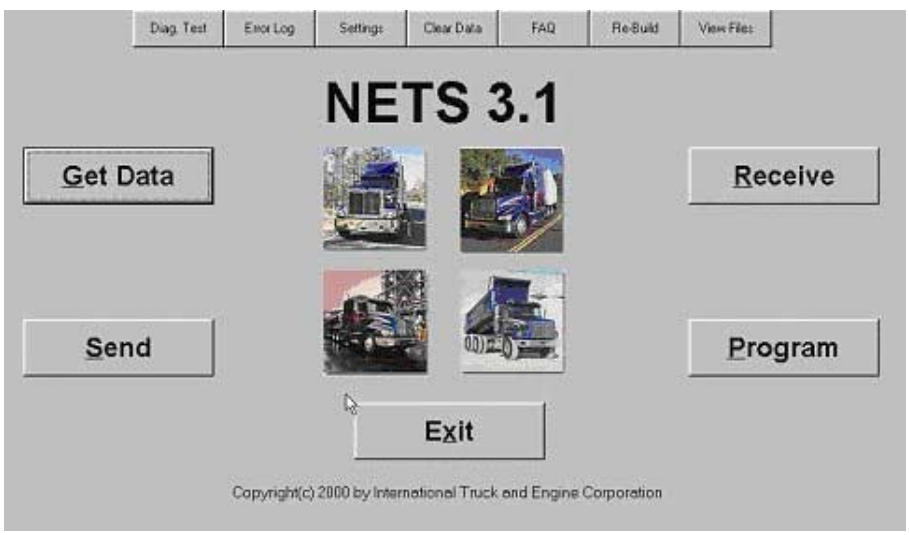


Figure 18

2. The window below will appear:

   Click the desired chassis or Select All. Then click **Receive**. You can also select multiple VINs by holding the “Ctrl” key while clicking on the desired ones. Once you click on the RECEIVE button the EZ-Tech will initiate the transmission of files back to the EZ-Tech.

PROGRAMMING (OR REPROGRAMMING) AN ECM OR VPM (CONT.)

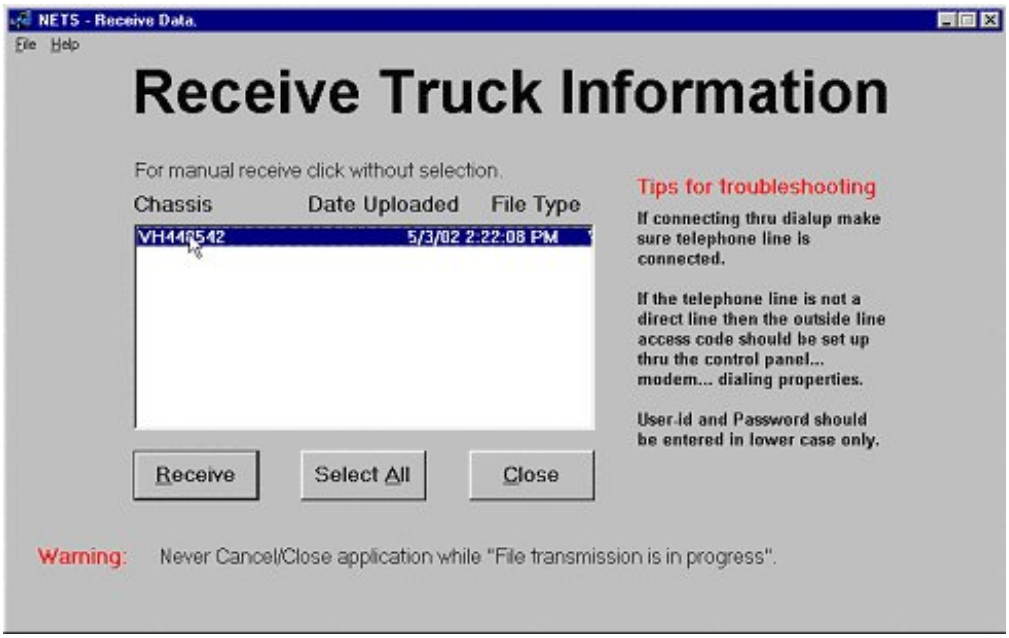


Figure 19

3. Wait while Receive is in progress. The following screens will appear.

Figure 20

Figure 21

NOTE – You can only select the VINs that you last Sent to International. Only these will be Received. If you request to receive a chassis that was not Sent originally, the EZ-Tech will display a message saying that the data for this chassis was not ready.

