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Viewed:	130		

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Title: Programming Procedure for Center Panel Switch Packs

Applies To: LT, RH, HV, MV, 2018+ LoneStar

CHANGE LOG

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

06/22/2020 - Initial Article Release.

DESCRIPTION

Programming procedures for the center panel switch packs has changed. The modules will no longer be plug and play, you will need to program and assign the source address to the module for it to function properly. Review the scenarios below to determine which path to follow.

SYMPTOMS

Diagnostic Trouble Codes & Dashboard Indicator Lights:

- **Faults will vary based on switch content and configuration. Some possible faults are listed.**

DTC/Light	Description
33 - SPN 516527 FMI 13	Switch Configuration Mismatch
33 - SPN 516528 FMI 13	Switch Configuration Mismatch
33 - SPN 687 FMI 2	Forward Rear Diff Lock Switch Error
33 - SPN 691 FMI 2	Power Divider Lock Switch Error
33 - SPN 986 FMI 2	Engine Fan Switch Error

Customer Observations or Concerns:

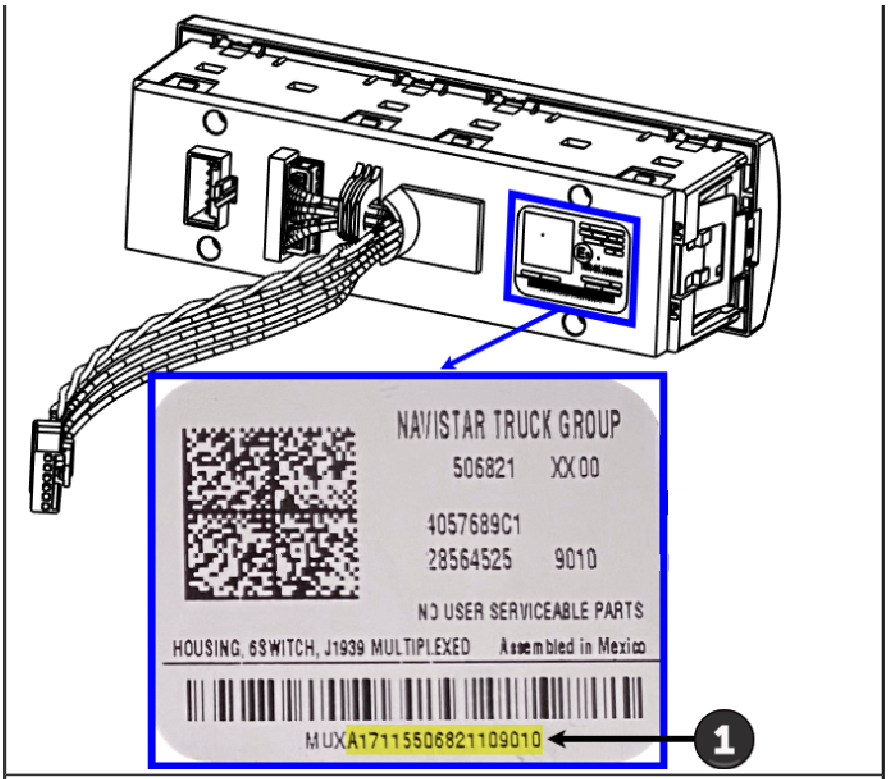
- Switch pack switches are flashing red
- Switches may operate a function of a different switch pack.
  - Example: A switch in the #1 switch pack may operate as the switch directly below it in the #2 switch pack

SPECIAL TOOLS / SOFTWARE

Tool Description	Tool Number	Comments	Instructions
Diamond Logic® Builder		EZ-Tech Software	

SERVICE PARTS INFORMATION

Kit Description	Part Number	Quantity Required	Notes
Housing, Switch, 6 Package DIN Multiplex	4057689C3	If needed	



1. Switch pack serial number

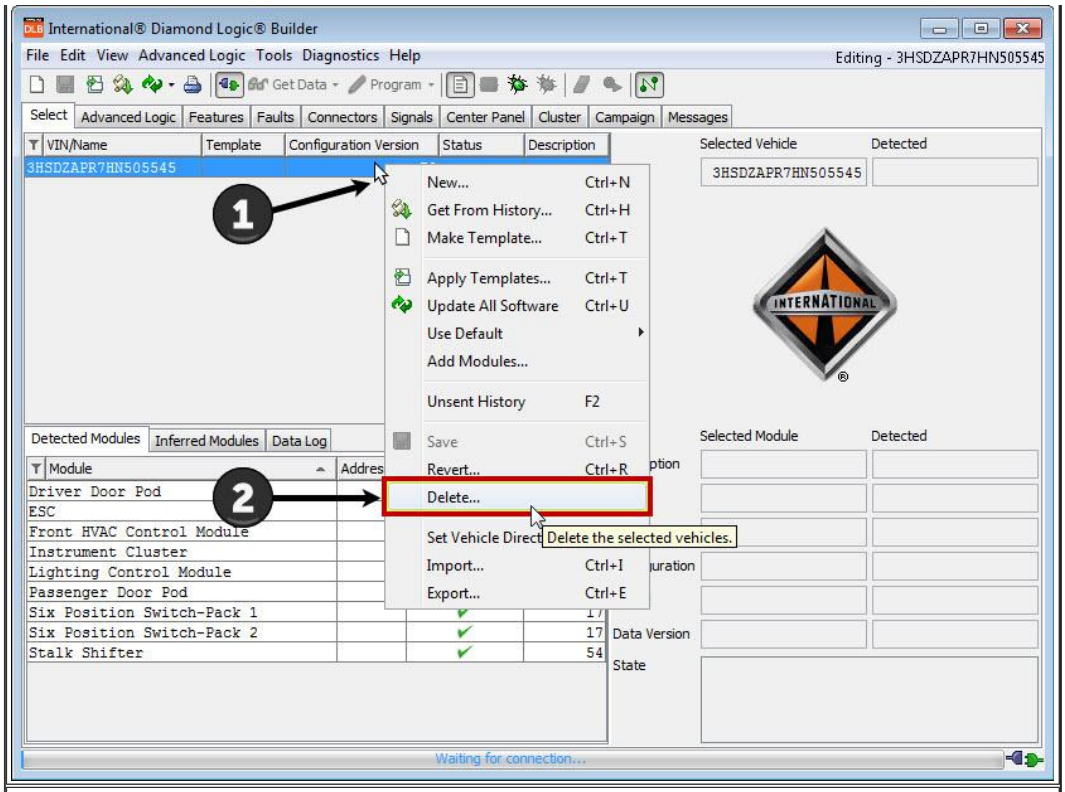
DIAGNOSTIC STEPS

Check the kernel version of the parts that are currently installed in the vehicle, and the kernel of the new part if you are replacing a switch pack.

Part 1 - Check existing switch pack software in vehicle

1. Open DLB and delete the VIN from the vehicle you are planning to connect to if present

Figure 1 - Delete VIN from DLB

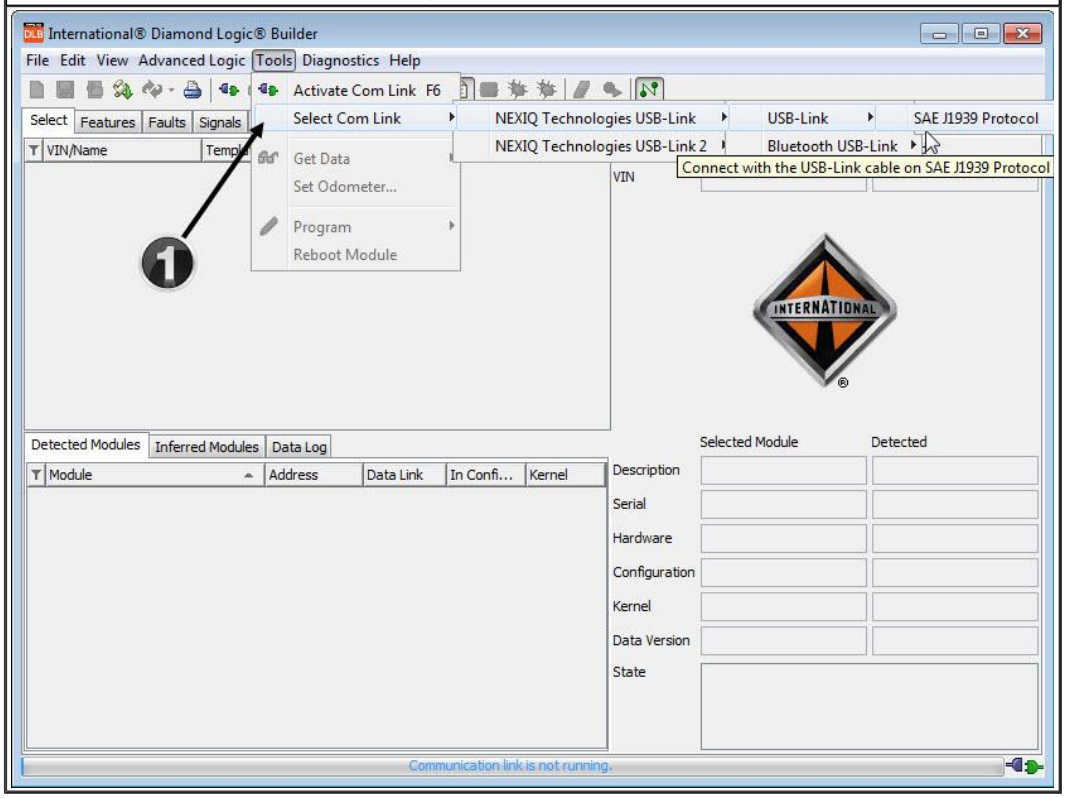


To delete the VIN from DLB:

1. Right click on the VIN you wish to delete
2. Navigate down and select "Delete..." as sown in Figure 1

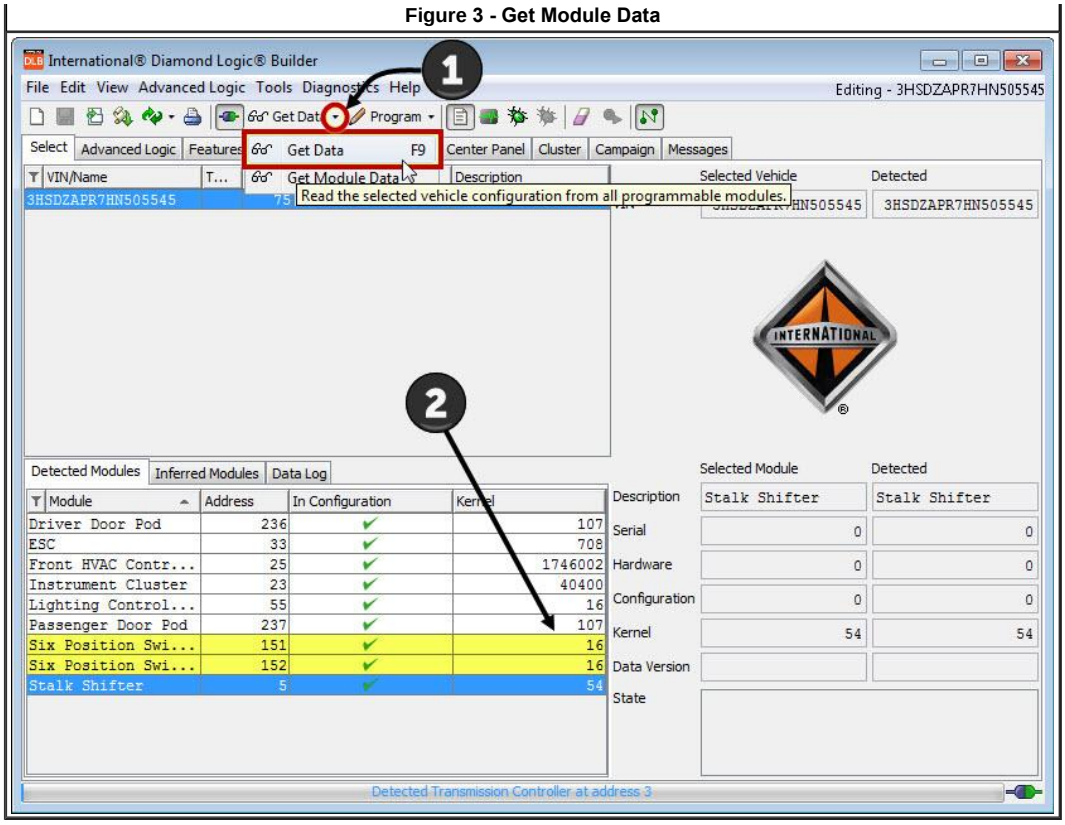
2. Select the communication device you are using

Figure 2 - Select Com Link



3. Use the "Get Data" function in DLB to ensure the module data you are seeing is accurate. The key must be ON.

Figure 3 - Get Module Data



4. Note which kernel is being displayed for the Six Position Switch-Packs
   - 17 or lower
   - 22

Part 2 - Check replacement part switch pack software that you will be installing in the vehicle (if applicable)

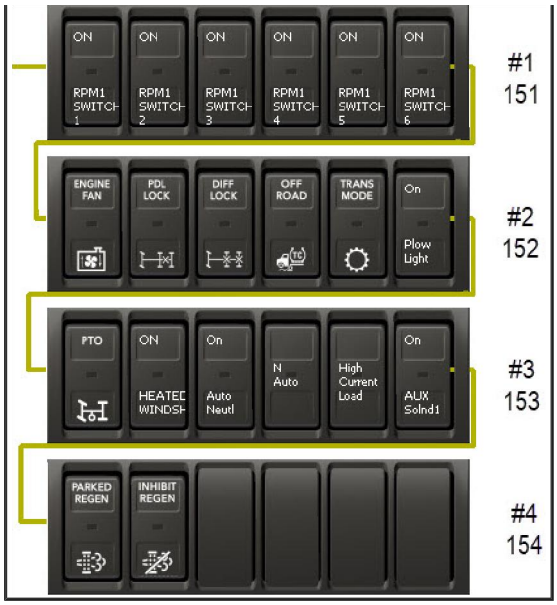
1. Unplug the #1 switch pack
2. Plug the replacement part into the truck harness
3. Leave the remaining switch packs unplugged
   - There will only be the single replacement part plugged into the truck harness
4. Unplug the pigtail from the last switch pack, and plug the pigtail of the replacement part back into the truck harness (yellow and green wires).
5. Connect with DLB and get the module data and check the kernel displayed
   - 17 or lower
   - 22 or higher

Determine the Programming Path to Follow	
Updating modules from 17 or lower (no parts being replaced, or service part is also at 17 or lower)	Replacing switch pack - Truck switch packs are at 17 - Replacement part is at 22
Replacing switch pack - Truck switch packs are at 22 - Replacement part is at 17	Replacing switch pack - Truck switch packs are at 22 - Replacement part is at 22

NOTE:

If you are adding a switch pack to a vehicle, you will fall under one of the paths listed above. Instead of replacing any parts, you will be adding an additional switch pack.

