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 Current Language: English Last Modified: 7/31/2020
 Other Languages: NONE Author: Charles Schroeder
 Viewed: 466

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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:

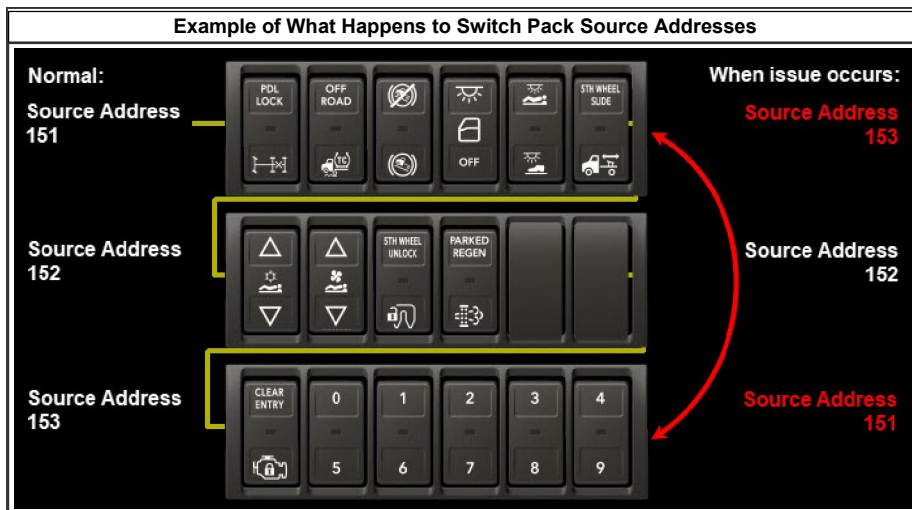
07/31/2020 - Added additional notes for resetting the switch packs, and a note that programming functionality has been removed from DLB at this time.
 07/07/2020 - Adjusting coding for visibility. No content changes.
 06/22/2020 - Initial Article Release.

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.

NOTE:

If a vehicle is down and cannot be programmed, unplug the #1 switch pack for 30 seconds. Then plug it back in. This will force all switch packs modules to perform a source address claim at their current software level, and will restore functionality. Disconnecting the batteries will also work to force the switch pack modules to perform a new source address claim.



NOTE:

07/31/2020 - An issue has been discovered with the door pod software. Programming functionality has been removed from DLB. This iKNOW article will be updated when the programming is corrected and functionality is restored.

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	

NAVISTAR TRUCK GROUP
506821 XX00
4057689C1
28564525 9010
NO USER SERVICEABLE PARTS
HOUSING, SWITCH, J1939 MULTIPLEXED Assembled in Mexico
M UXA17115506821109010

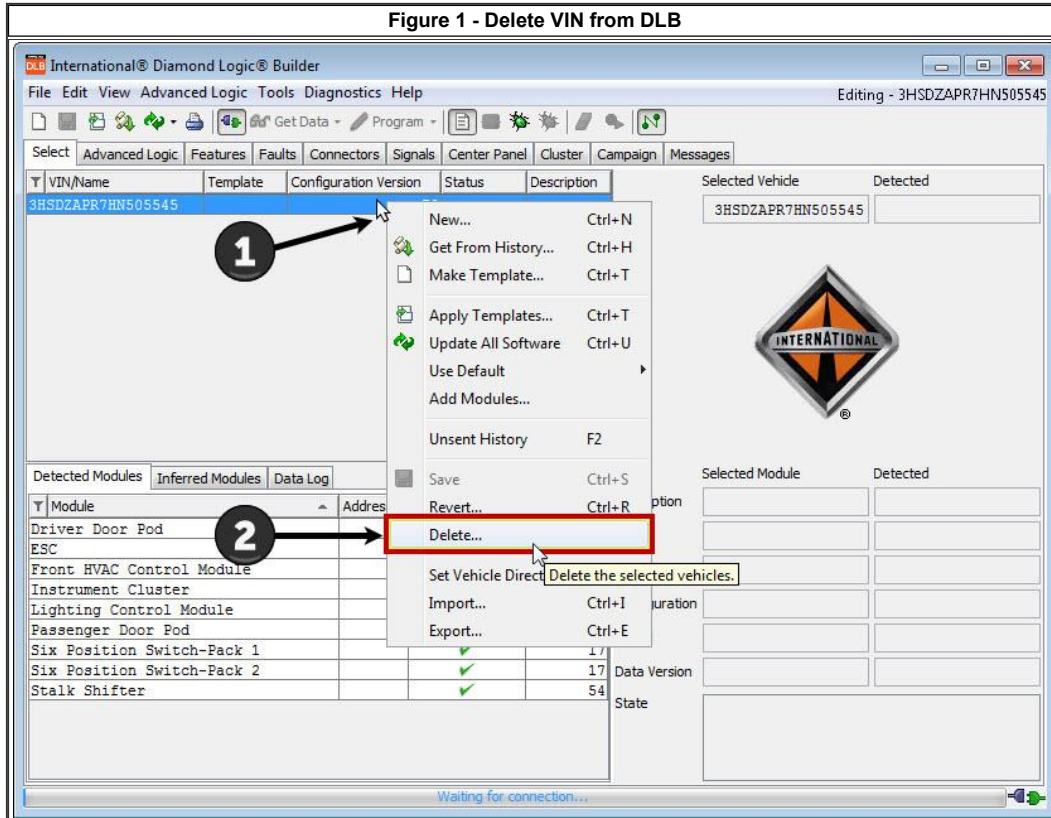
1. Switch pack serial number

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

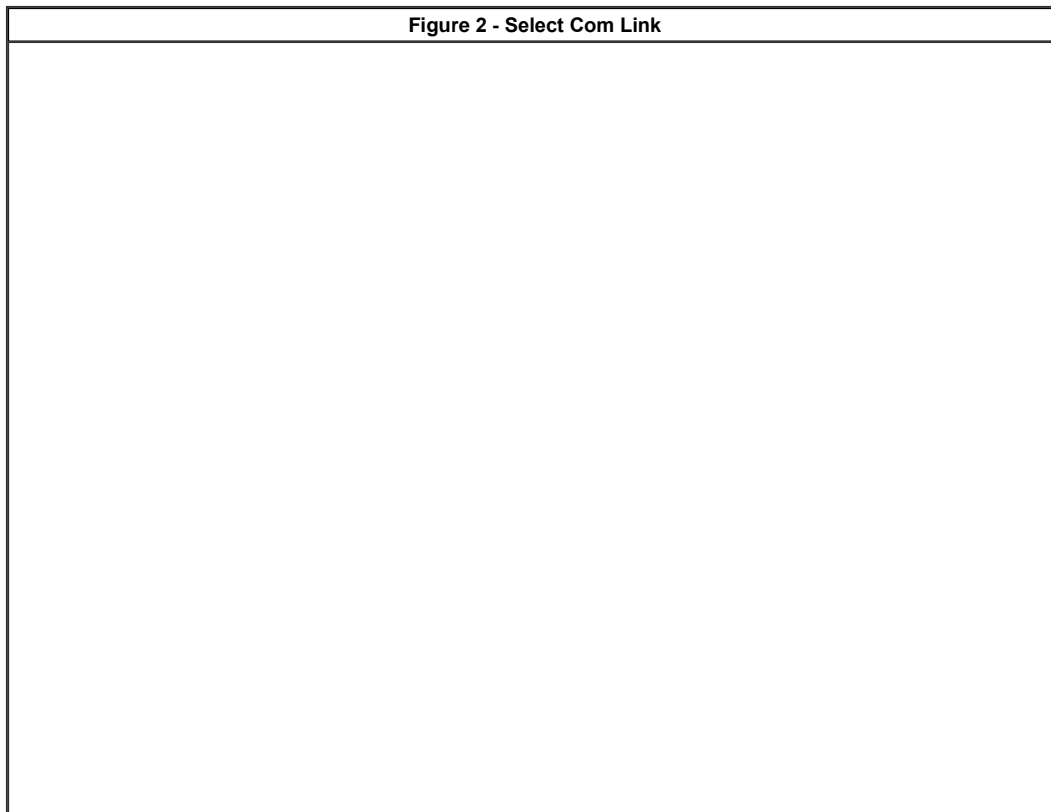
1. Open DLB and delete the VIN from the vehicle you are planning to connect to if present