The transmission of the files will start as soon as the RECEIVE button is selected. The following screens will be observed then.

PROGRAMMING (OR REPROGRAMMING) AN ECM OR VPM (CONT.)

NOTE – If you are still connected to the network the program will not request you to connect again, however if the connection is not present, you will be requested to repeat the connection steps described on the SEND instructions.

Figure 22

Figure 23

4. The screen will display the number of successfully received files. 2 files will be received for each received VIN (ECM, 1 file for VPM) if done automatically. If not, there will be one file for the parameter change. Due to different file sizes, some files might take longer that others to transmit. Once the files have been received successfully, the following screen appears:

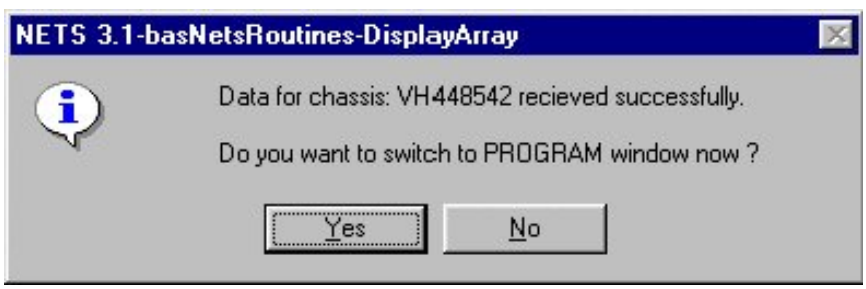


Figure 24

Click **YES** to go to PROGRAM or **NO** to return to the Main Screen

PROGRAM Operation

When the received data file(s) have been loaded onto the laptop, the user can then go and program the truck. The program part of Navistar Nets consists of several steps. First, the user must press program and then select which chassis number is on the truck to be programmed. Since it is important that the proper data is sent to the proper truck, the user will be asked to confirm that the proper chassis number is selected. Next, the program will walk the user through the steps of programming the truck. Sometimes there will be a one-step programming process (parameters only), while other times there will be a two-step programming process (includes strategy/calibration). This process can take a long time. If strategies/calibration needs to be done, the programming process can take as long as 8 minutes.

PROGRAMMING (OR REPROGRAMMING) AN ECM OR VPM (CONT.)

It is very important that this process is not interrupted!! If this process is stopped in the middle for any reason, (cable came loose, truck was keyed off, computer was turned off) it may be necessary to start the entire programming process again, starting with getting data from the truck. You can try to do programming again, and it may work if the programming process has not gotten far enough at the point of failure. If the message "The TP password does not match" or “proprietary password” comes up, then it will be necessary to completely restart the programming process from the ’Get’ step.

After programming is completed, it is necessary to key the truck off. The data will not be saved properly to the module if the key is left on. If another Get is done before the key is turned off, the programmed data will not be stored on the module. Once programming is successfully completed, NETS will automatically delete all of the NETS data files for the truck that was just programmed. These files are not needed anymore. To reprogram the same module again, new data would have to be taken from the truck and sent to Tech Service.

Perform the PROGRAM operation

Back at the vehicle, connect the EZ-Tech to the ATA connector.

Turn the ignition Key ON. **Remember to carefully follow the Key ON / Key OFF directions since this is very critical for a successful programming. DO NOT LEAVE THE TRUCK DURING PROGRAMMING.**