Switch Packs and Source Addresses as Displayed in DLB Center Panel Tab



REPAIR STEP(S)

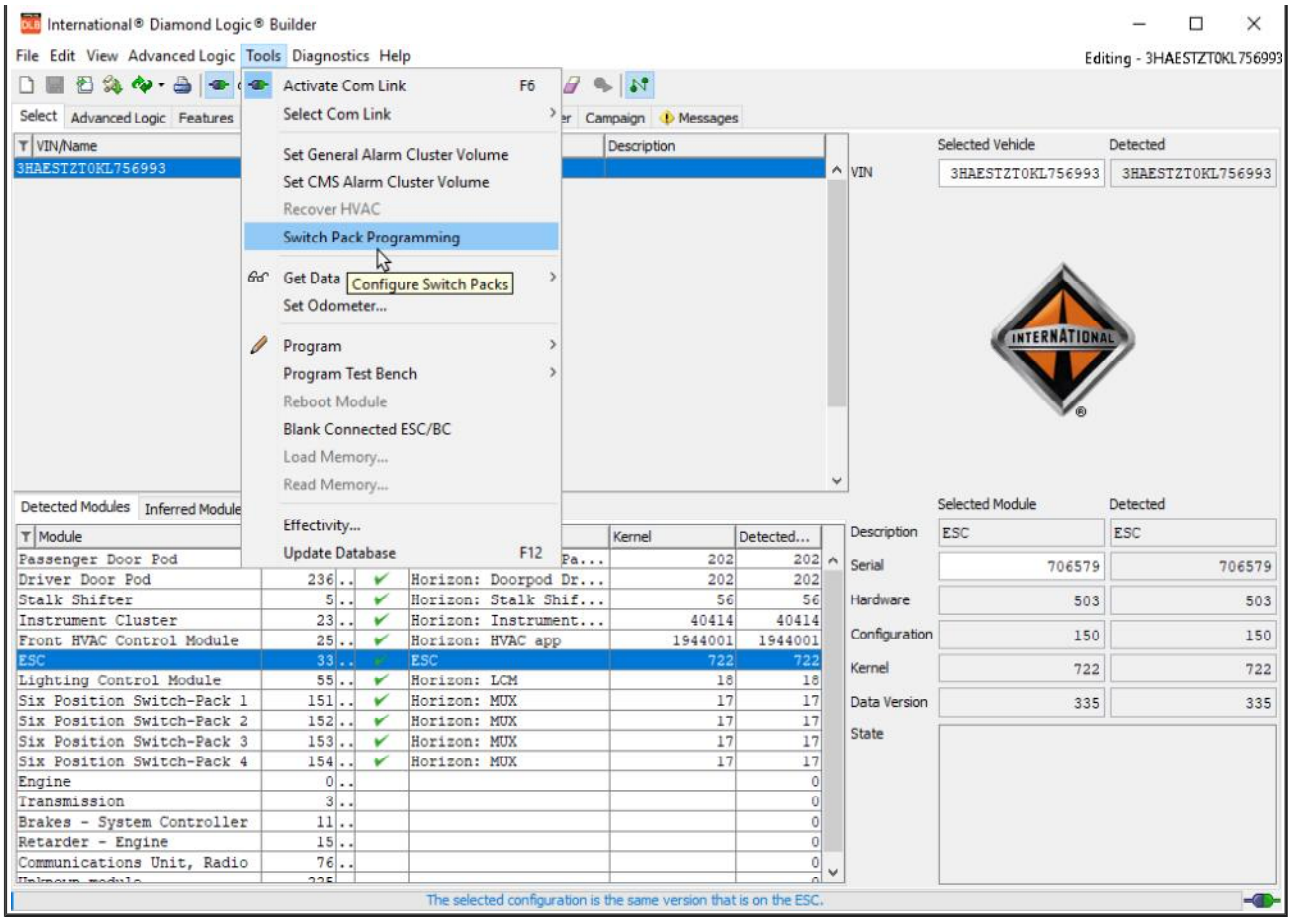
Updating modules from 17 or lower (no parts being replaced, or service part is also at 17 or lower):

1. If a switch pack is being replaced, move the switches over to the new switch pack, and plug the switch pack into its proper location in the vehicle.
   - All switch packs should now be functional, and all kernel versions should be 17 or lower.
2. Key ON.
3. Navigate to the tools menu and select "Switch Pack Programming" as shown in Figure 4 below.

NOTE:

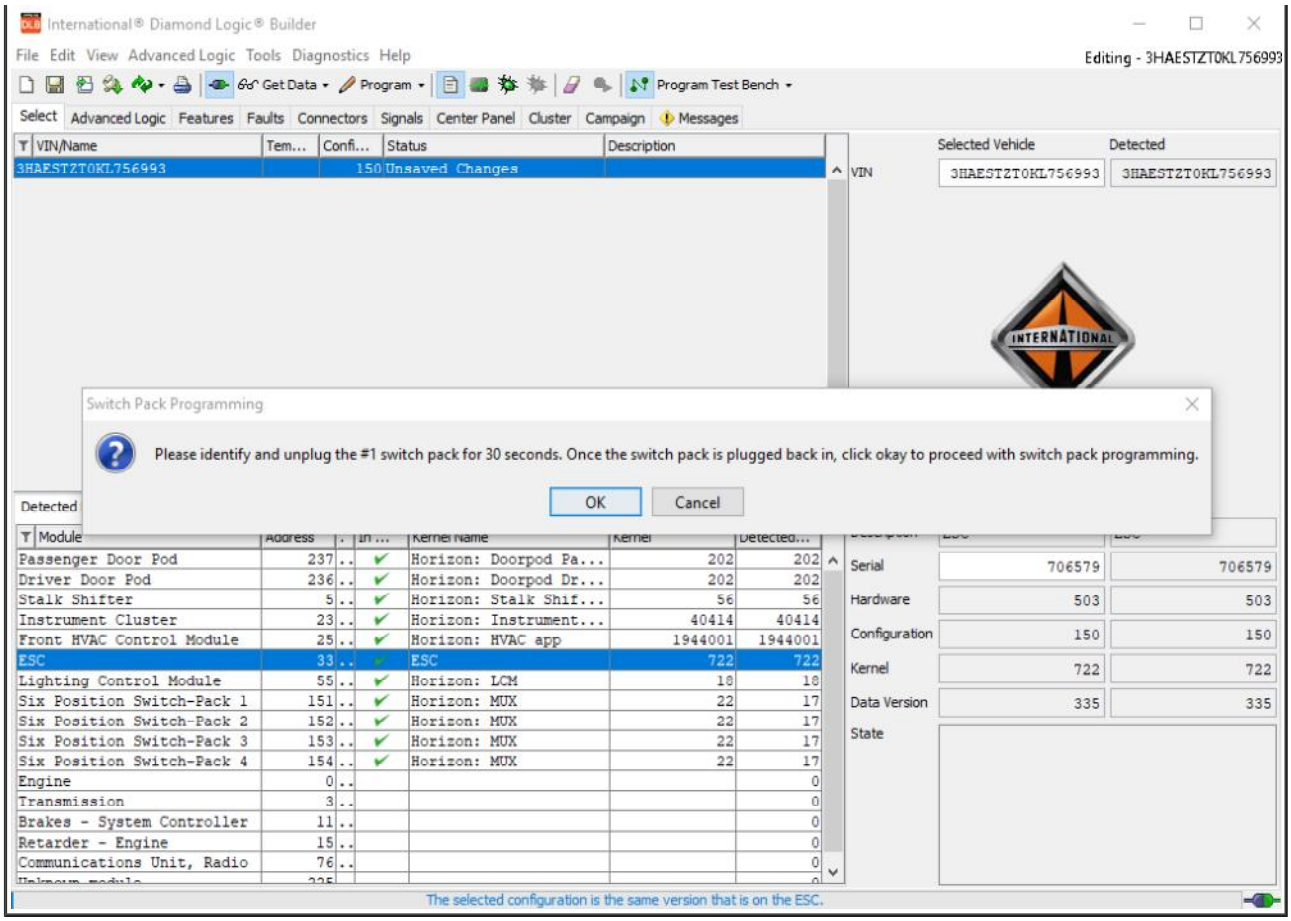
The BCM may need to be updated before you can update the switch pack software. If a BCM update is required, DLB will detect this and prompt you to exit switch pack programming and update the BCM first. You will need to return to switch pack programming once the BCM has been updated. If a BCM update is not required, DLB will continue with switch pack programming.

Figure 4 - Switch Pack Programming



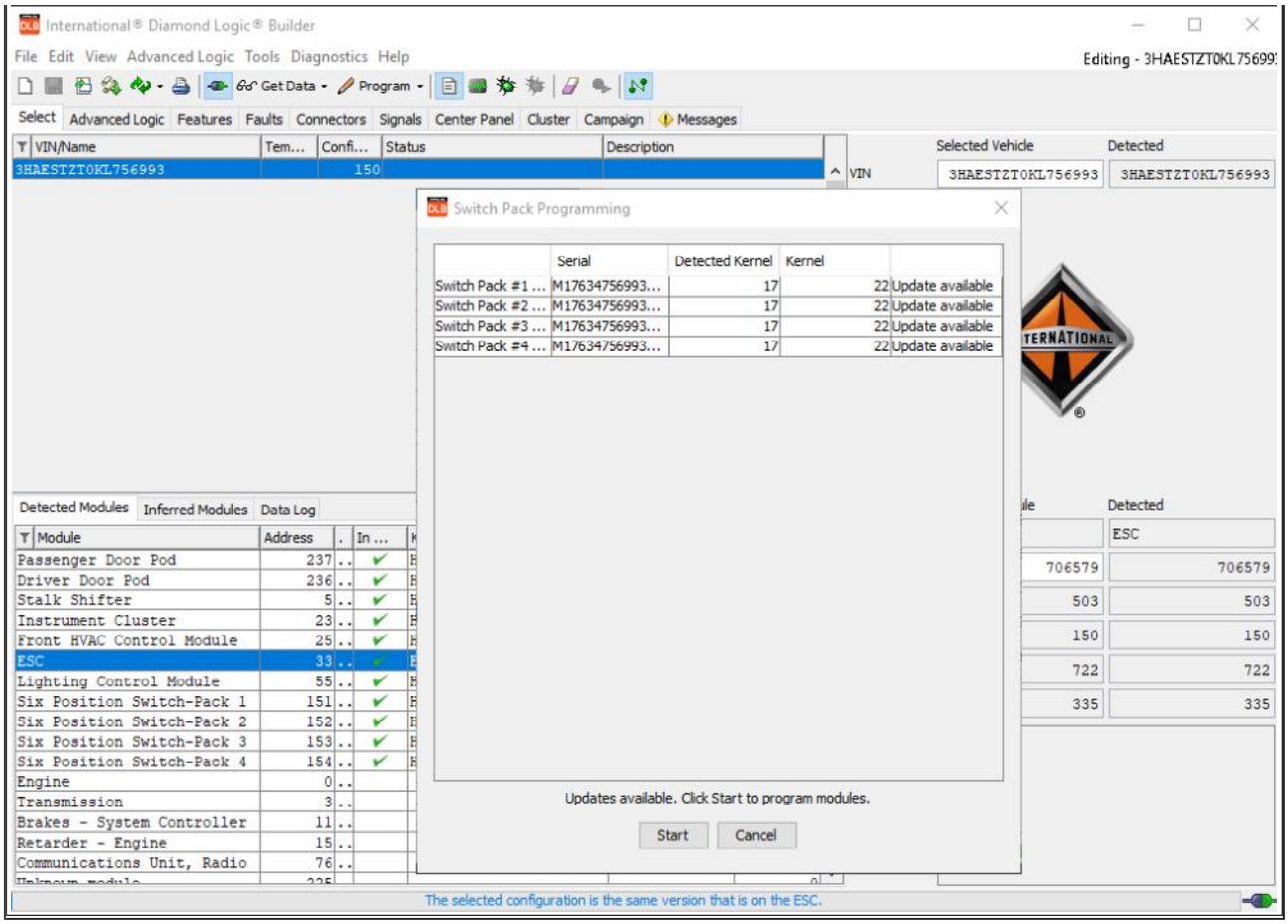
4. To start the programming process, you are asked to unplug the #1 switch pack. This will force the switch packs to perform a source address claim.
   - This step is not required if the vehicle is equipped with only one switch pack.

Figure 5 - Unplug #1 Switch Pack



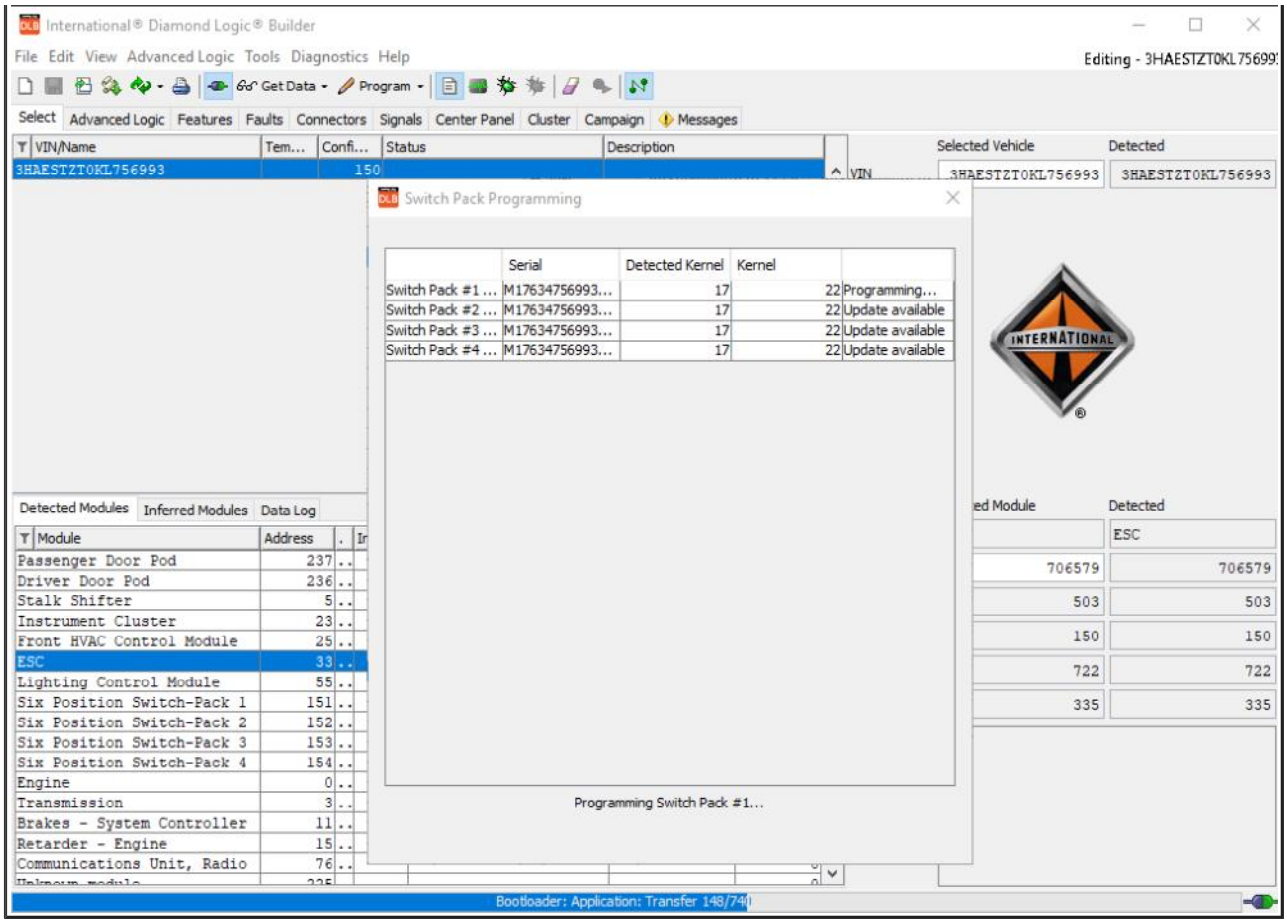
5. To initiate programming click start as shown in Figure 6.