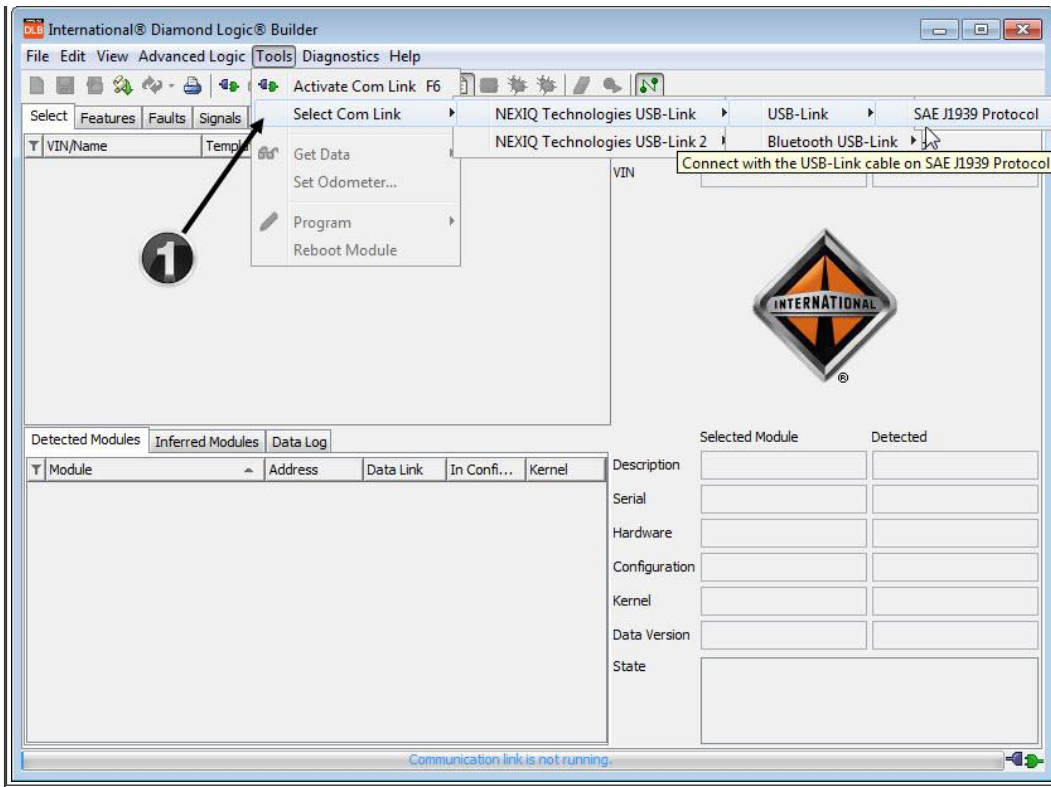


To delete the VIN from DLB:

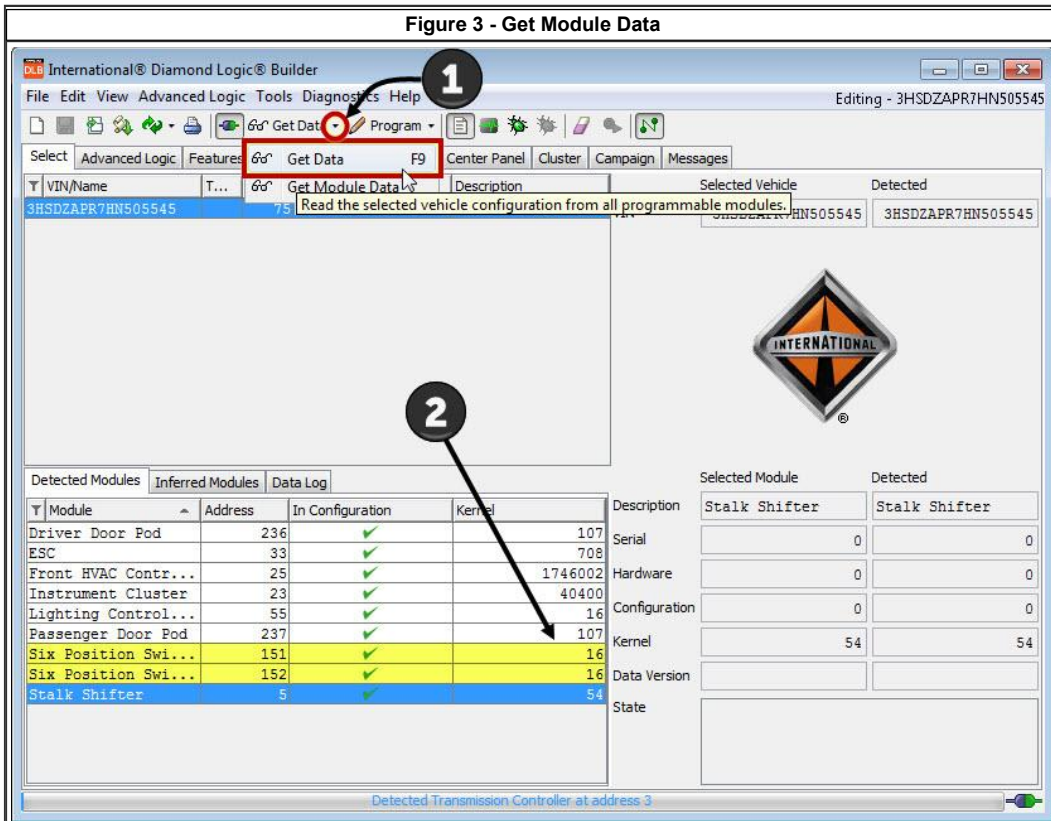
1. Right click on the VIN you wish to delete
2. Navigate down and select "Delete..." as shown in Figure 1