1. Click on the **Program** button at the main NETS 3.1 window to start the Programming process.

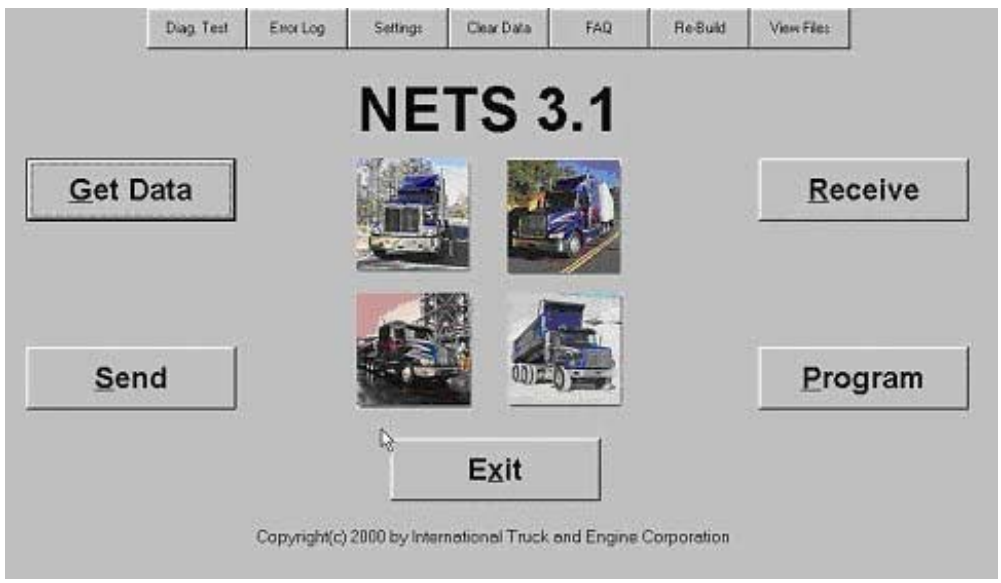


Figure 25

2. This window will appear:

PROGRAMMING (OR REPROGRAMMING) AN ECM OR VPM (CONT.)

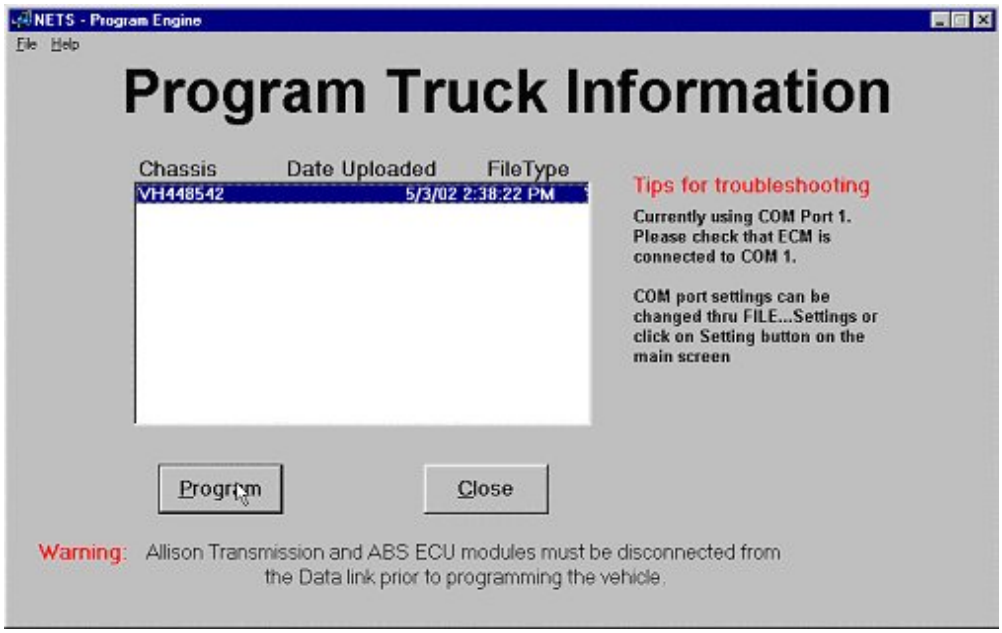


Figure 26

Select the desired VIN from the list and click on the **PROGRAM** button.

Key the truck ON. Read the note. Click **Yes** to start Programming the vehicle.