Figure 6 - Update Available



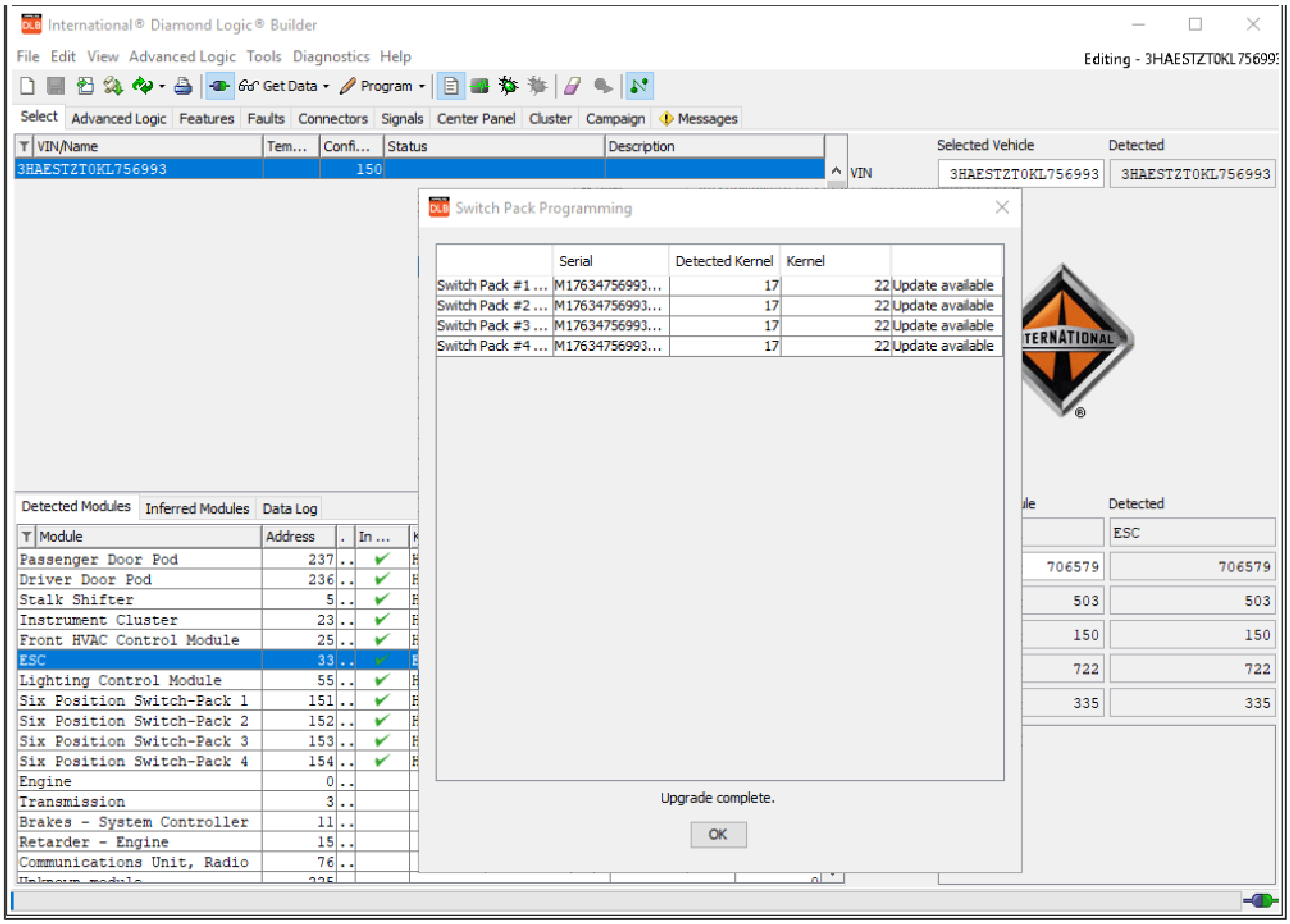
6. Status bar indicating programming progress while the switch packs program. All switch packs will be programmed automatically. Each switch pack will take approx. 5 1/2 minutes to complete.

Figure 7 - Update In Progress



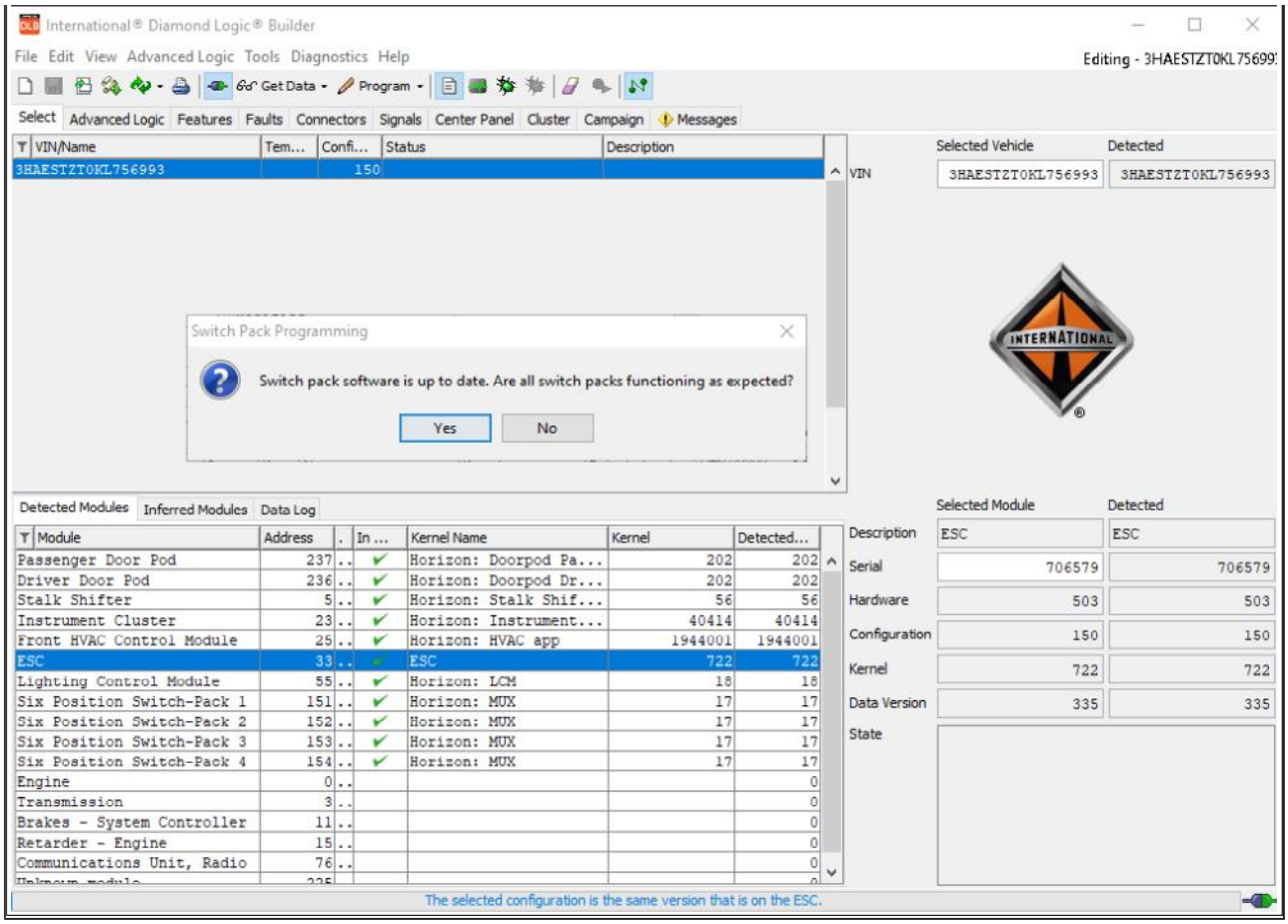
7. Once the update is complete you will be notified as shown in Figure 8.

Figure 8 - Update Complete



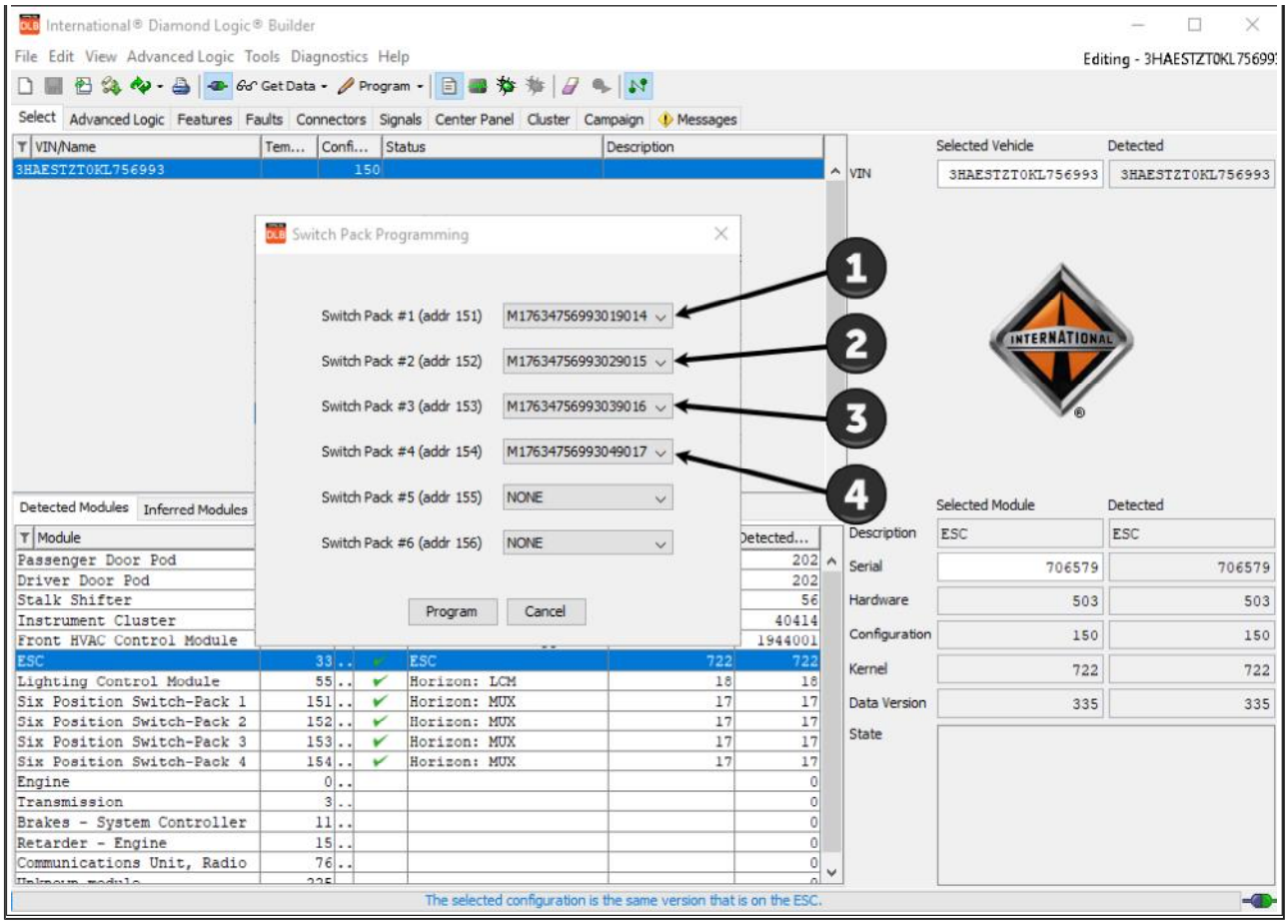
8. Figure 9 below is a prompt to check operation of each switch pack. This will help ensure the switch packs were at the proper source address before programming was performed
   - Clicking Yes - Programming is now complete, no further action is required.
   - Clicking No - You will be given a dialogue box to manually set the source addresses based on the module serial number.

Figure 9 - Prompt For Functionality



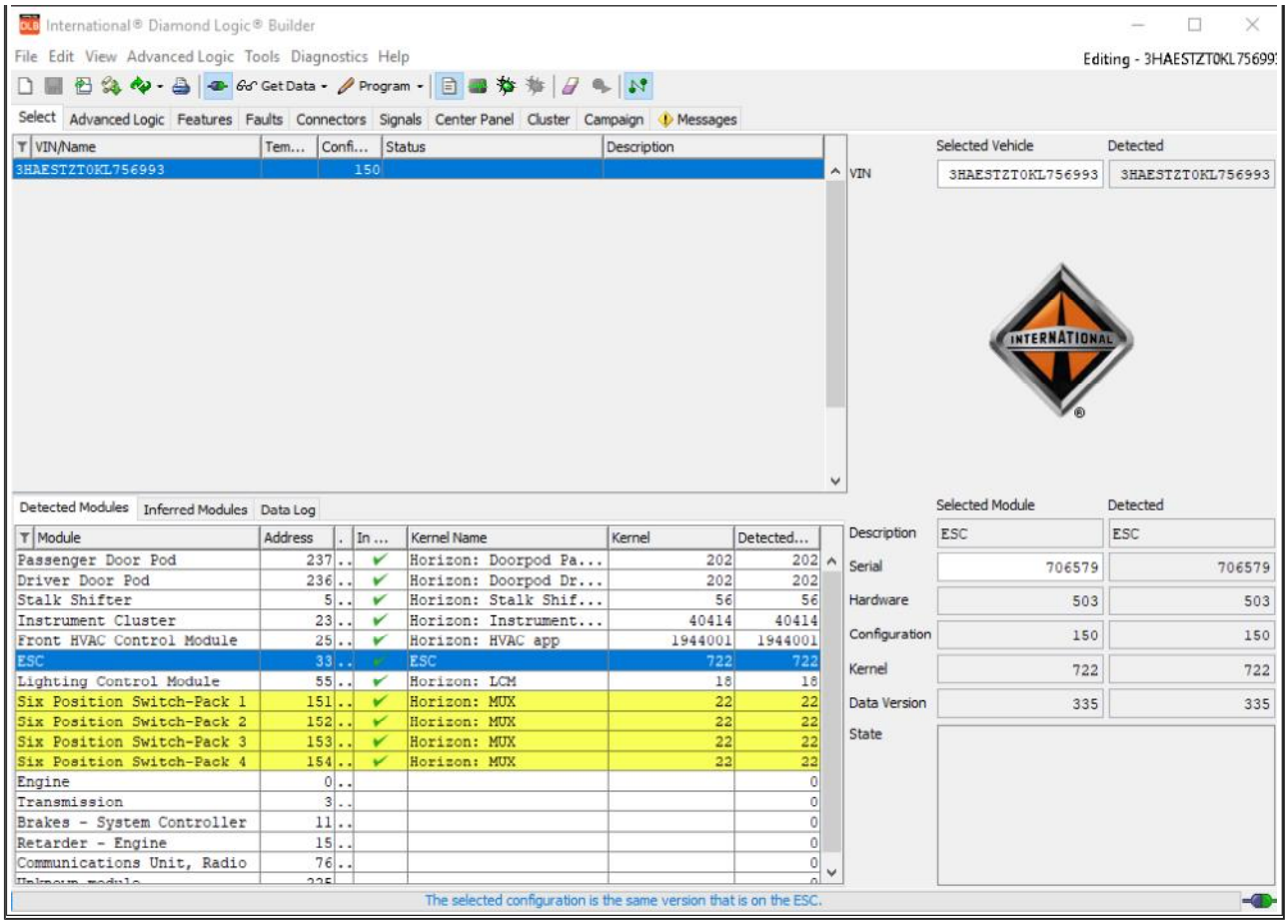
9. Manually set the source address. Use the drop down menu to assign a switch pack serial number to the proper source address.
   - Figure 10 shows an example of 4 switch packs, Each switch pack will have a drop down showing all 4 serial numbers. Choose the correct serial number for each location, and click program.