2. Select the communication device you are using





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



4. Note which kernel is being displayed for the Six Position Switch-Packs

- o 17 or lower
- o 22

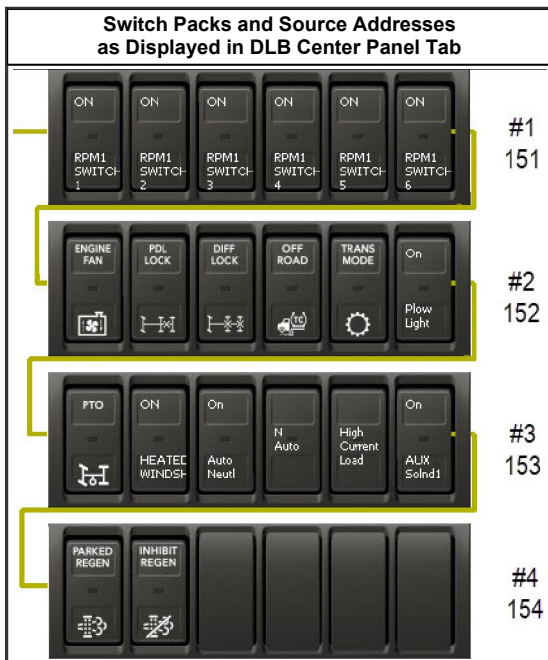
Part 2 - Check replacement part switch pack software that you will be installing in the vehicle (if applicable)

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.



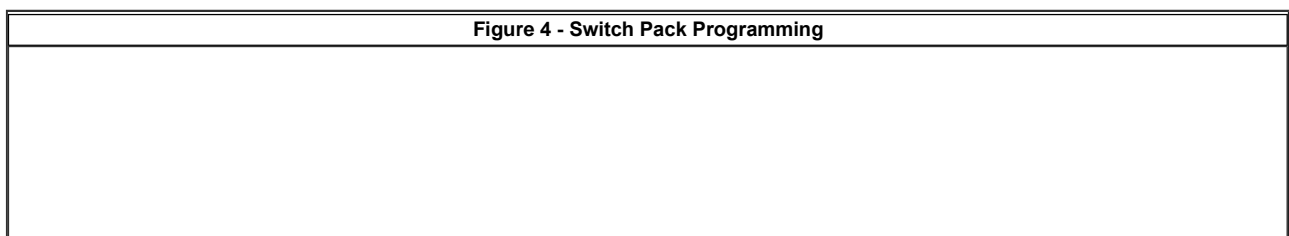
REPAIR STEP(S)

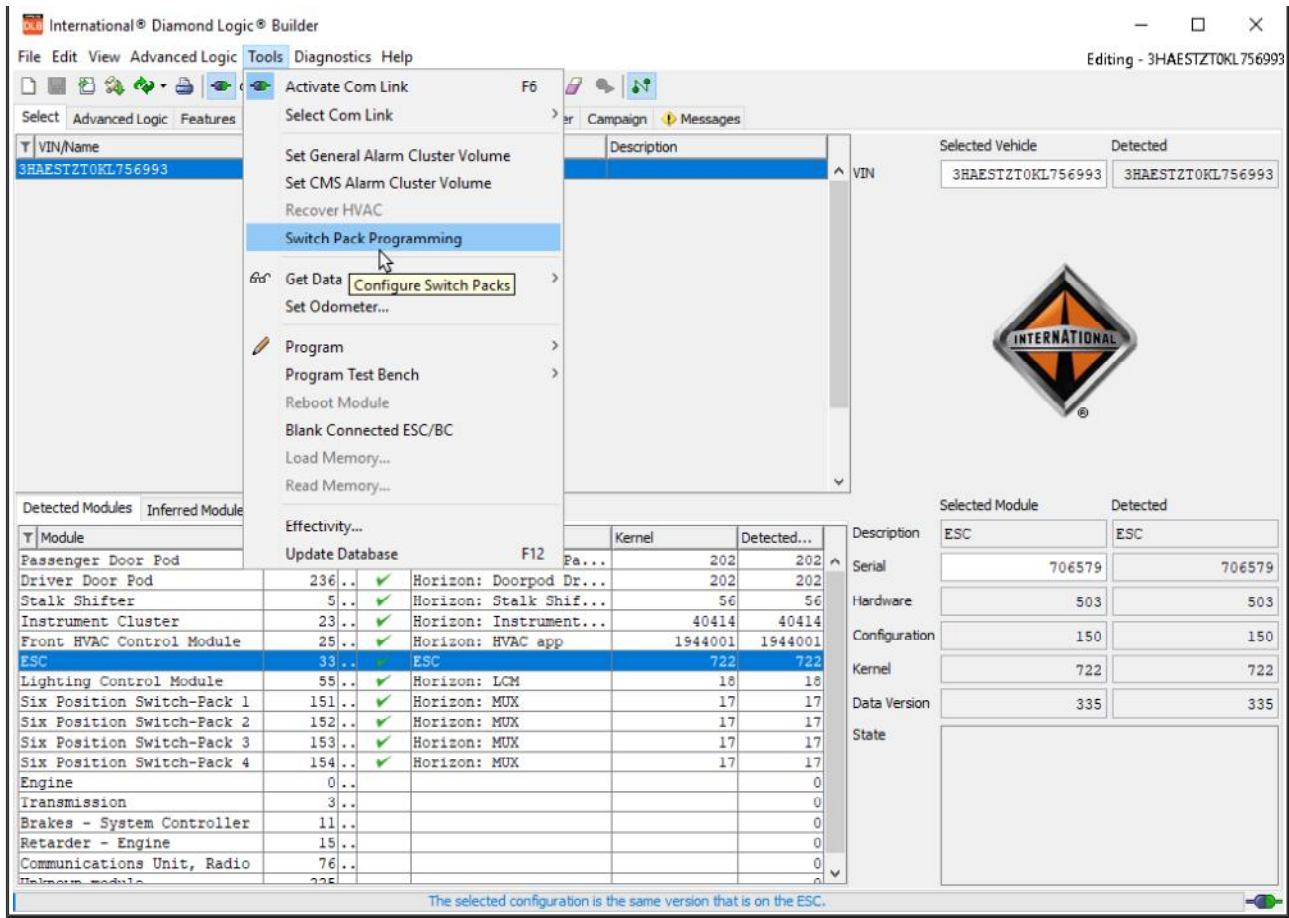
Updating modules from 17 or lower (no parts being replaced, or service part is also at 17 or lower):

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.