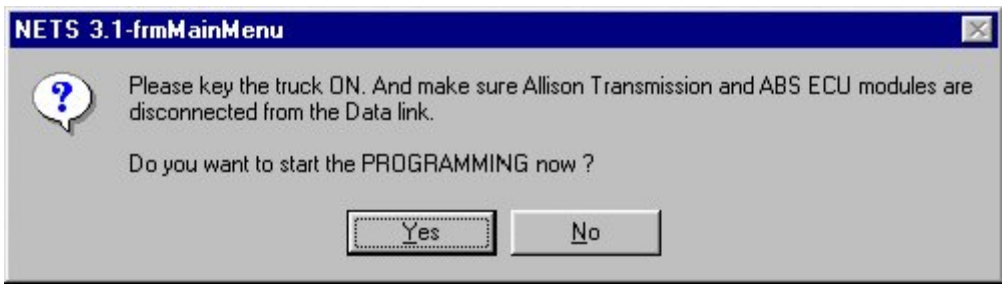


Figure 27

REMEMBER: on vehicles equipped with Allison MD electronic transmissions or has ABS Brakes, the ECU's MUST BE DISCONNECTED prior to begin any reprogramming operation using Navistar NETS 3.1. Please refer to Appendix A for details on how to disconnect the transmission.

IMPORTANT: For the reprogramming operation to be successful the instructions provided on the screen and this manual must be strictly followed at all times. Always verify that all connections are solid and make sure that the key is in the right position according to the instructions.