Figure 10 - Switch Packs NOT Functioning Properly - Manually Set Switch Pack Source Address



10. Programming is complete. All switch packs are showing they have been updated to Kernel 22.

Figure 11 - Programming complete



11. Verify one switch from each switch pack operates the correct feature as assigned.

(Return to Menu)

Replacing switch pack - Truck switch packs are at 17 - Replacement part is at 22

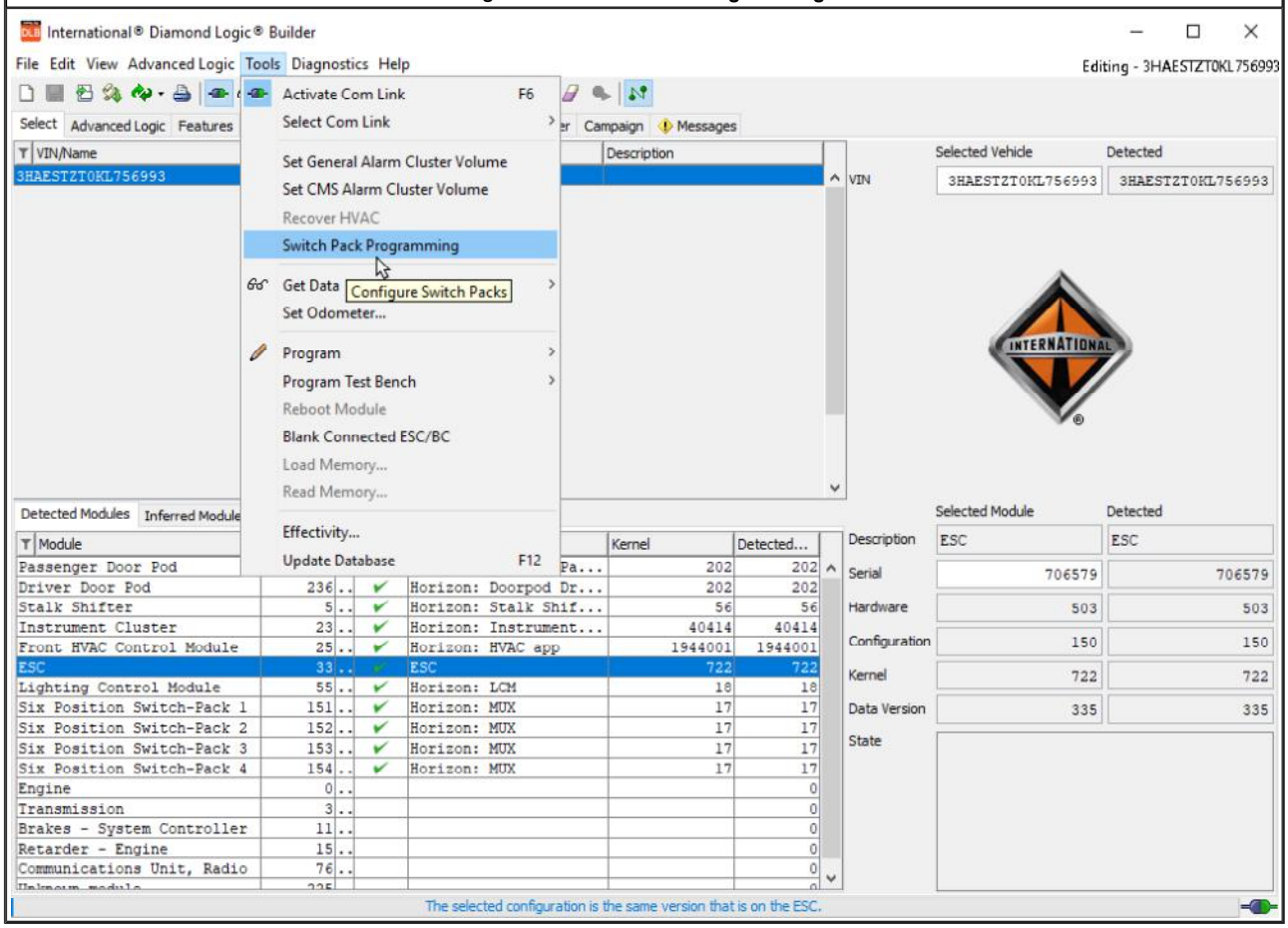
All switch packs need to be at the same Kernel in order to function properly. This section will provide instructions on how to update the switch packs in the vehicle before installing the replacement part.

1. Record the serial numbers of the switch packs in the vehicle, as well as the serial number for the new switch pack that will be installed, and their location
    - You do not need the serial number of the faulty switch pack that is being replaced
    - Record the location (or source address) with the serial number together. Example: #1 - S/N M20000000181011039, #2 - S/N M20000000181011040, #3 - S/N M2000000018101103941
    - To complete the upgrade and installation you will need to know the location and serial number to manually set the source address using DLB
    - The replacement switch pack will only display the last 3 digits of the serial number.
2. Key OFF.
3. Remove the faulty switch pack.
4. Any switch packs that are below the removed switch pack will need to be plugged in, so the daisy chain of switch packs is not broken.
    - Example: Vehicle has 4 switch packs. #2 switch pack is being replaced.
    - Remove #2 switch pack.
    - The #3 switch pack will need to be plugged into the #1 switch pack (All 3 remaining switch packs are now plugged into each other - 1,3,4).
5. Key ON.
6. Navigate to the tools menu and select "Switch Pack Programming" as shown in Figure 12 below.

NOTE:

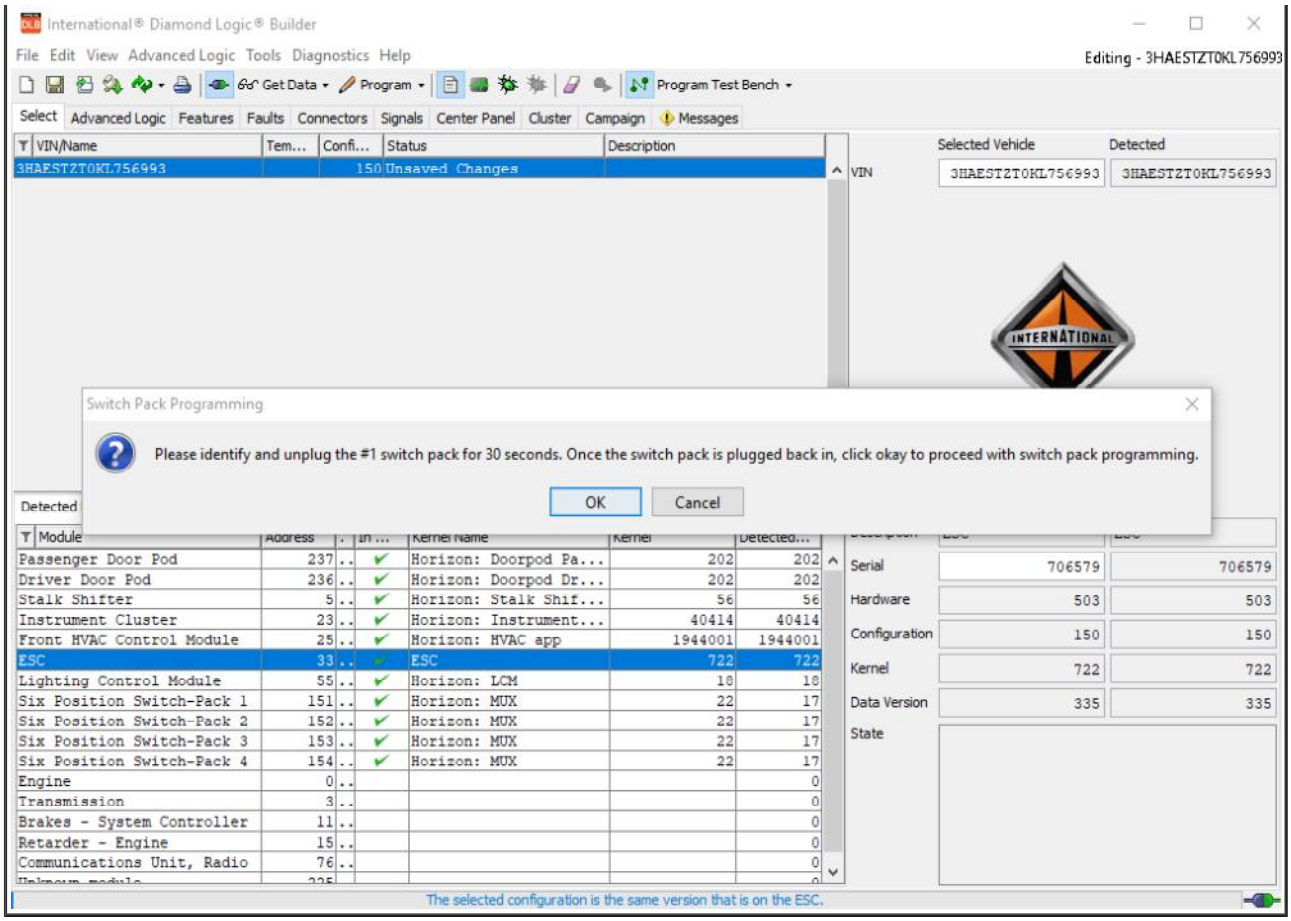
The BCM may need to be updated before you can update the switch pack software. If a BCM update is required, DLB will detect this and prompt you to exit switch pack programming and update the BCM first. You will need to return to switch pack programming once the BCM has been updated. If a BCM update is not required, DLB will continue with switch pack programming.

Figure 12 - Switch Pack Programming



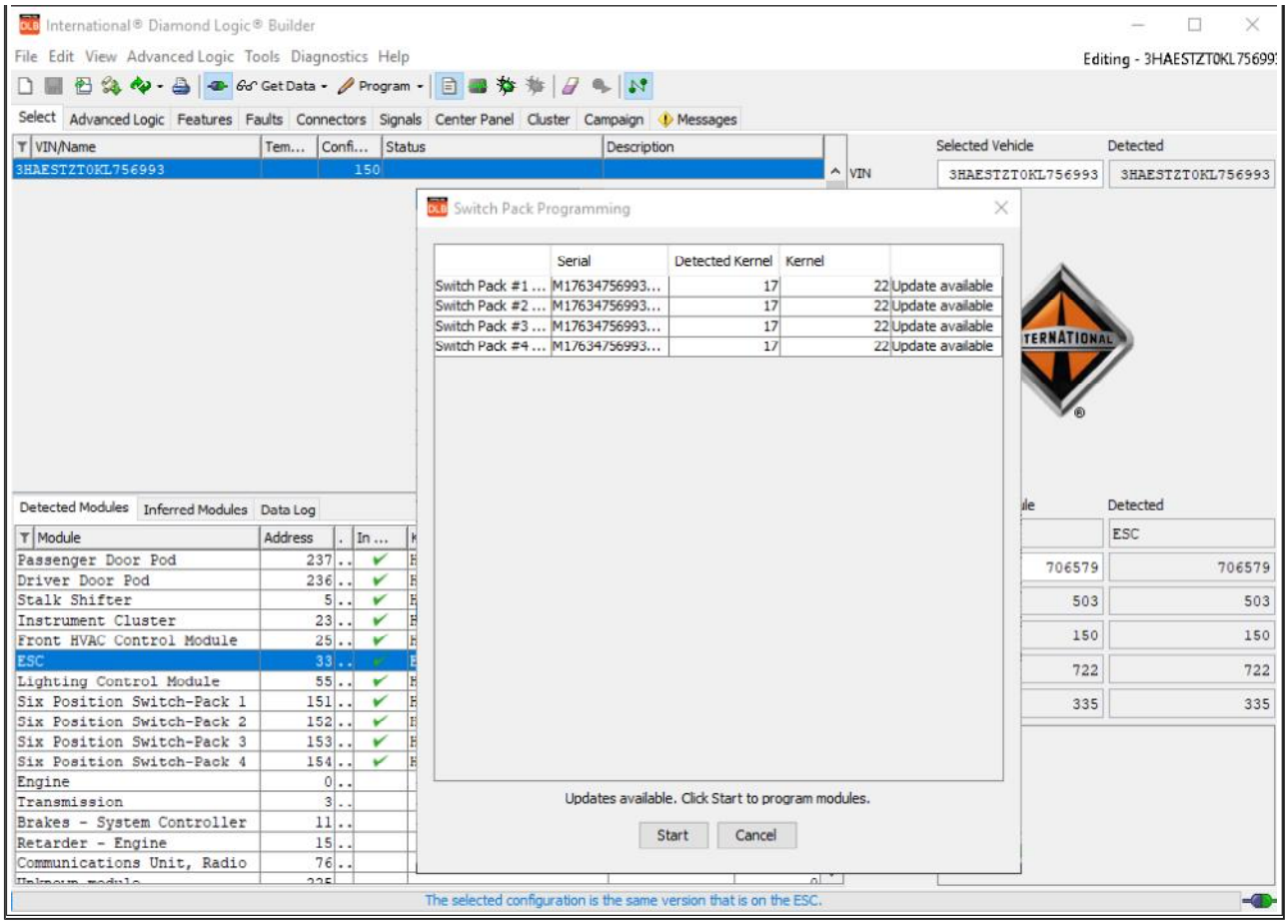
7. To start the programming process, you are asked to unplug the #1 switch pack. This will force the switch packs to perform a source address claim.
   - This step is not required if the vehicle is equipped with only one switch pack.

Figure 13 - Unplug #1 Switch Pack



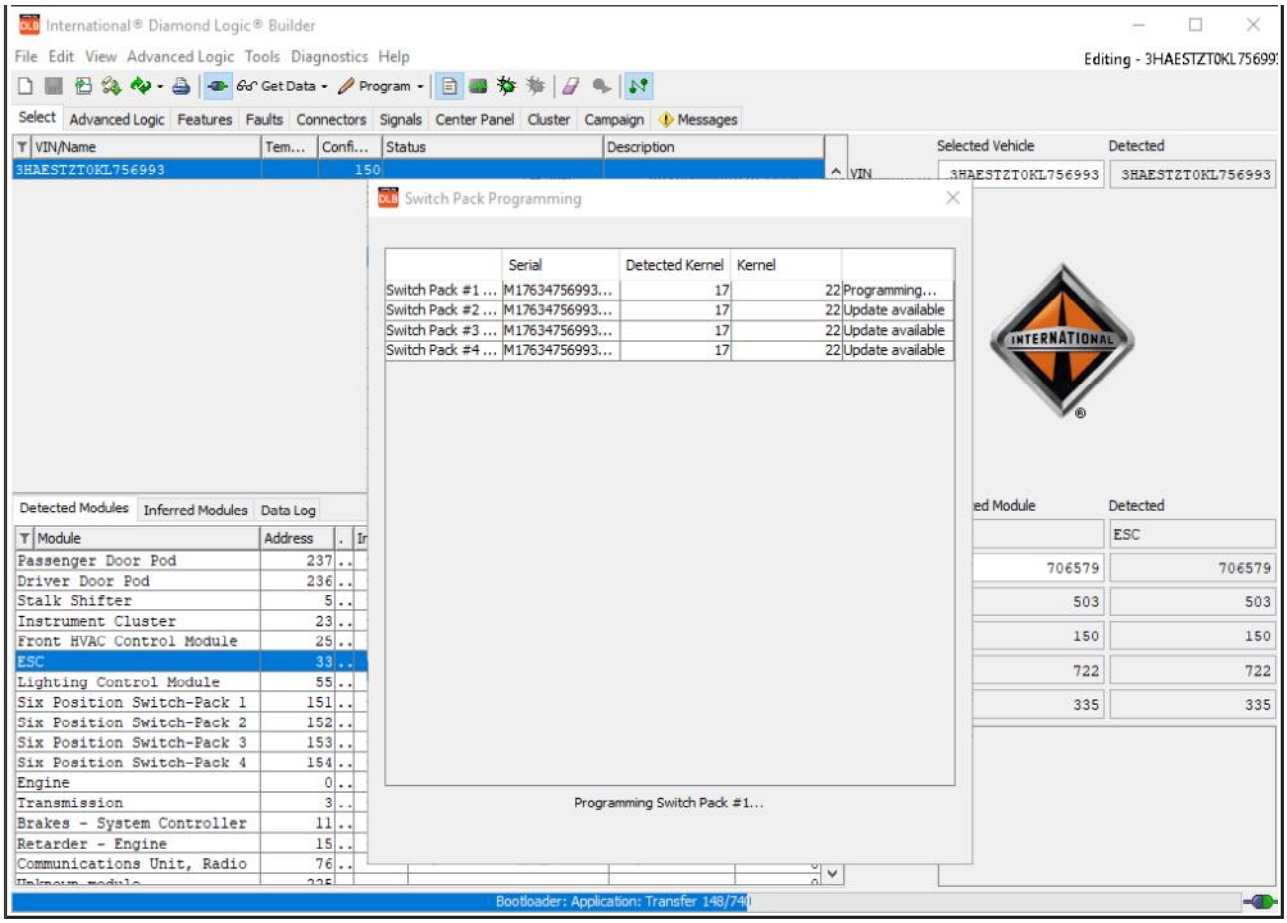
8. To initiate programming click start as shown in Figure 14