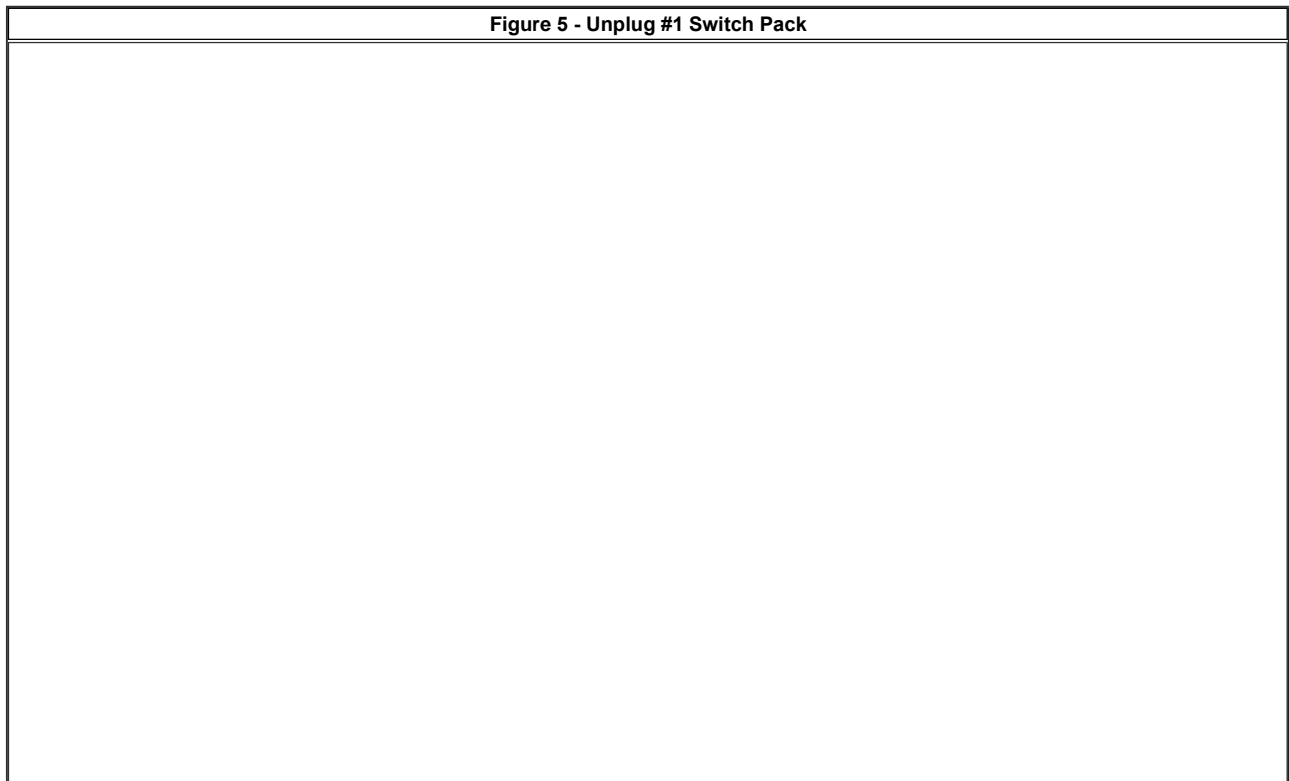
NOTE:

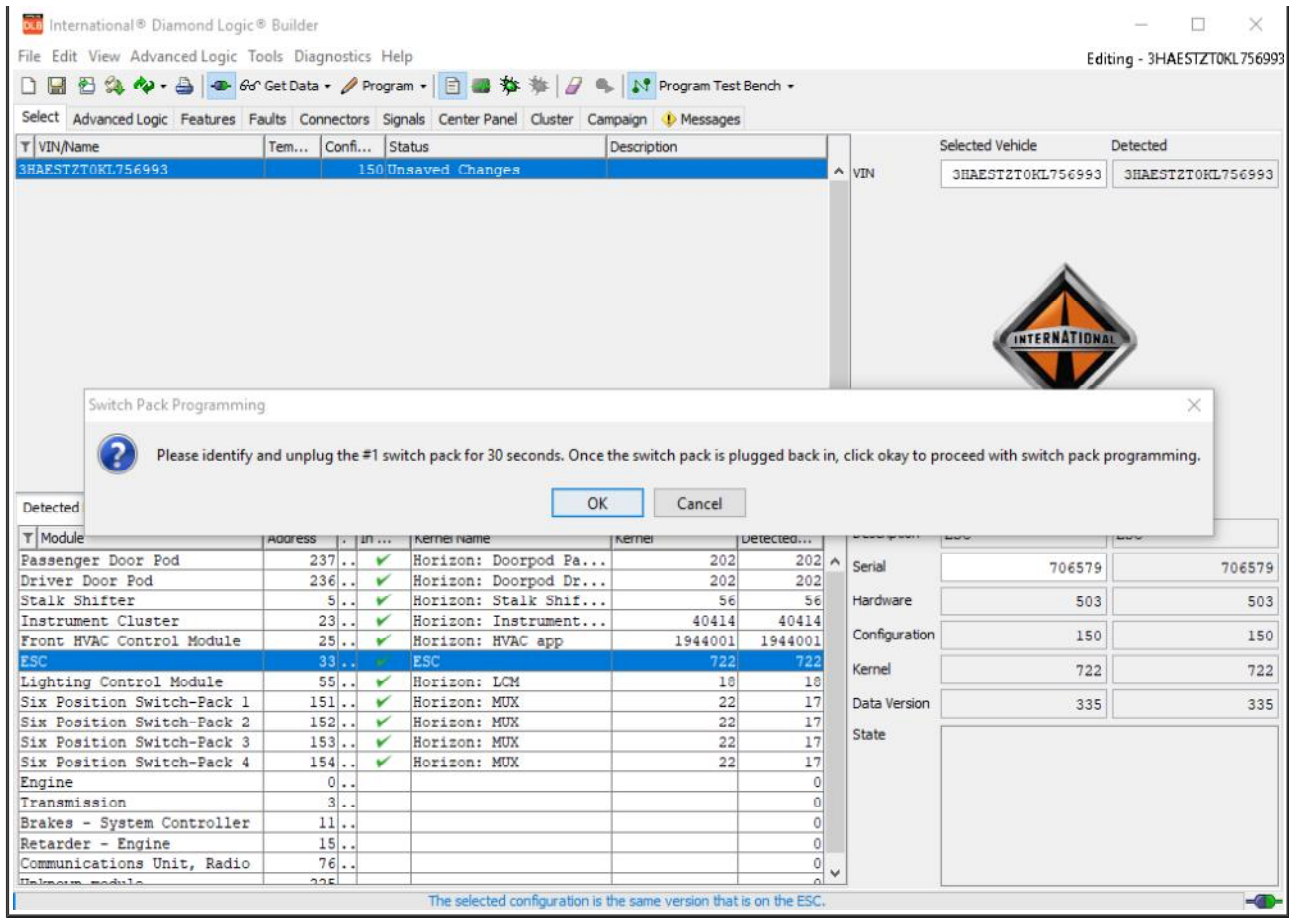
The BCM may need to be updated before you can update the switch pack software. If a BCM update is required, DLB will detect this and prompt you to exit switch pack programming and update the BCM first. You will need to return to switch pack programming once the BCM has been updated. If a BCM update is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