3. Turn the key OFF and back ON and click **OK**.

Figure 28

4. Read the note and click **Next**.

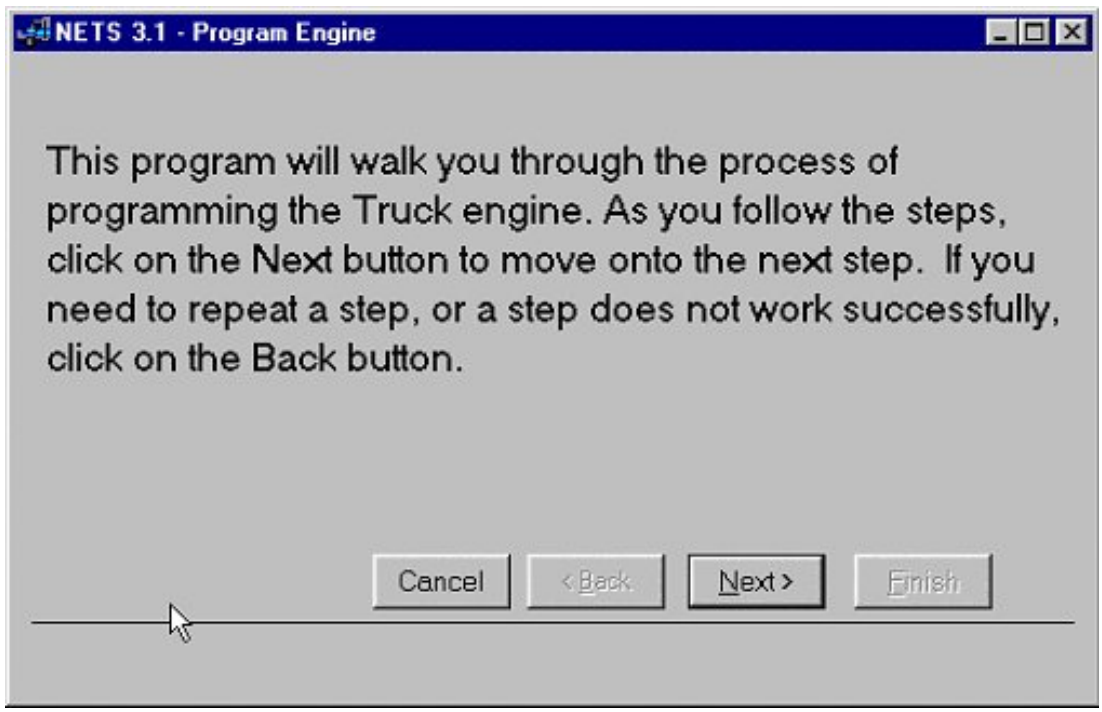


Figure 29

5. Read the instructions and click Next.

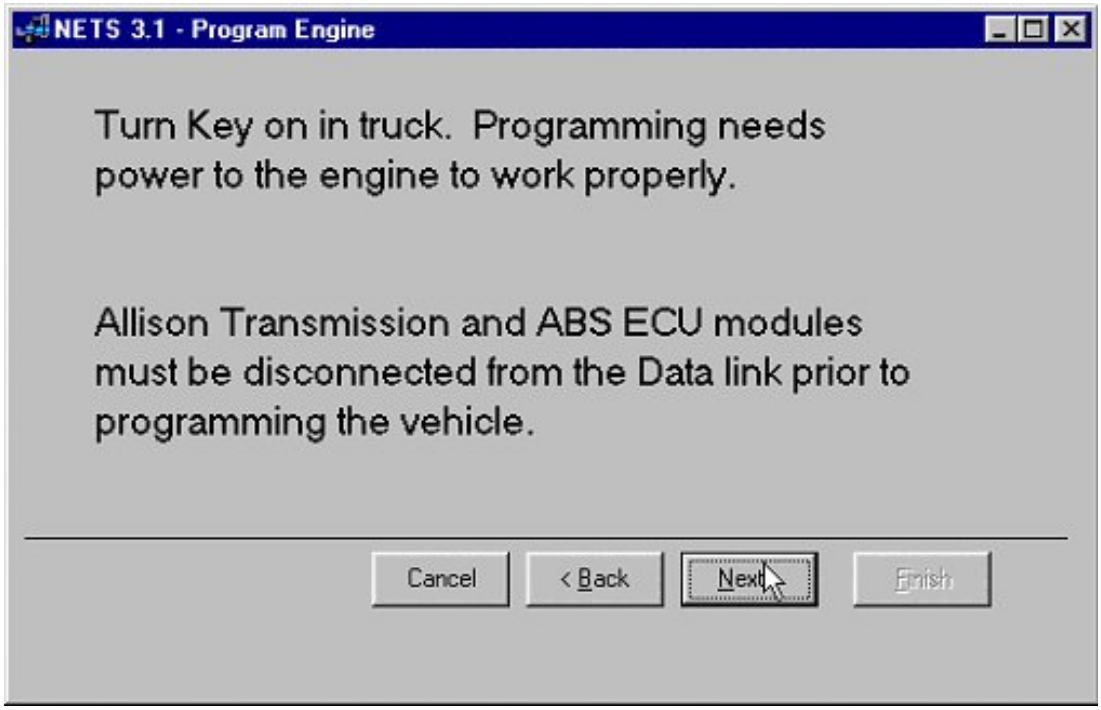


Figure 30

6. Follow the instructions and click **Next**.

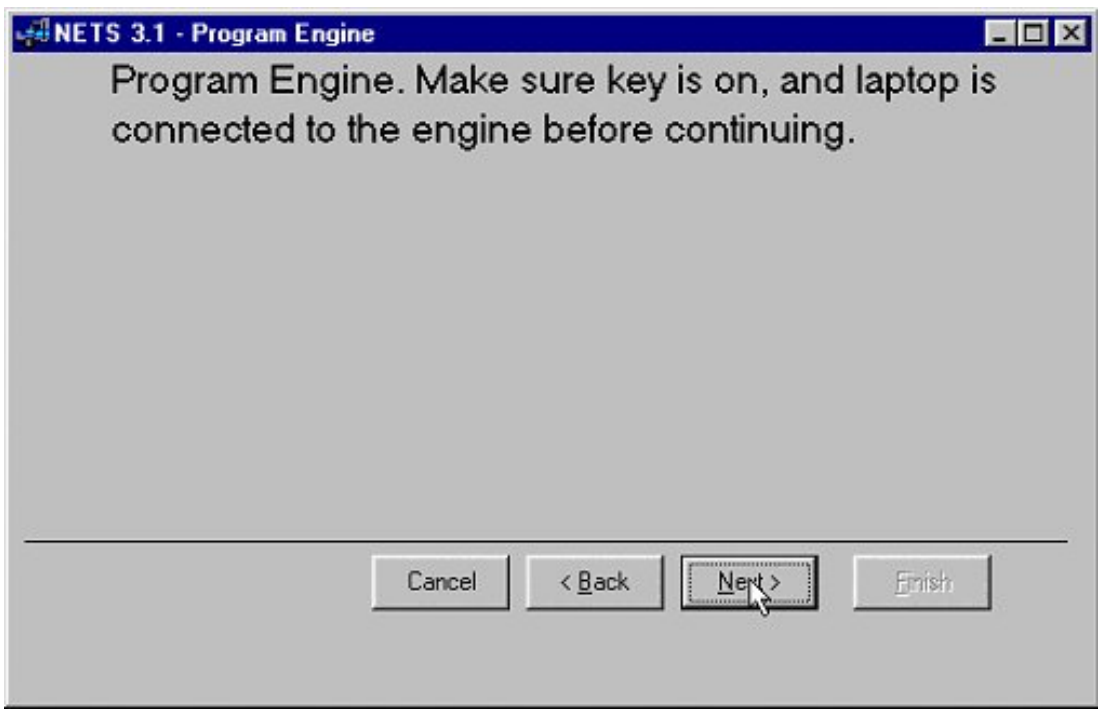


Figure 31

PROGRAMMING (OR REPROGRAMMING) AN ECM OR VPM (CONT.)

7. Programming will begin.