Figure 14 - Update Available



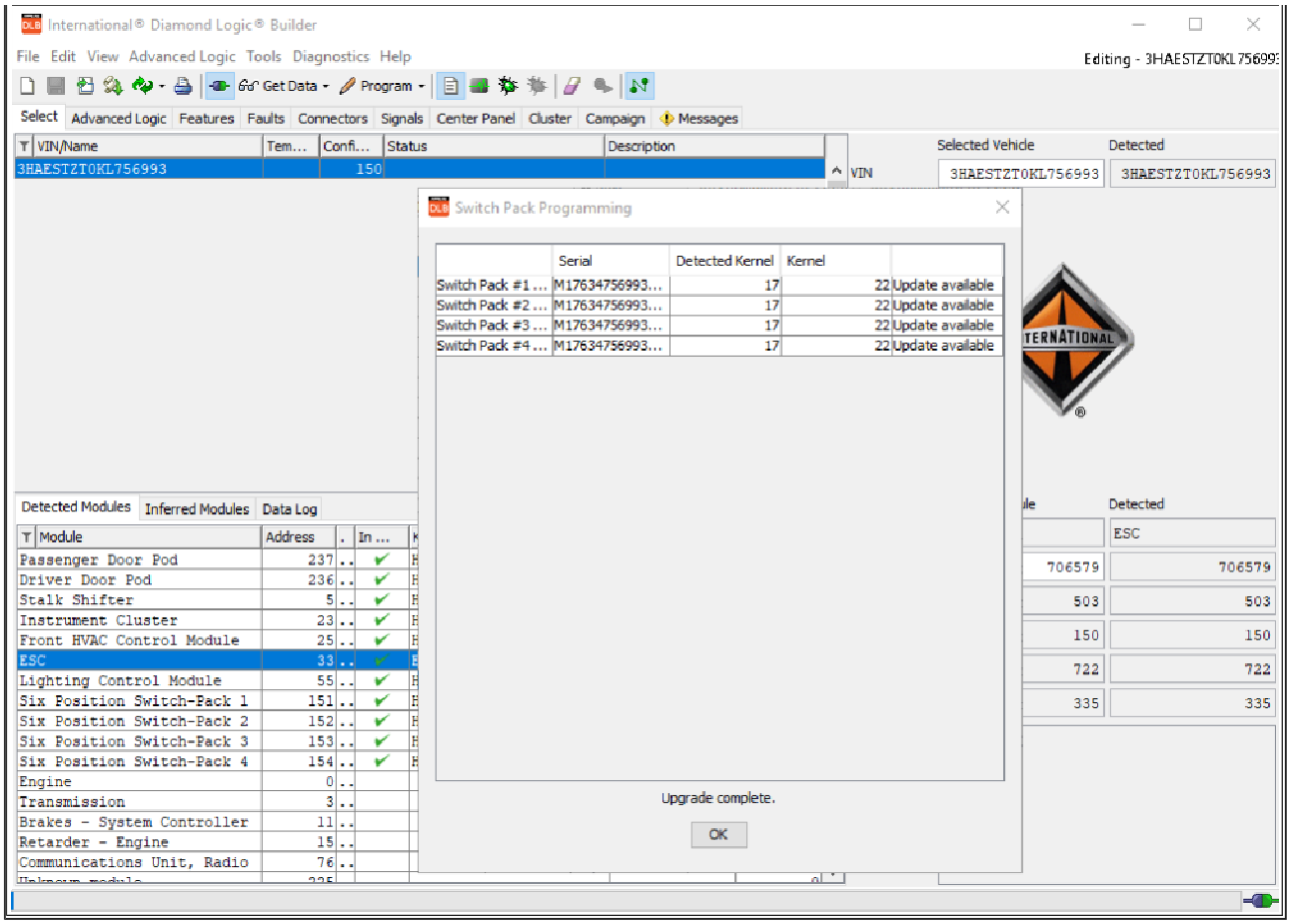
9. Status bar indicating programming progress while the switch packs program. All switch packs will be programmed automatically. Each switch pack will take approx. 5 1/2 minutes to complete.

Figure 15 - Update In Progress



10. Once the update is complete you will be notified as shown in Figure 16.

Figure 16 - Update Complete



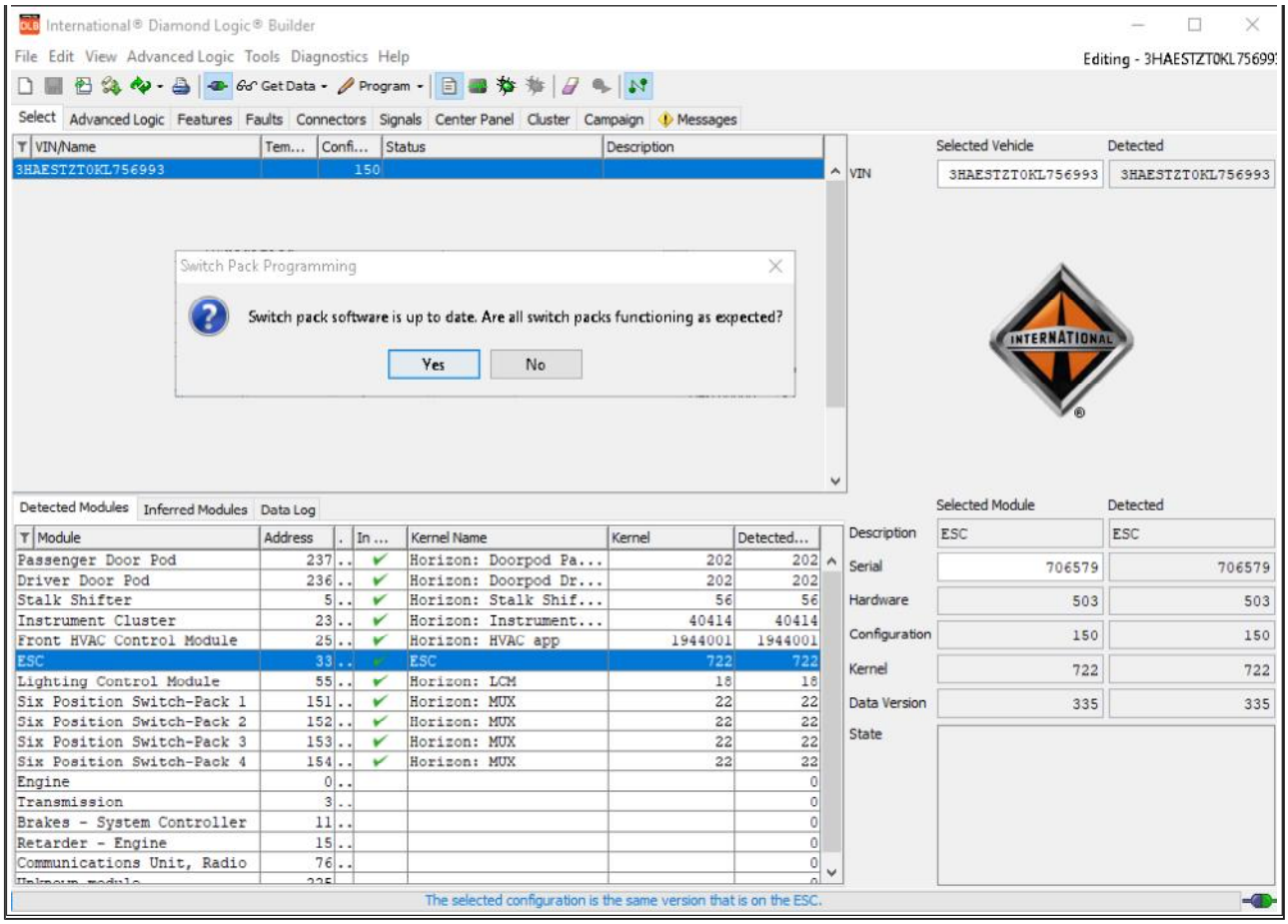
11. Key OFF.
12. Install all the switch packs, including the new service part into their proper location in the vehicle.
    - All switch packs are installed in the vehicle, and all switch packs are now at Kernel 22.
13. Key ON.

NOTE:

Switch packs may be flashing red, and the replacement part may be non-responsive. This is normal until you manually set the source address.

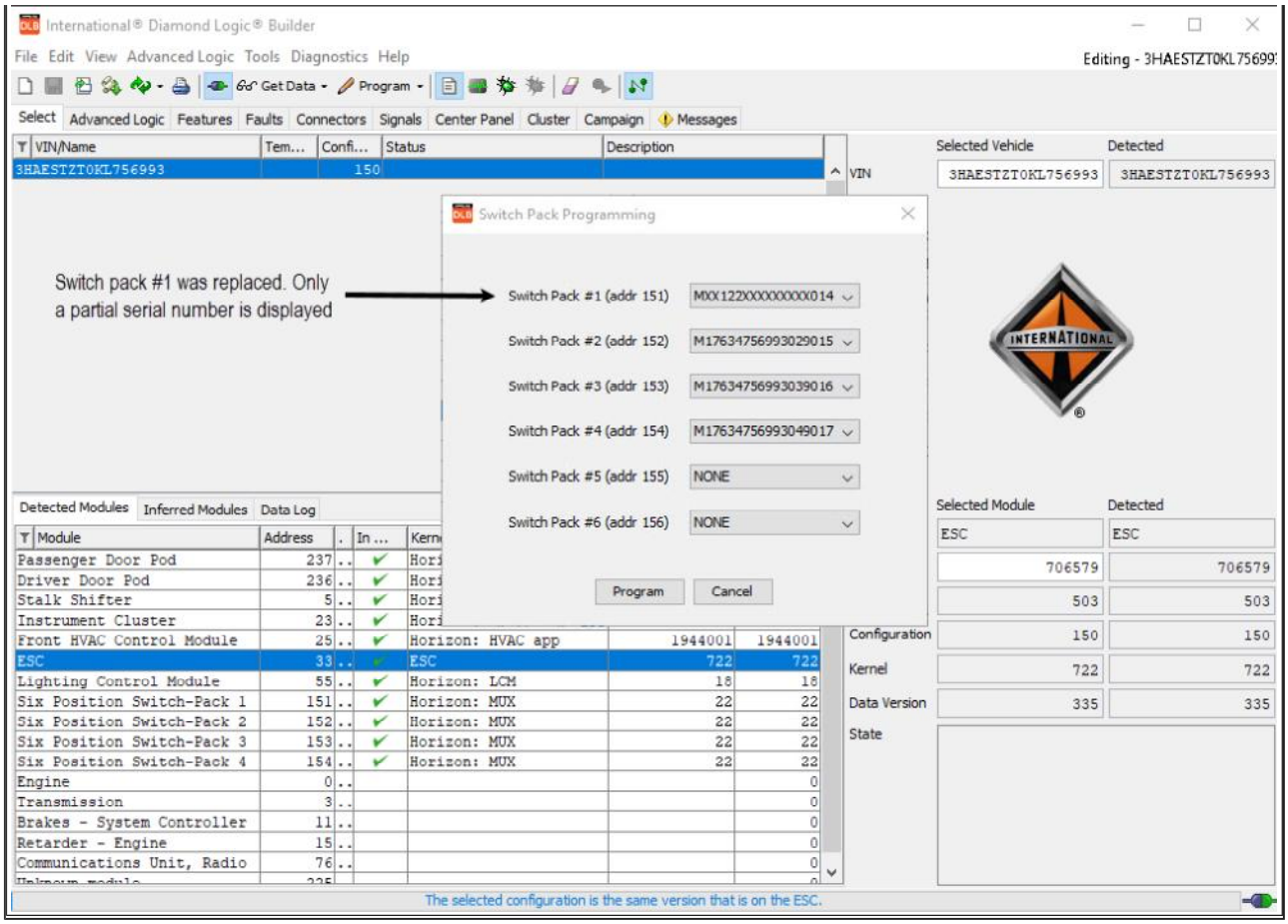
14. Navigate back to the tools menu and select "Switch Pack Programming".
15. You will receive the pop up message shown. Select NO. This will allow you to manually set the source addresses.

Figure 17 - Select NO to manually set the source address



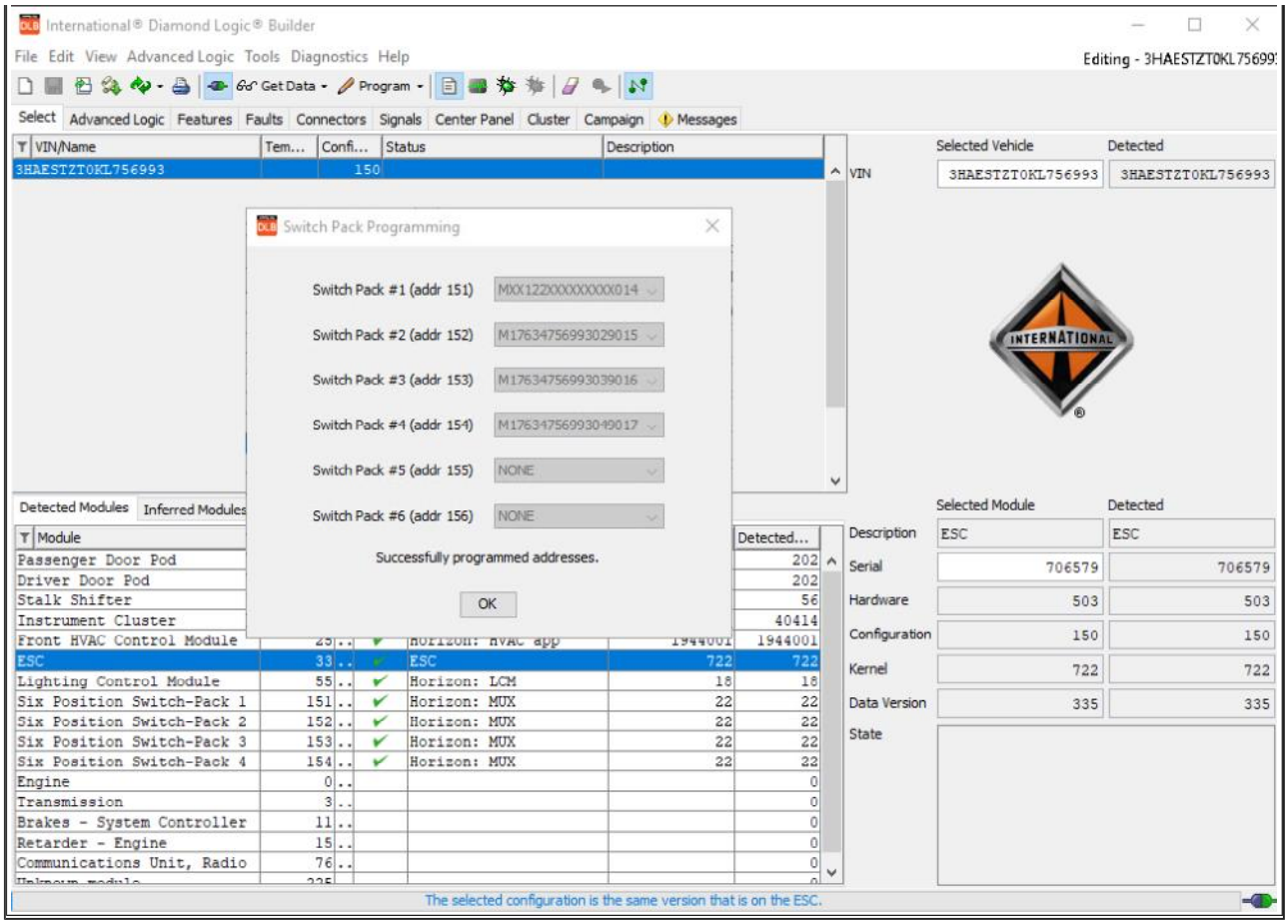
16. Set the switch pack source addresses based on their serial number and location in vehicle. Click Program.