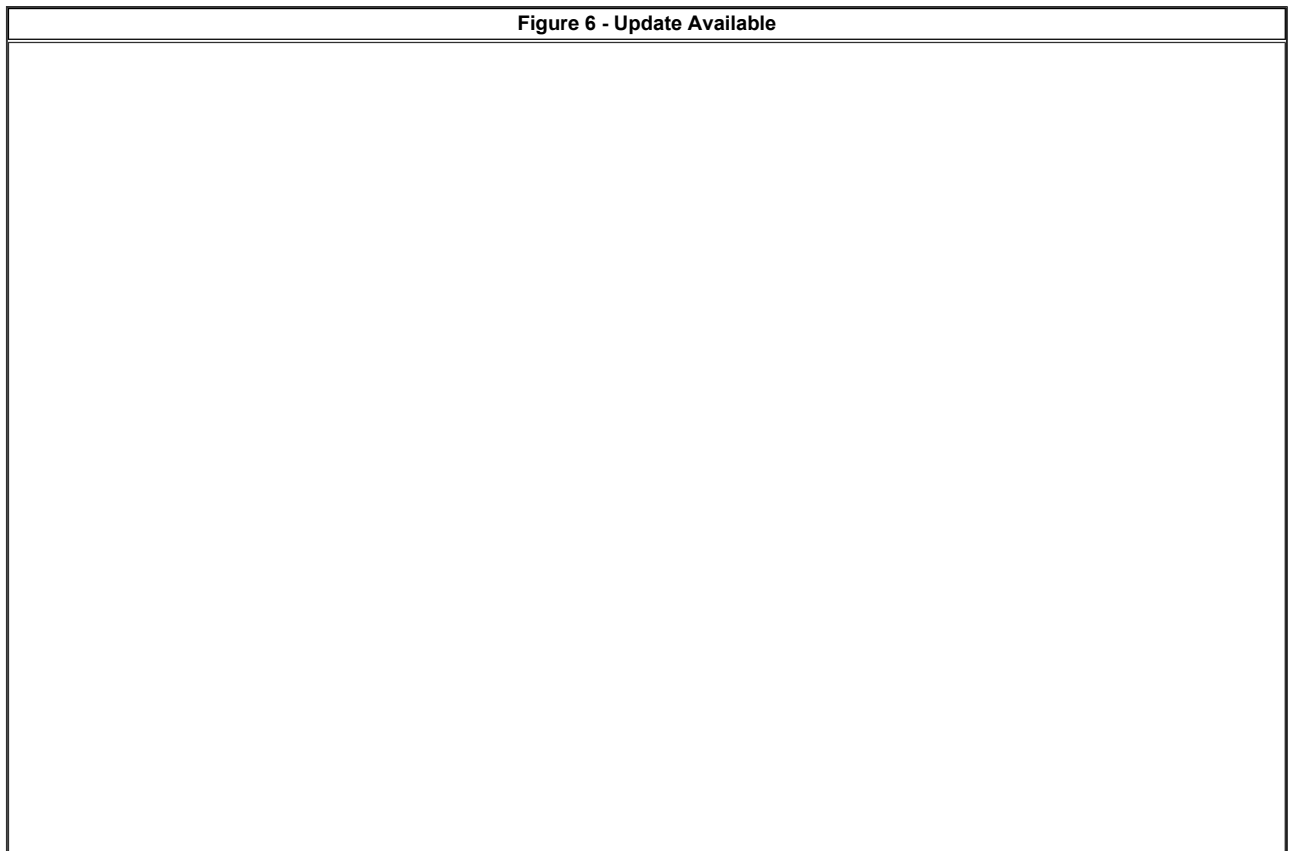


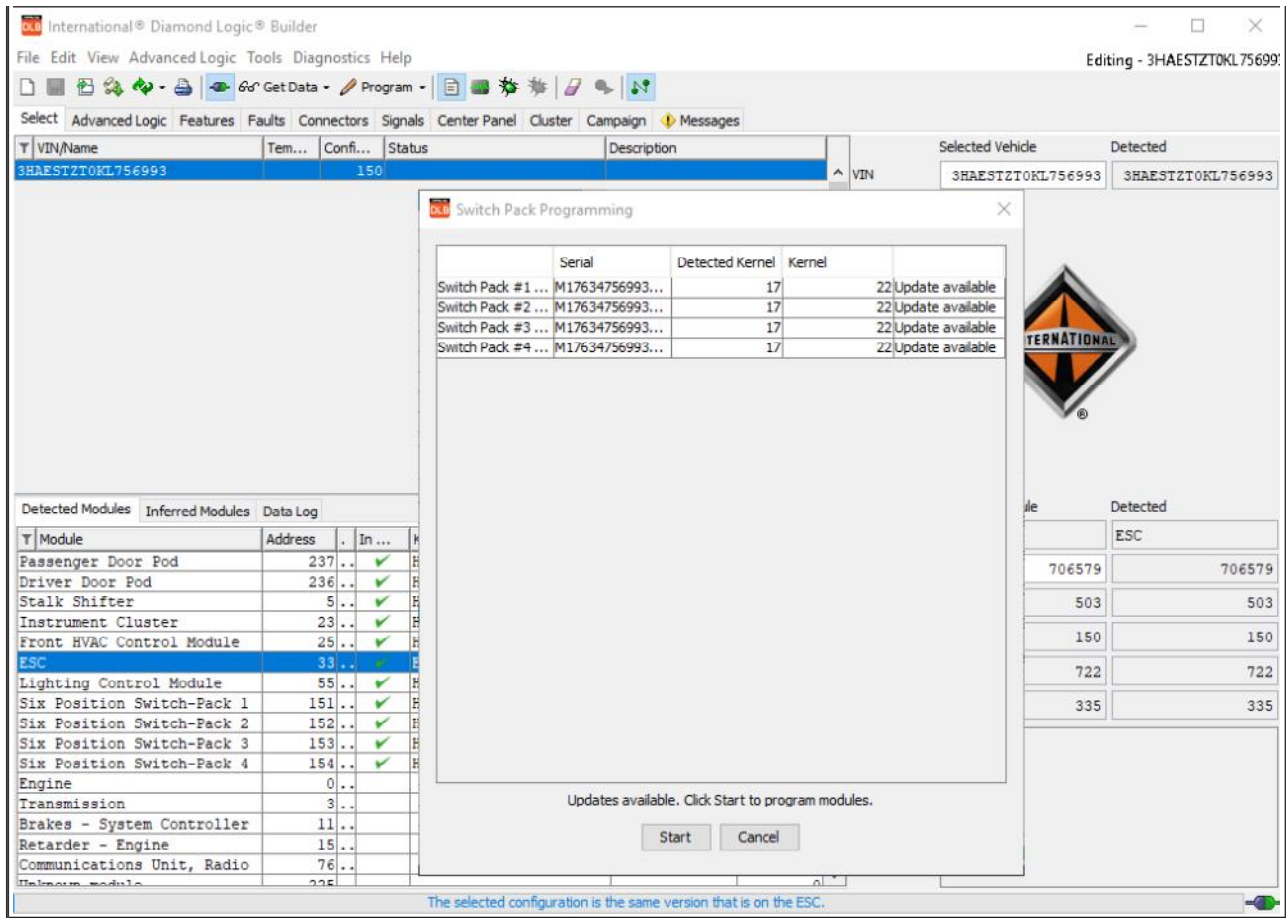
4. To start the logic programming process, you are asked to unplug the #1 switch pack. This will force the switch packs to perform a source address claim.
 - This step is not required if the vehicle is equipped with only one switch pack.