   Do NOT Walk Away From Vehicle

   During this stage of programming the EZ-Tech will program all the parameters and calibrations into the ECM. This process will take approximately 10 minutes.

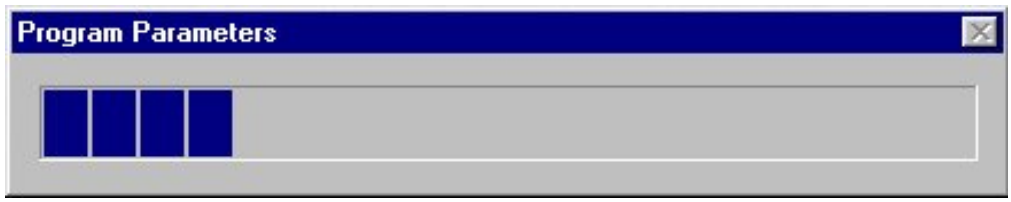


Figure 32

8. Turn Key **off** for 3 seconds and then back on.

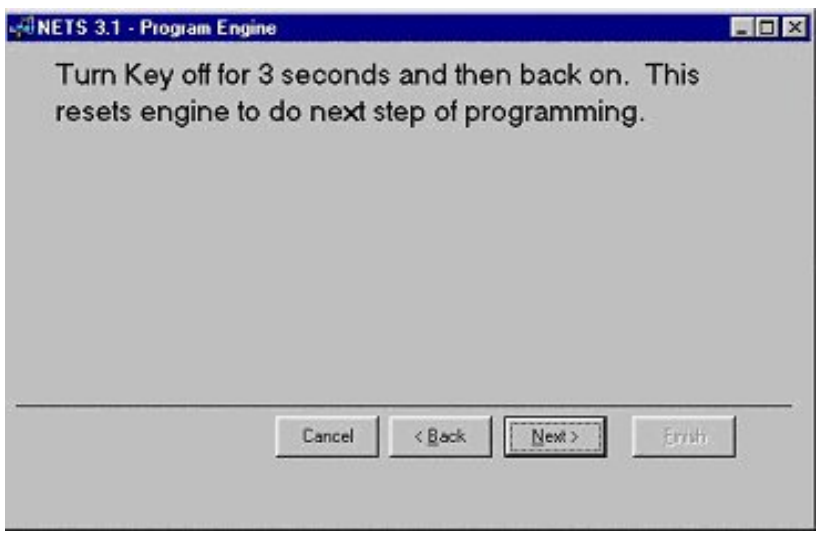


Figure 33

9. Click **OK**.

Figure 34

PROGRAMMING (OR REPROGRAMMING) AN ECM OR VPM (CONT.)