Figure 18 - Manually set source address



17. Source address programming complete.

Figure 19 - Source Address Programmed Successfully



18. Verify one switch from each switch pack operates the correct feature as assigned.

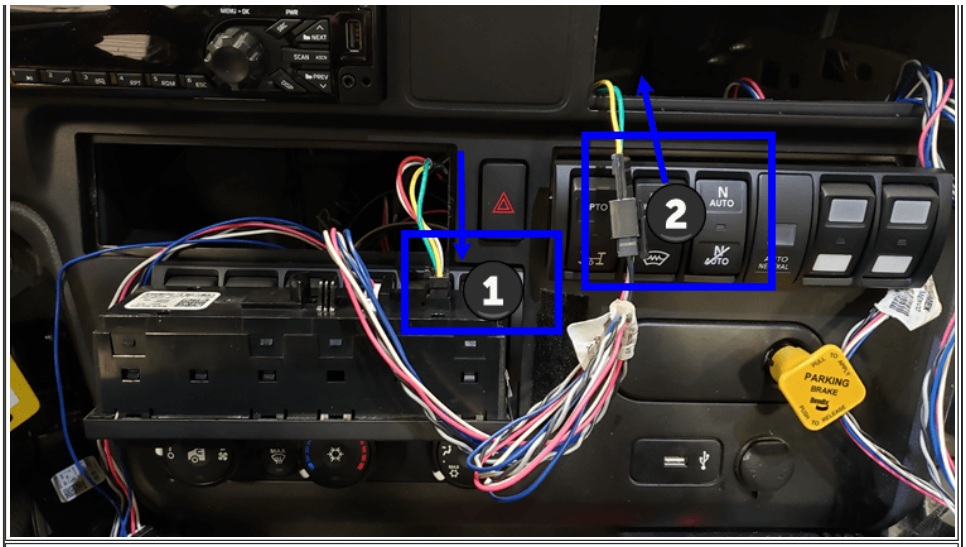
(Return to Menu)

Replacing switch pack - Truck switch packs are at 22 - Replacement part is at 17

All switch packs need to be at the same Kernel in order to function properly. This section will provide instructions on how to update the switch packs in the vehicle before installing the replacement part.

1. Record the serial numbers of the switch packs in the vehicle, as well as the serial number for the new switch pack that will be installed, and their location
    - You do not need the serial number of the faulty switch pack that is being replaced
    - Record the location (or source address) with the serial number together. Example: #1 - S/N M20000000181011039, #2 - S/N M20000000181011040, #3 - S/N M20000000181011041
    - To complete the upgrade and installation you will need to know the location and serial number to manually set the source address using DLB
2. Key OFF.
3. Unplug the #1 switch pack
4. Plug the replacement switch pack into the #1 location.
5. Unplug the switch pack pigtail of the last switch pack in the chain from the IP harness
6. Plug the pigtail of the #1 switch pack into the connector going back to the IP harness
    - The replacement switch pack, in the #1 location is now the only switch pack plugged in.
    - The in and out harness should be plugged in to the data link backbone is not broken.

Figure 20 - Single Switch Pack Plugged In



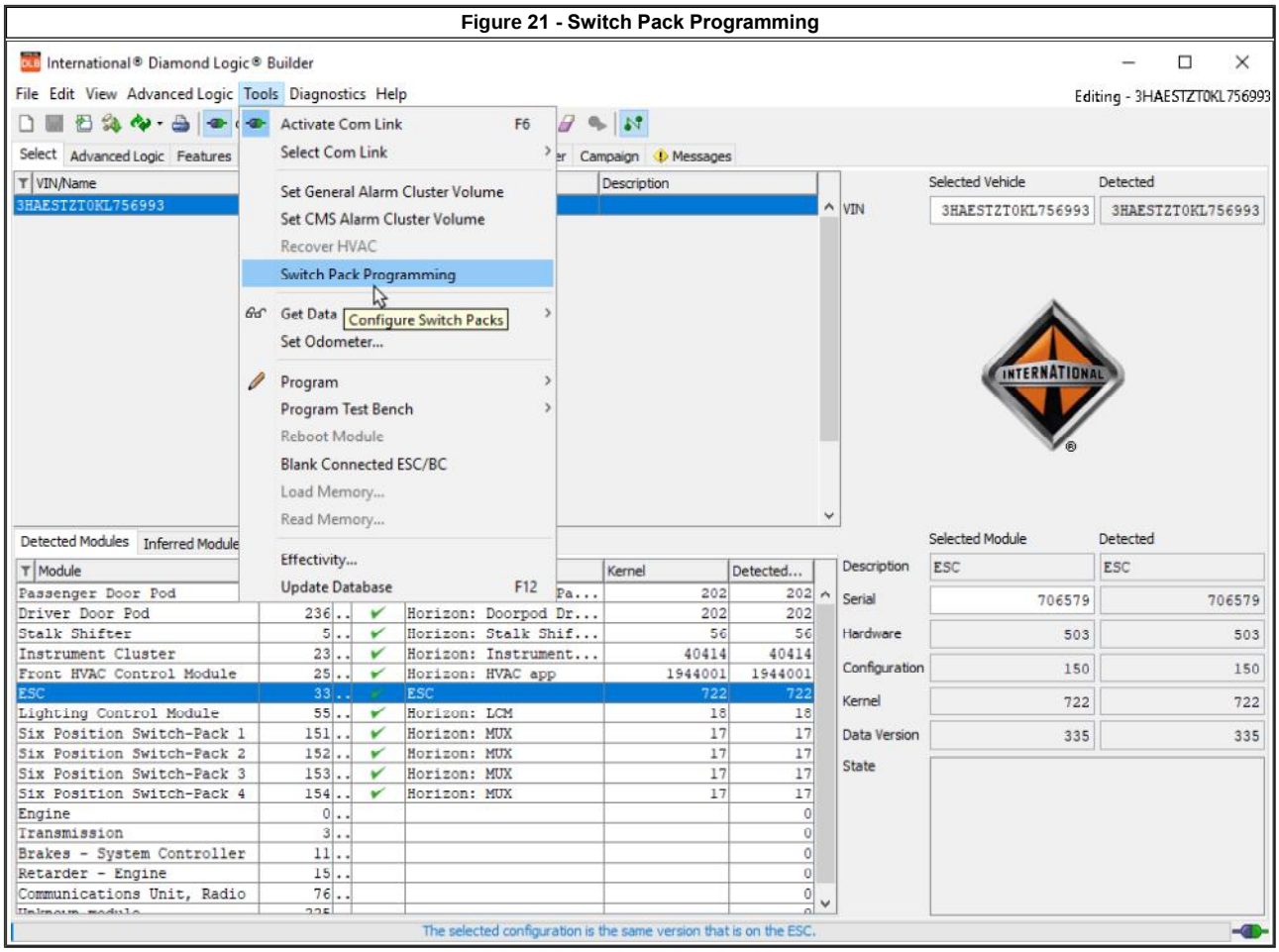
1. Power ground and data link wiring coming in from the IP harness
2. Switch pack pigtail plugged into the data link going back to the IP harness

7. Key ON.
8. Navigate to the tools menu and select "Switch Pack Programming" as shown in Figure 21 below.

NOTE:

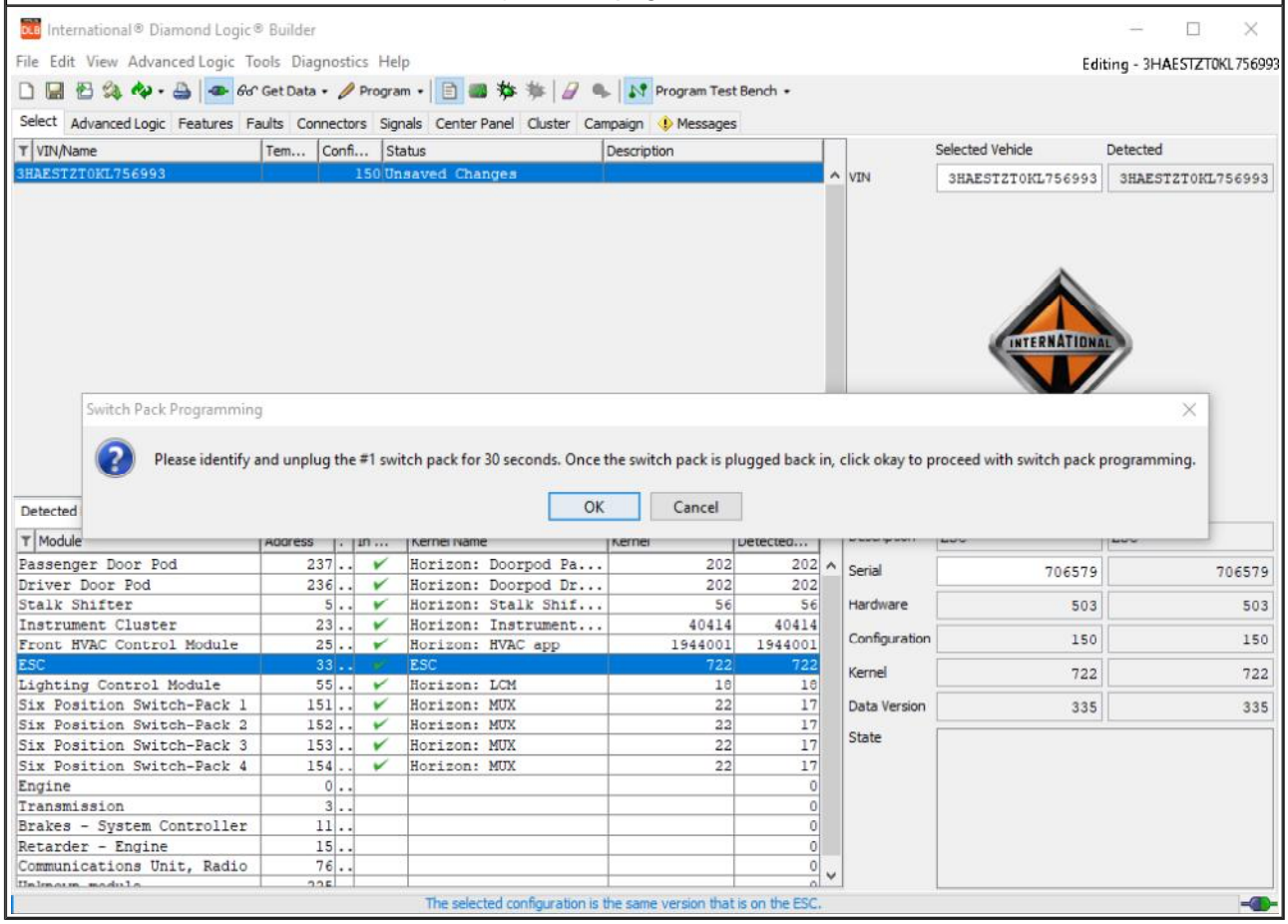
The BCM may need to be updated before you can update the switch pack software. If a BCM update is required, DLB will detect this and prompt you to exit switch pack programming and update the BCM first. You will need to return to switch pack programming once the BCM has been updated. If a BCM update is not required, DLB will continue with switch pack programming.

Figure 21 - Switch Pack Programming



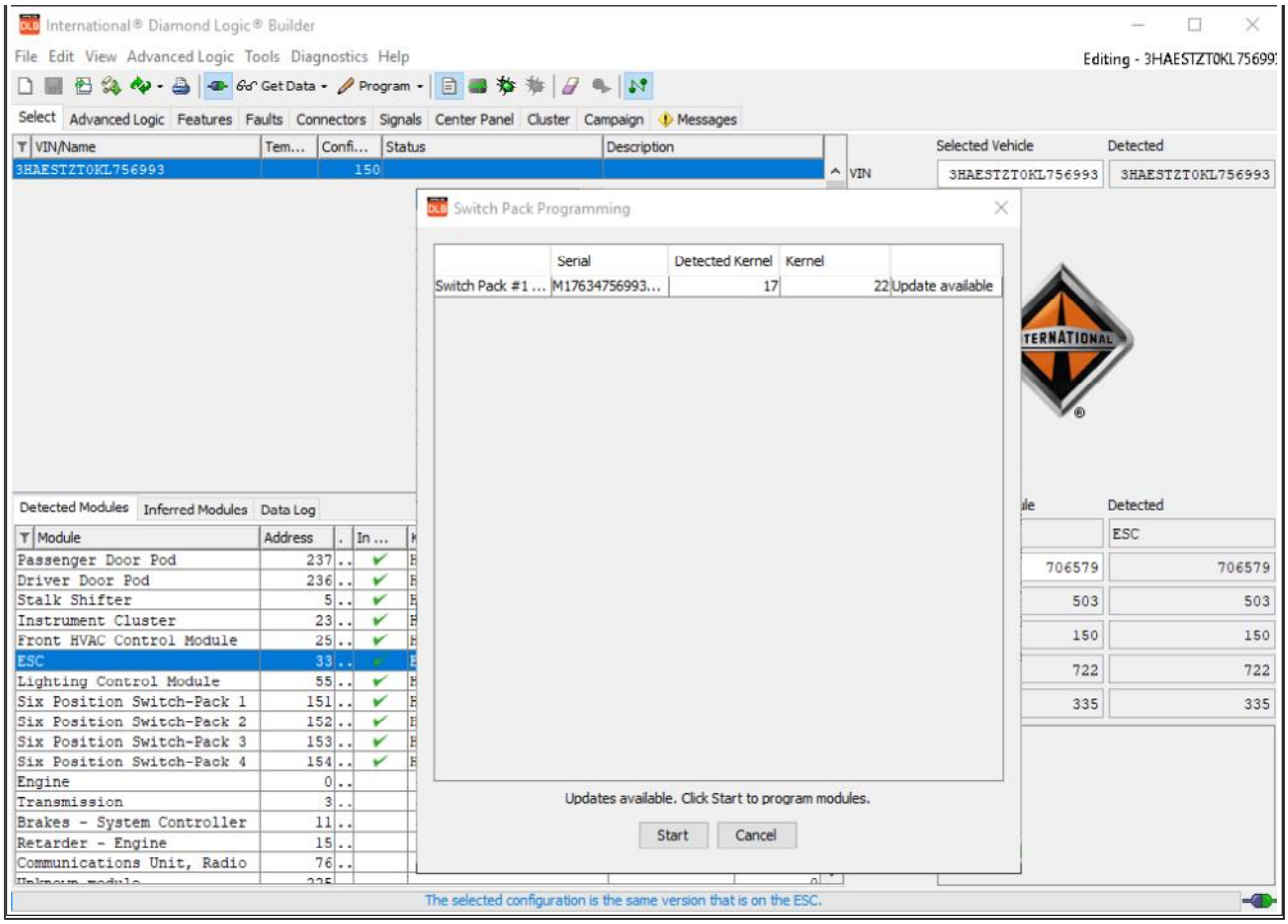
9. To start the programming process, you are asked to unplug the #1 switch pack. This step is not required as you only have a single switch pack plugged in. Click okay to continue.