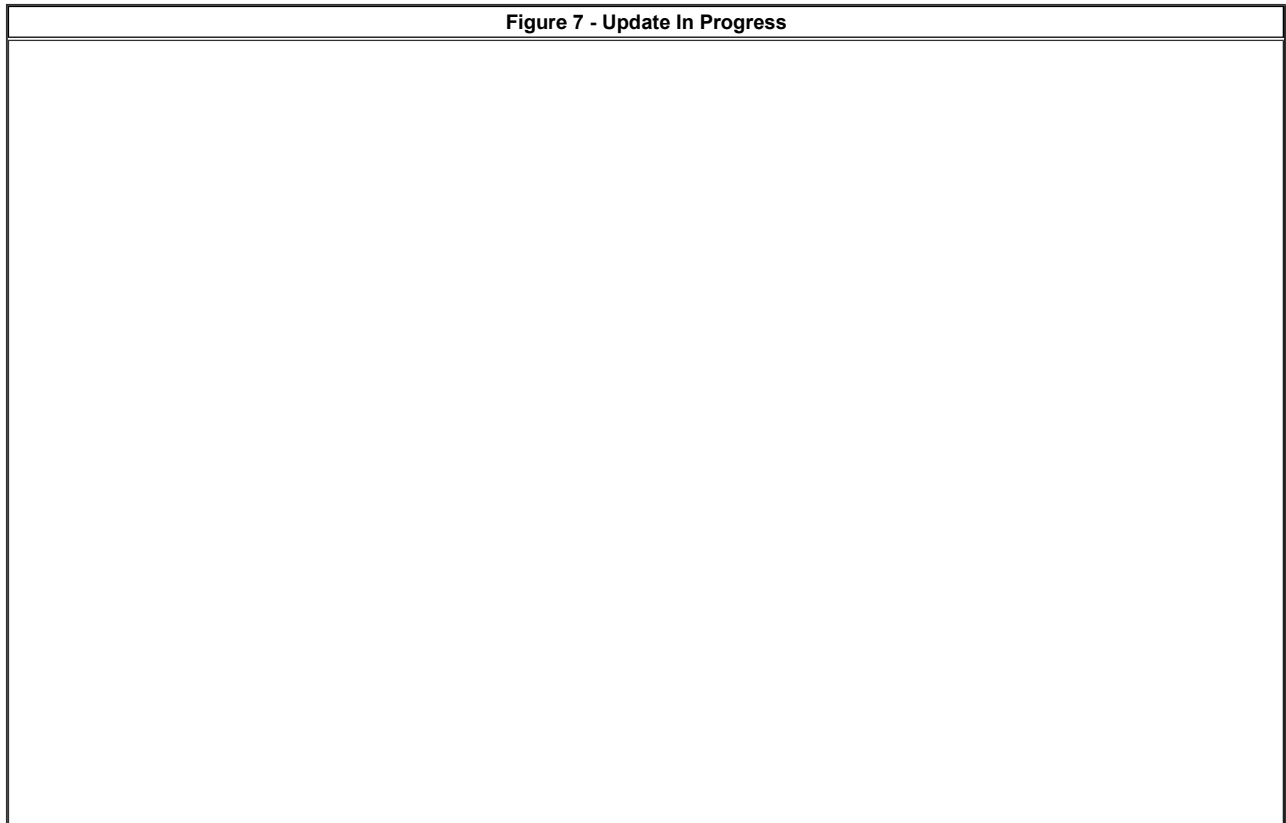
5. To initiate programming click start as shown in Figure 6.