10. Key vehicle off to store data in the module. Click **Finish**.

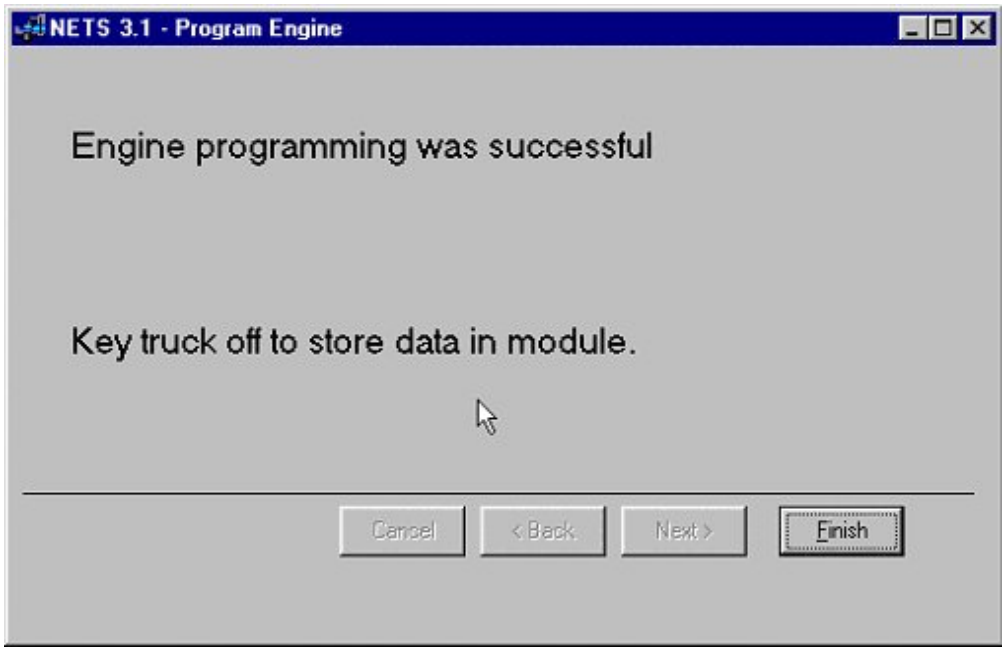


Figure 35

Operation number must appear on all claims.

Table 1 Labor Information

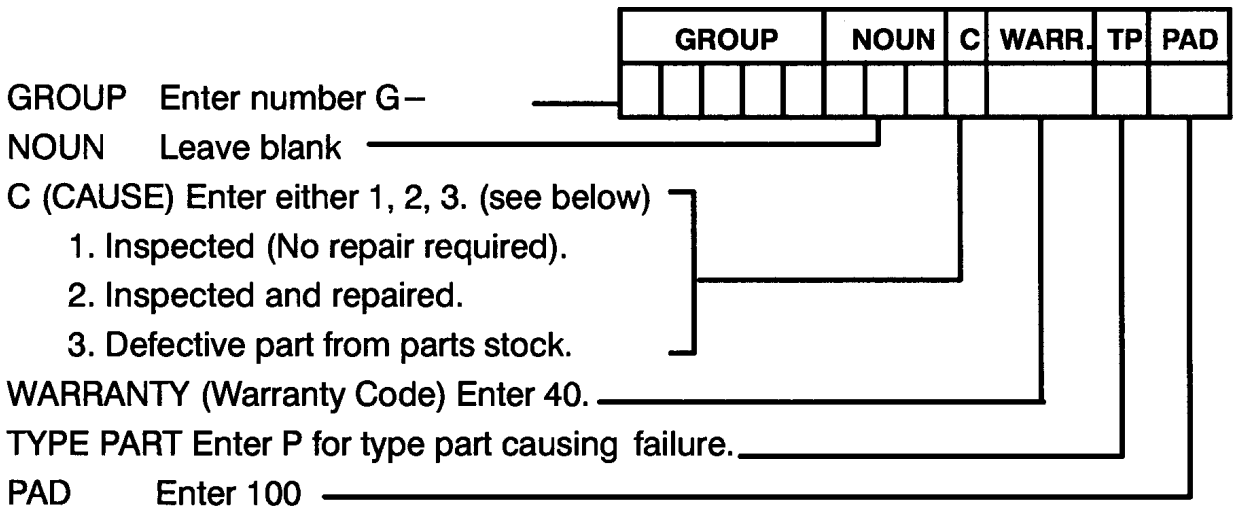
Operation No.	Description	Time
A40–03903–1	Re-program ECM (International Single Box Controller)	0.7 Hr.

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 G-03903.

It is important that the coding be completed properly to assist in processing the warranty claim. Complete instructions will be found in the Warranty Manual, Section 7–1. Special attention should be given to Items 39 through 44.

To assure this important improvement is made in a timely manner, all claims for G-03903 activity must be submitted by April 30, 2004 or within the normal warranty period for the vehicle, if after April 30, 2004.



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