Figure 22 - Unplug #1 Switch Pack



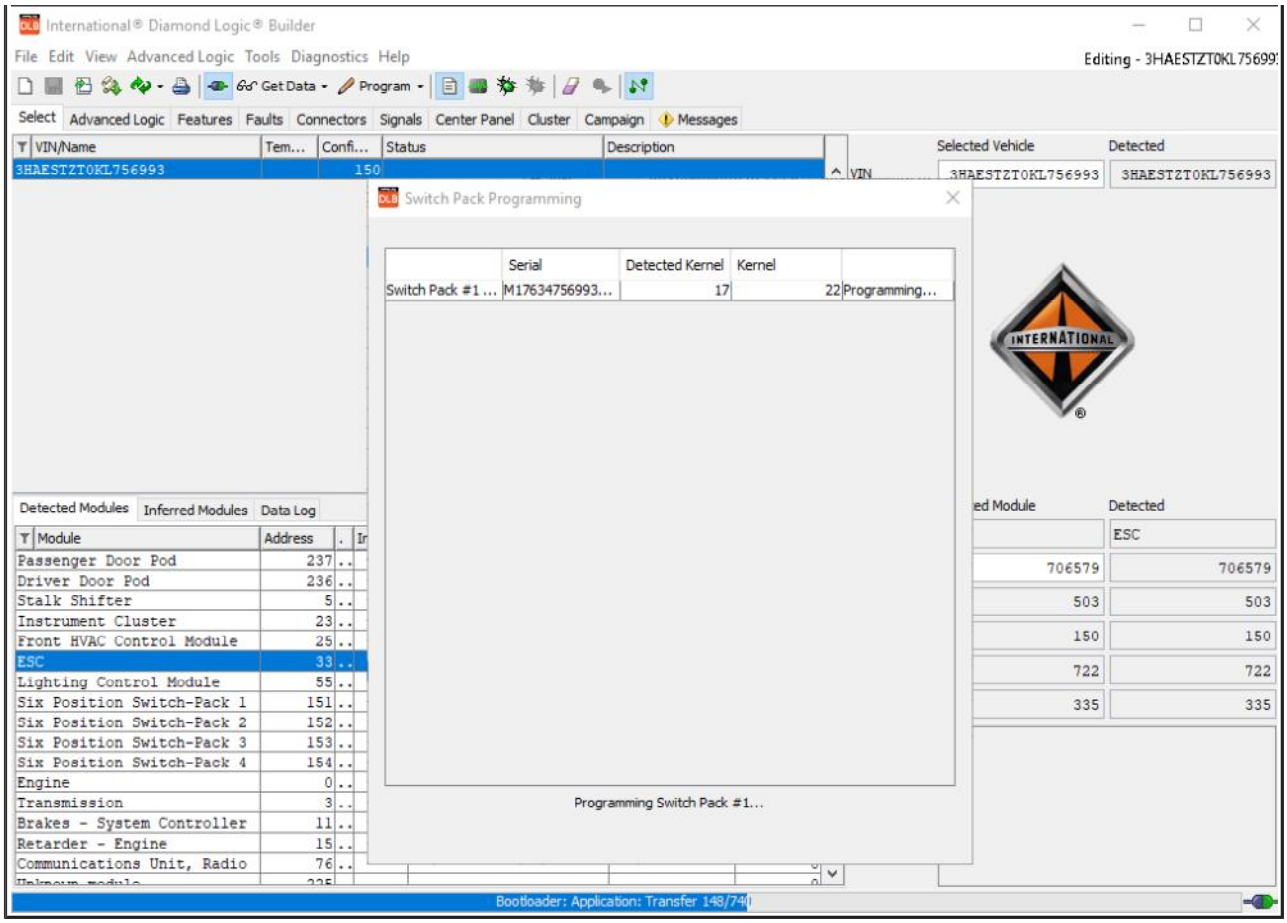
10. To initiate programming click start as shown in Figure 23.

Figure 23 - Update Available



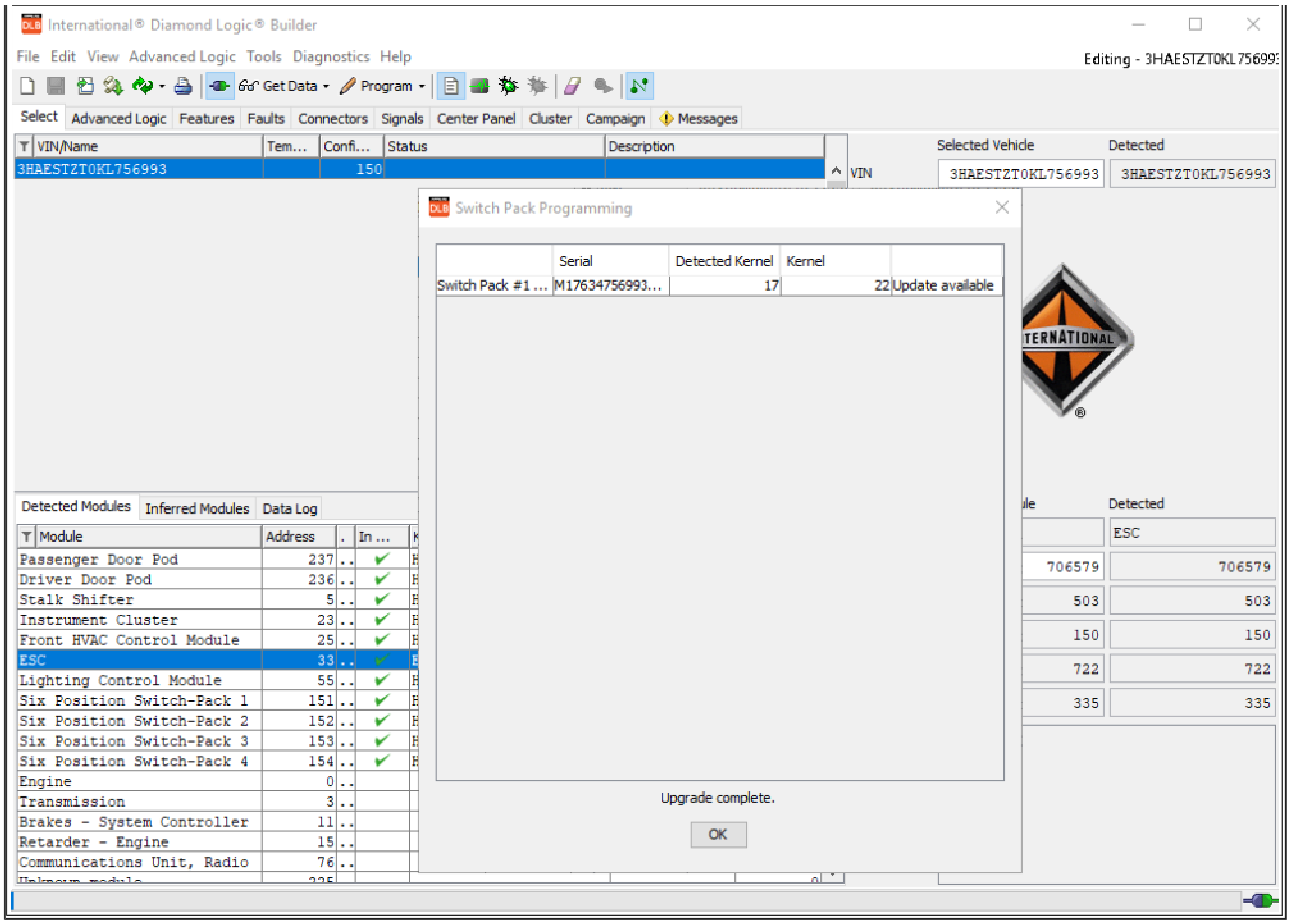
11. Status bar indicating programming progress while the switch pack programs. The switch pack will take approx. 5 1/2 minutes to complete programming.

Figure 24 - Update In Progress



12. Once the update is complete you will be notified as shown in Figure 25.

Figure 25 - Update Complete



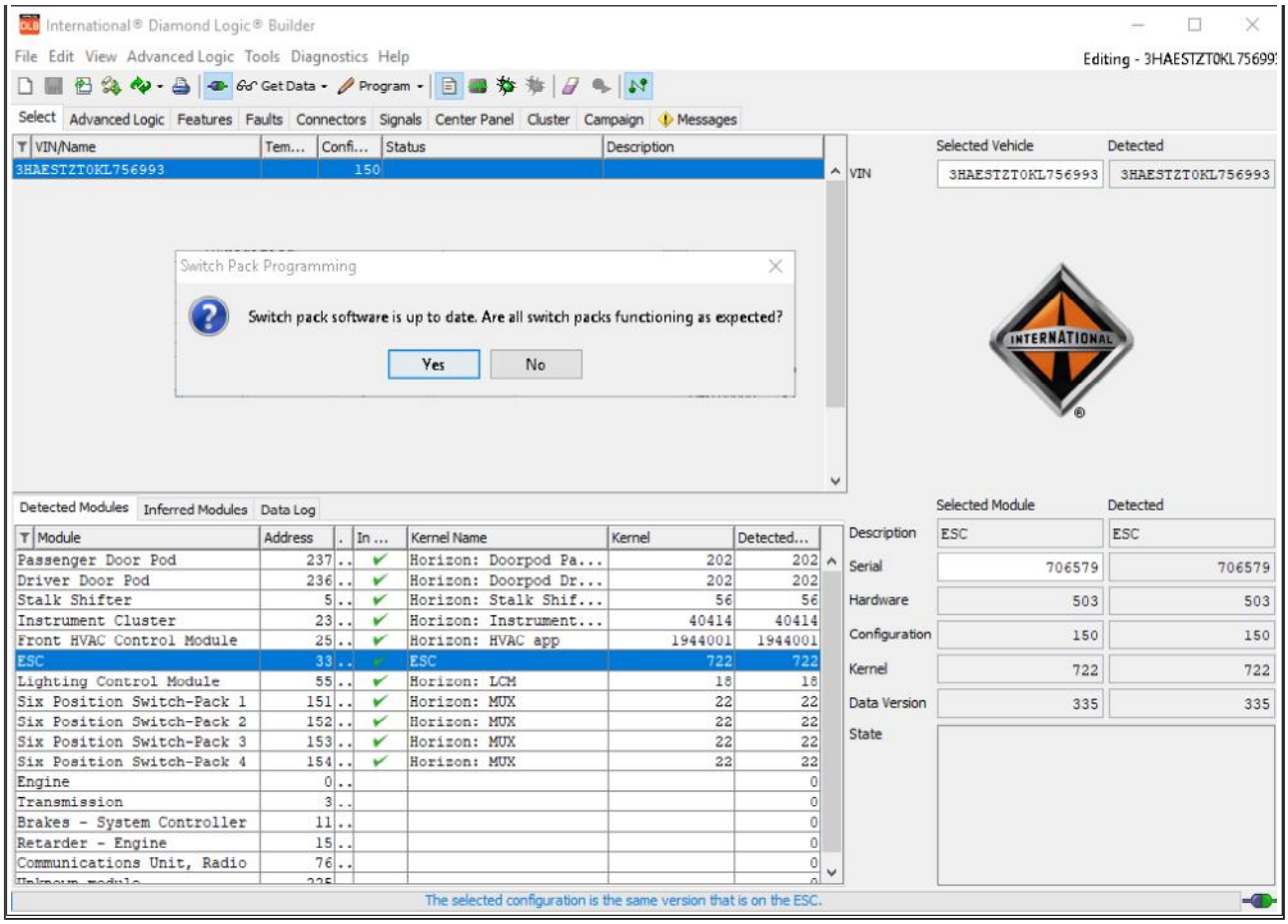
13. Key OFF.
14. Install all the switch packs, including the new service part into their proper location in the vehicle.
    - All switch packs are installed in the vehicle, and all switch packs are now at Kernel 22
15. Key ON.

NOTE:

Switch packs may be flashing red, and the replacement part may be non-responsive. This is normal until you manually set the source address.

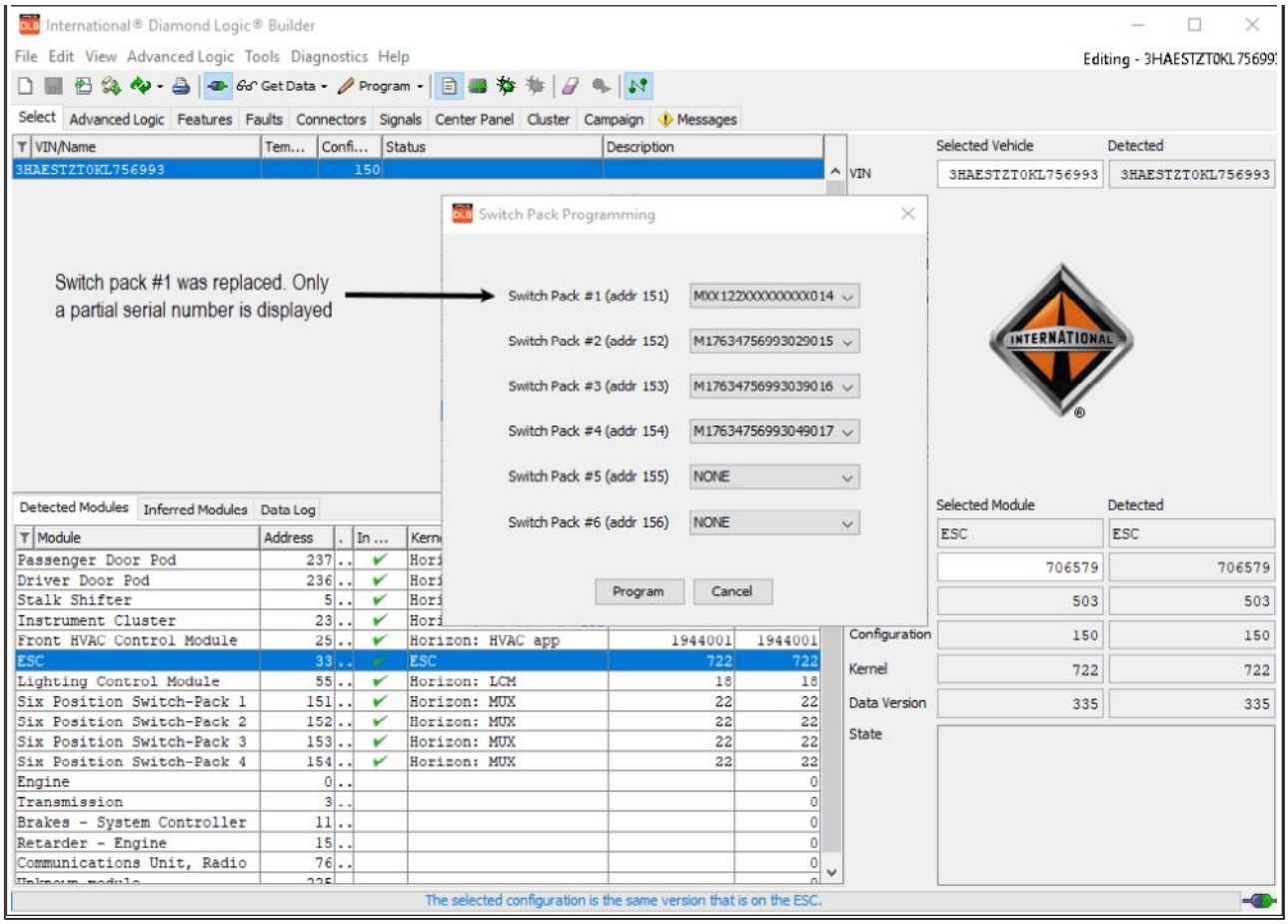
16. Navigate to the tools menu and select "Switch Pack Programming".
17. You will receive the pop up message shown. Select NO. This will allow you to manually set the source addresses.