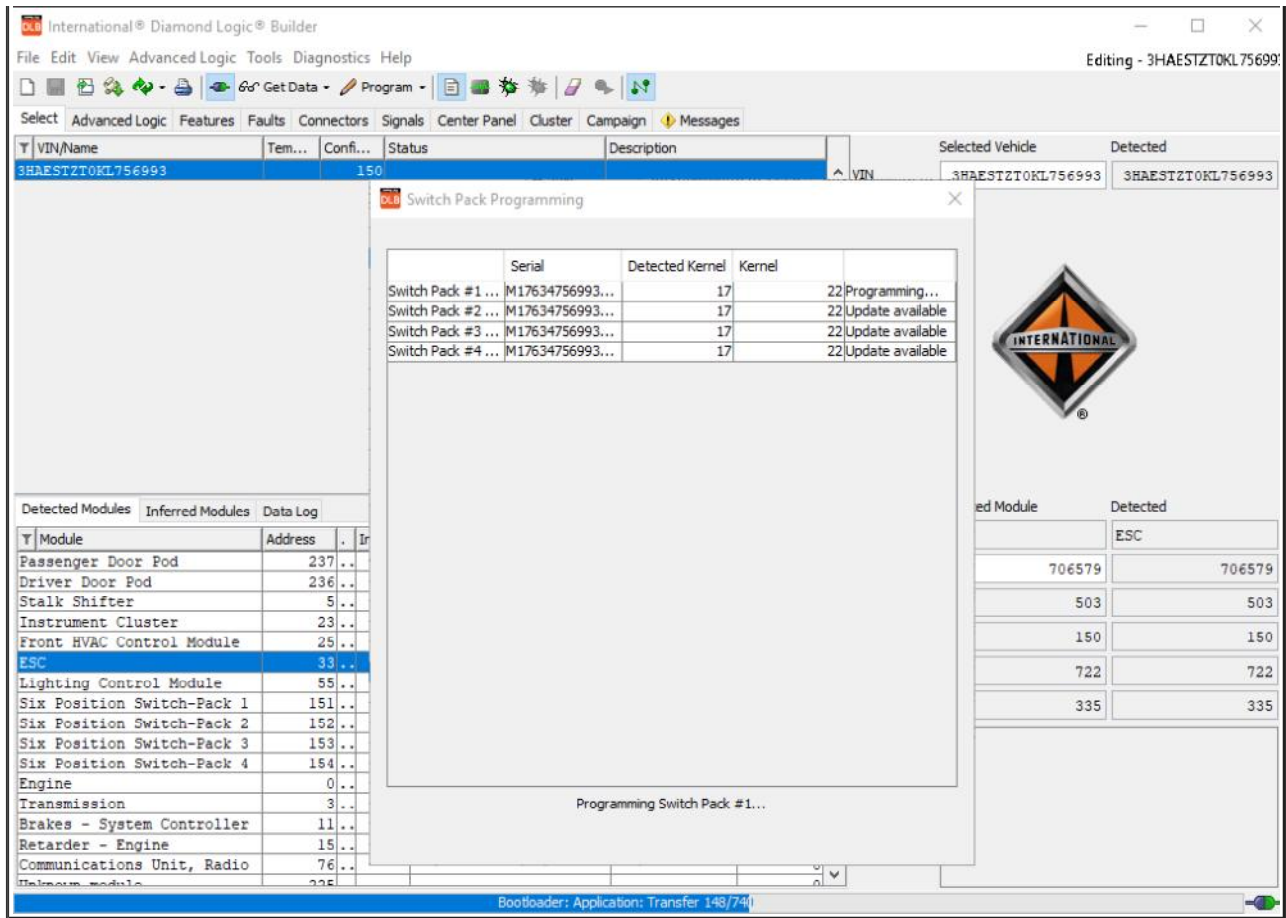




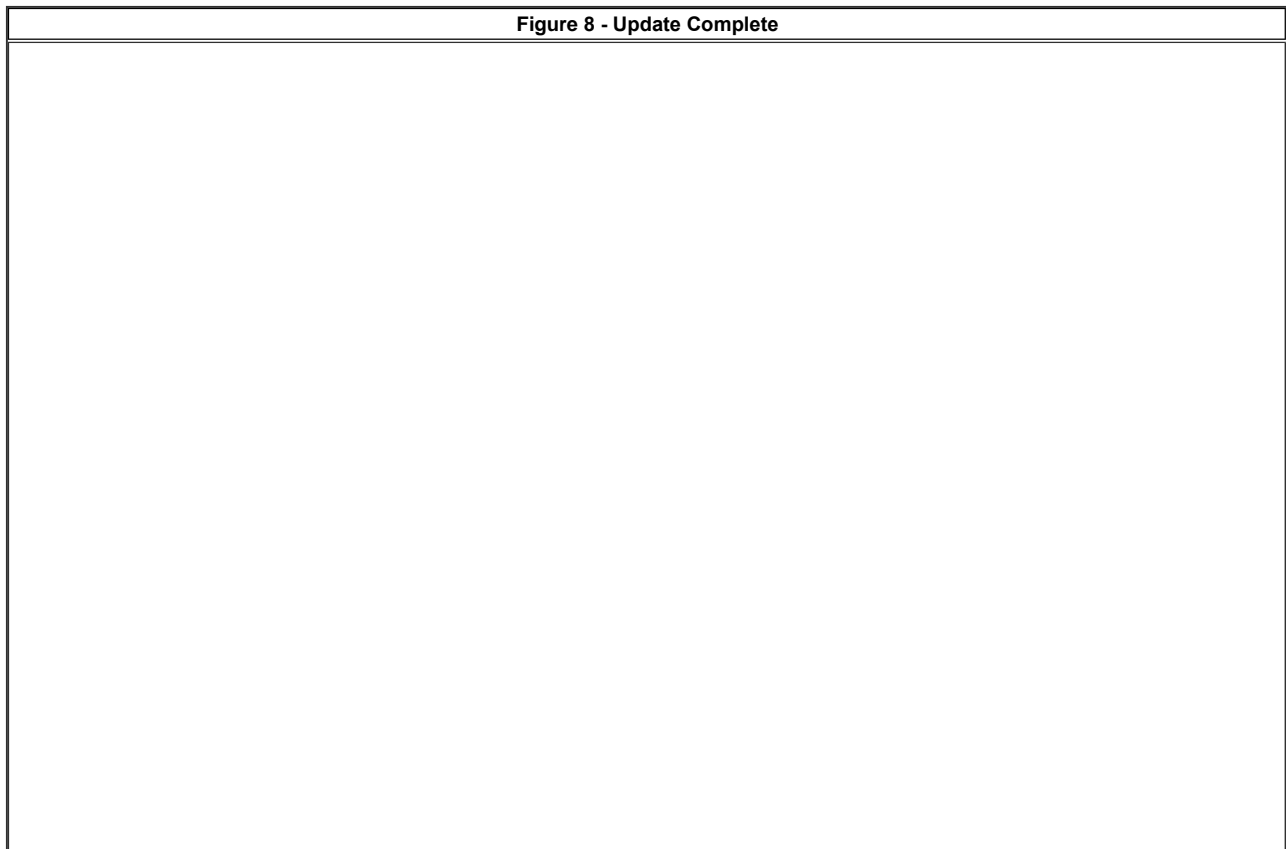
- Status bar indicating programming progress while the switch packs program. All switch packs will be programmed automatically. Each switch pack will take approx. 5 1/2 minutes to complete.