Figure 26 - Select NO to manually set the source address



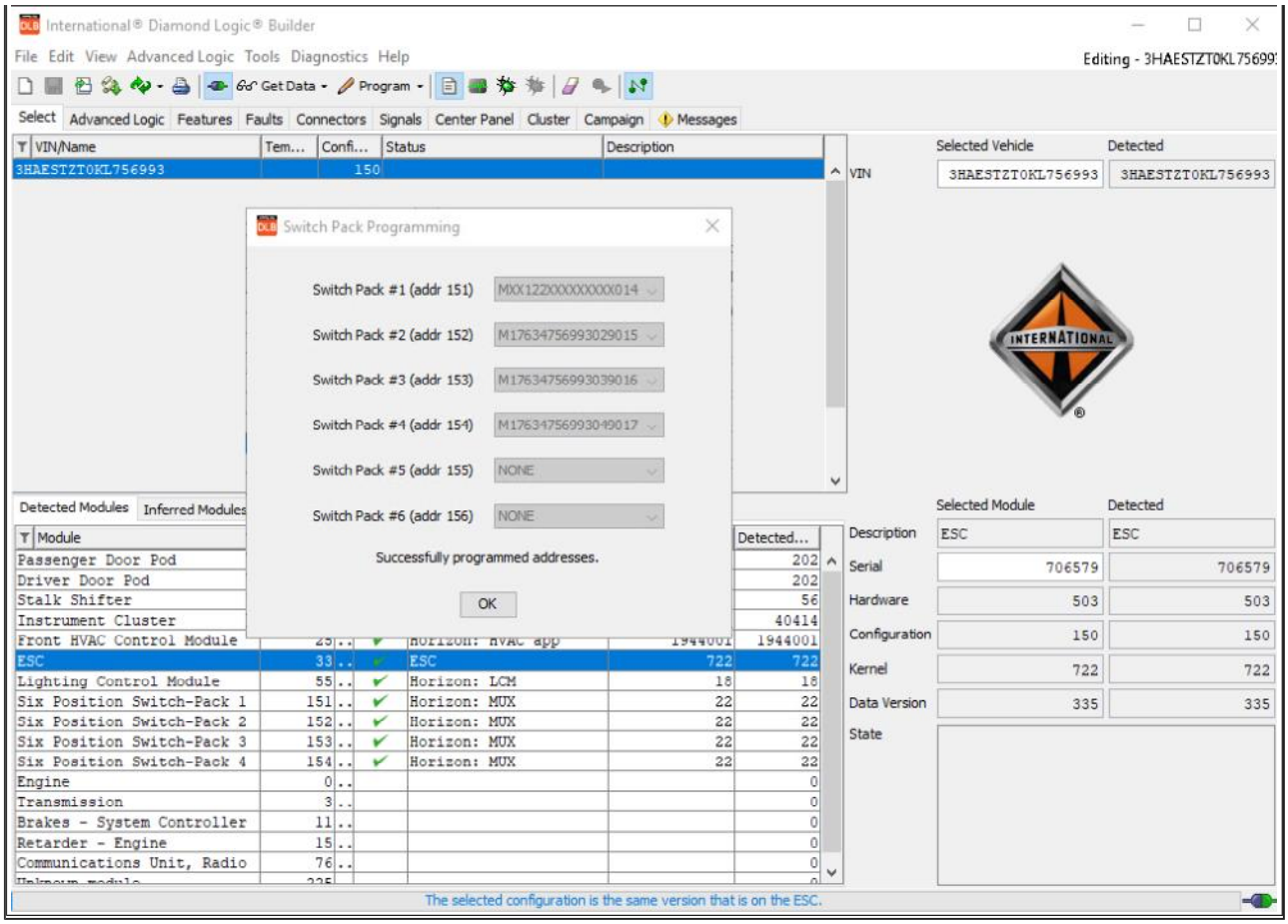
18. Set the switch pack source addresses based on their serial number and location in vehicle. Click Program.

Figure 27 - Manually set source address



19. Source address programming complete.

Figure 28 - Source Address Programmed Successfully



20. Verify one switch from each switch pack operates the correct feature as assigned.

(Return to Menu)

Replacing switch pack - Truck switch packs are at 22 - Replacement part is at 22

All switch packs are at the desired Kernel level. This section will provide instructions on how to install the replacement part and manually set the source address.

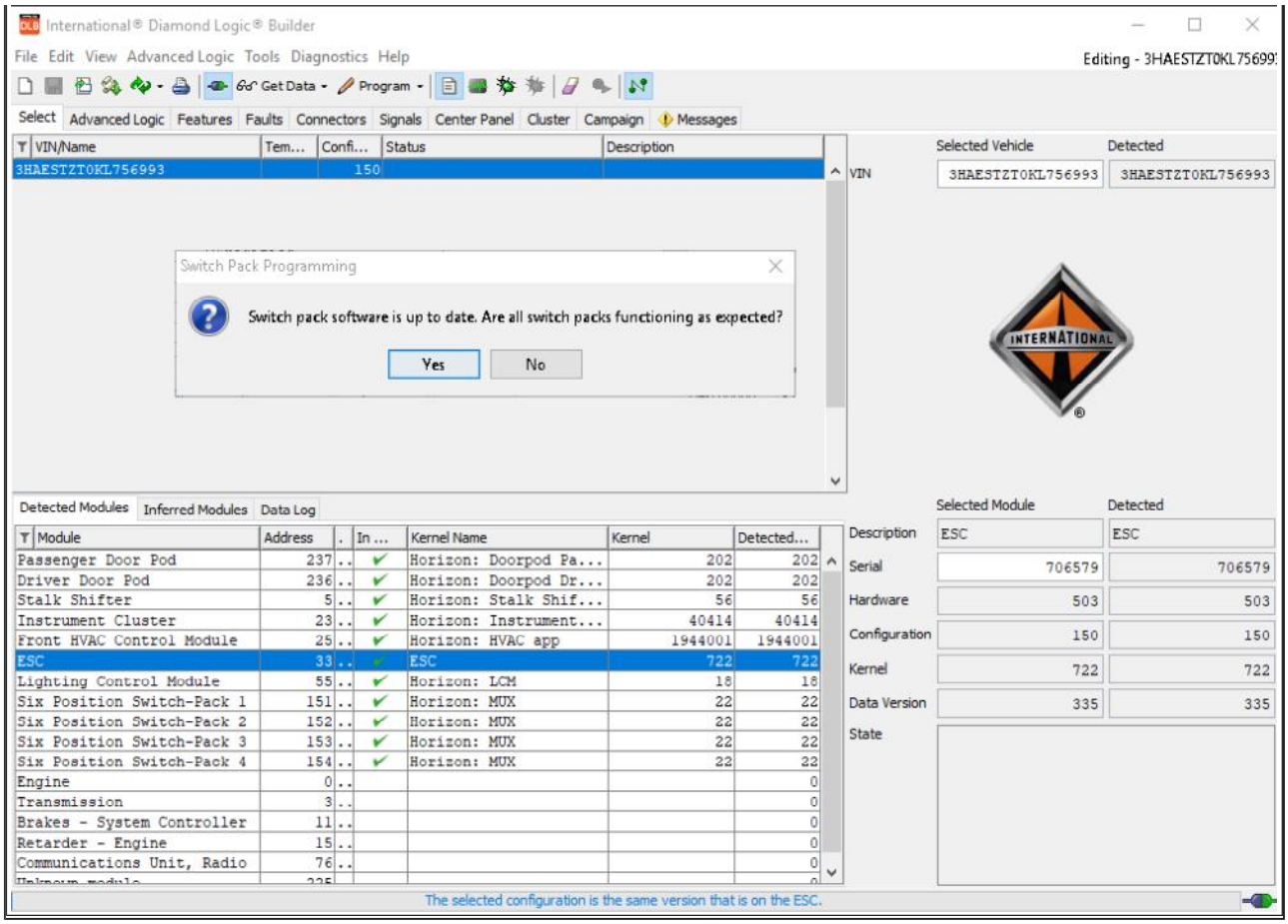
1. Record the serial number from the service part that will be installed.
2. Key OFF.
3. Install the service part into its location in the truck. (All switch packs should be plugged in).
4. Key ON.

NOTE:

Switch packs may be flashing red, and the replacement part may be non-responsive. This is normal until you manually set the source address.

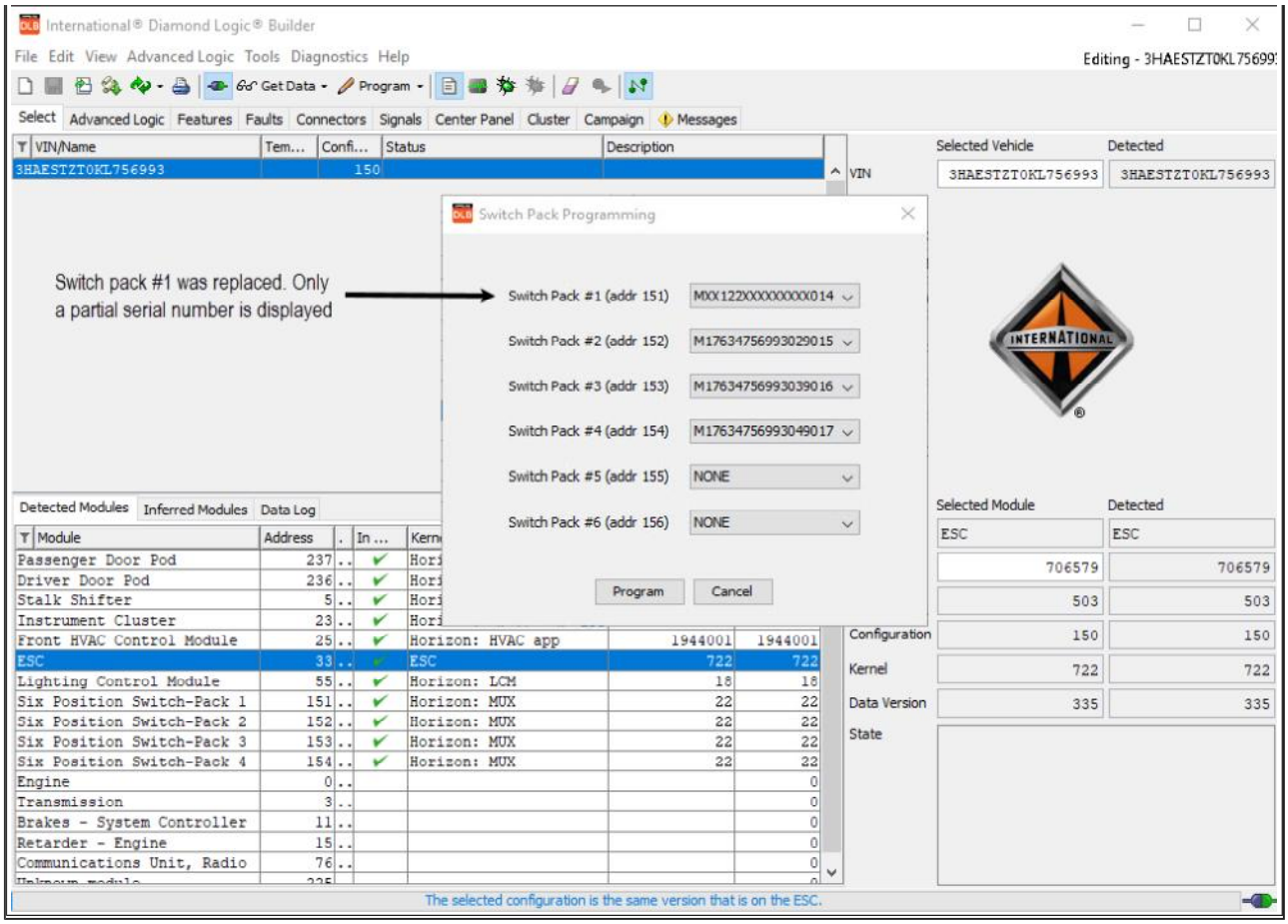
5. Navigate back to the tools menu and select "Switch Pack Programming".
6. You will receive the pop up message shown. Select NO. This will allow you to manually set the source addresses.

Figure 29 - Select NO to manually set the source address



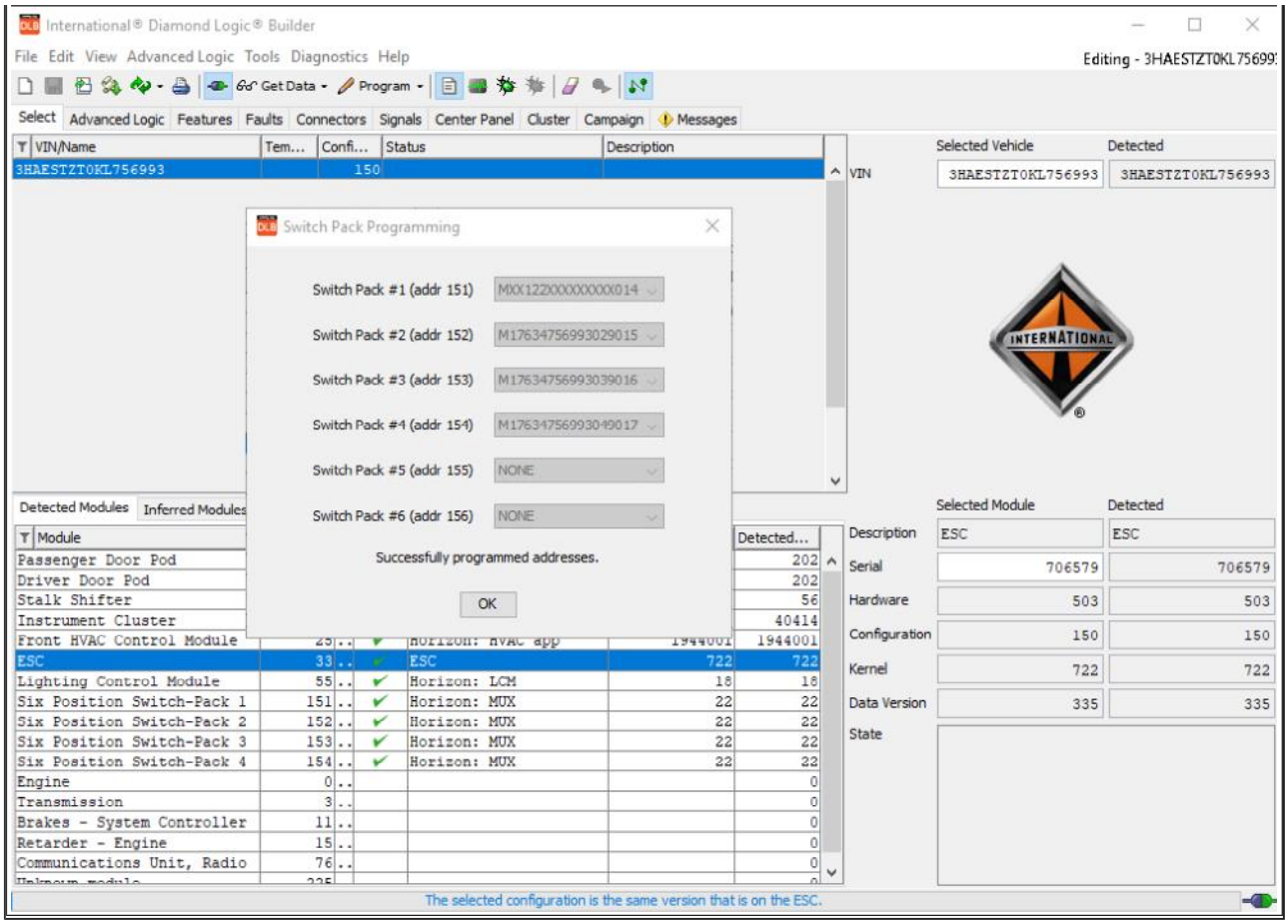
7. Set the switch pack source addresses based on their serial number and location in vehicle. Click Program.

Figure 30 - Manually set source address



8. Source address programming complete.

Figure 31 - Source Address Programmed Successfully



9. Verify one switch from each switch pack operates the correct feature as assigned.

(Return to Menu)

WARRANTY INFORMATION

Warranty Claim Coding:

Refer to the Warranty Coding Manual for Group and Noun Codes.

Standard Repair Time(s):

Refer to the SRT Manual for Repair Times

OTHER RESOURCES

Master Service Information Site

Hide Details

Feedback Information

Viewed: 129
Helpful: 2
Not Helpful: 0

No Feedback Found