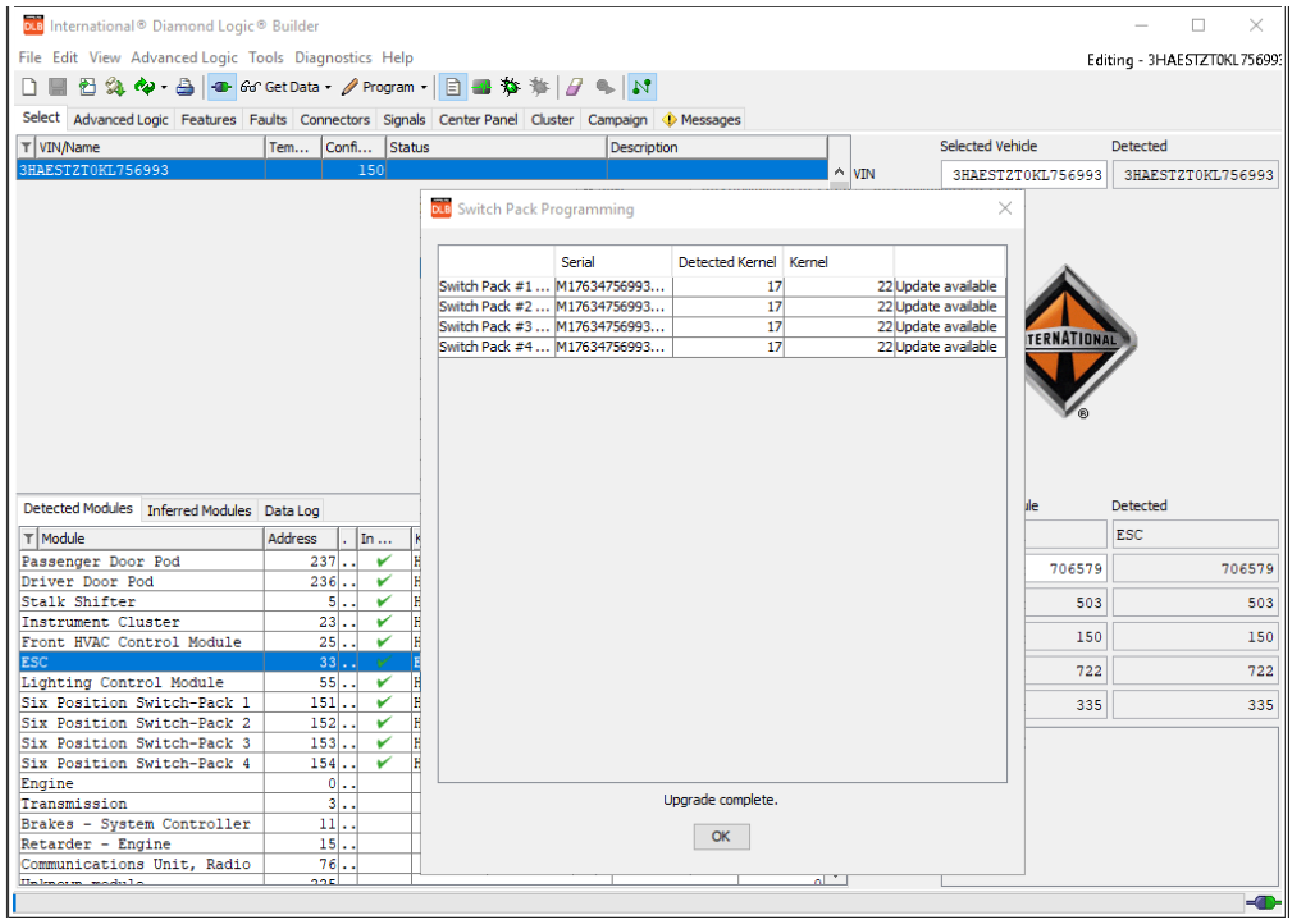
Figure 7 - Update In Progress



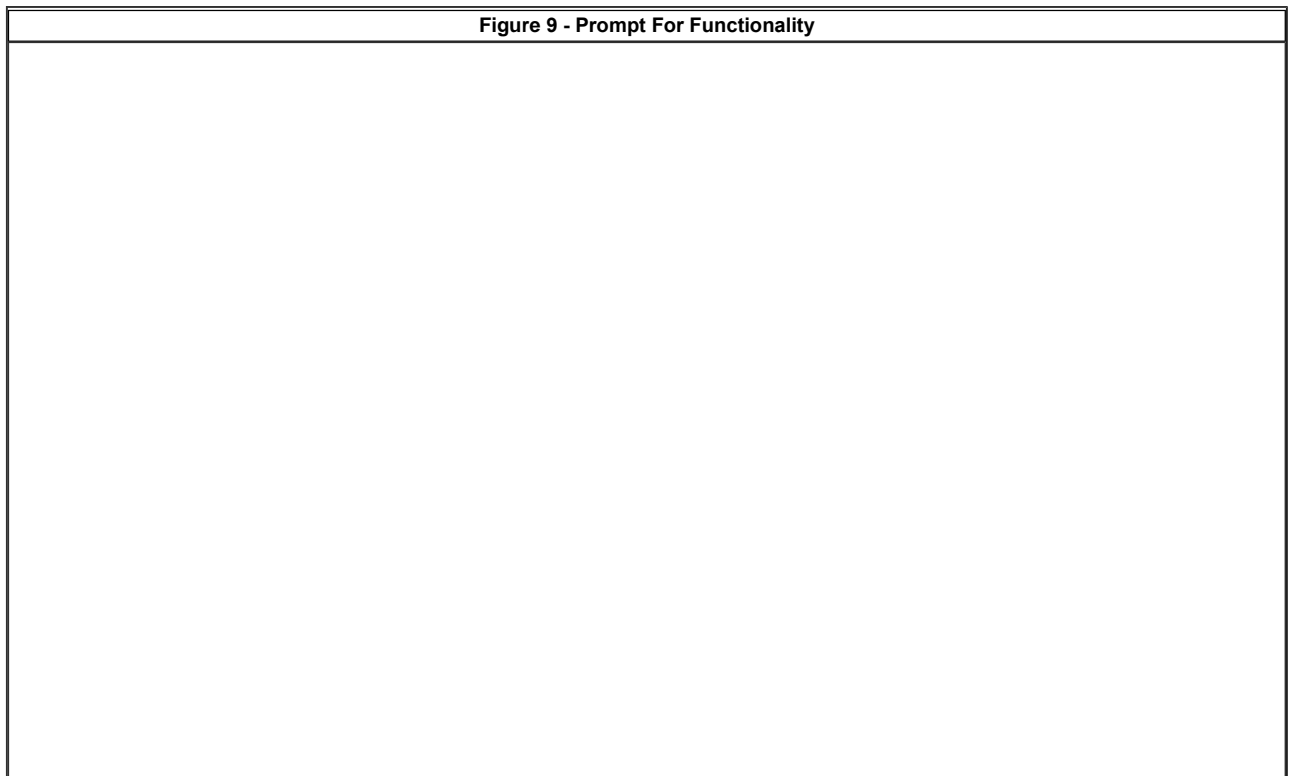


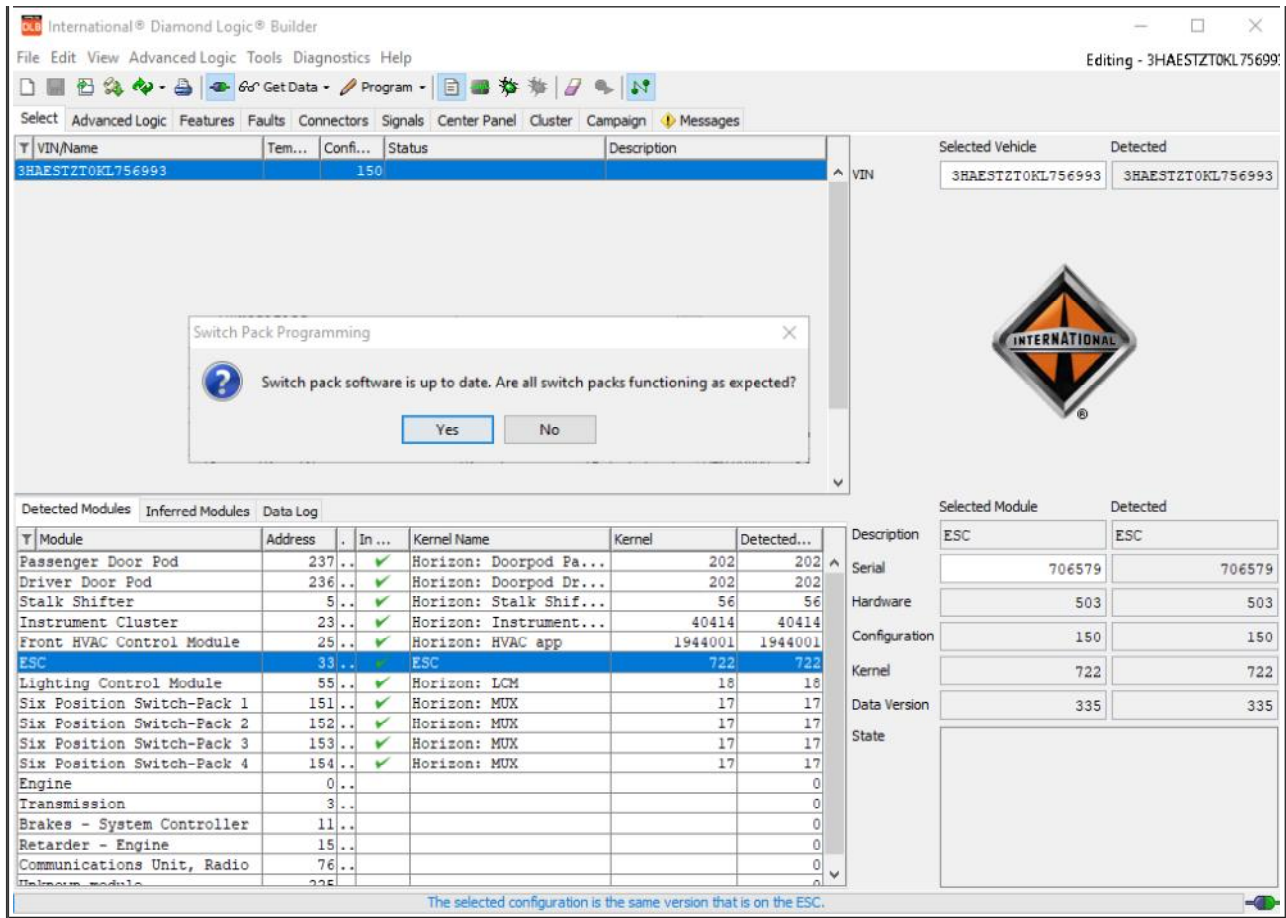
7. Once the update is complete you will be notified as shown in Figure 8.





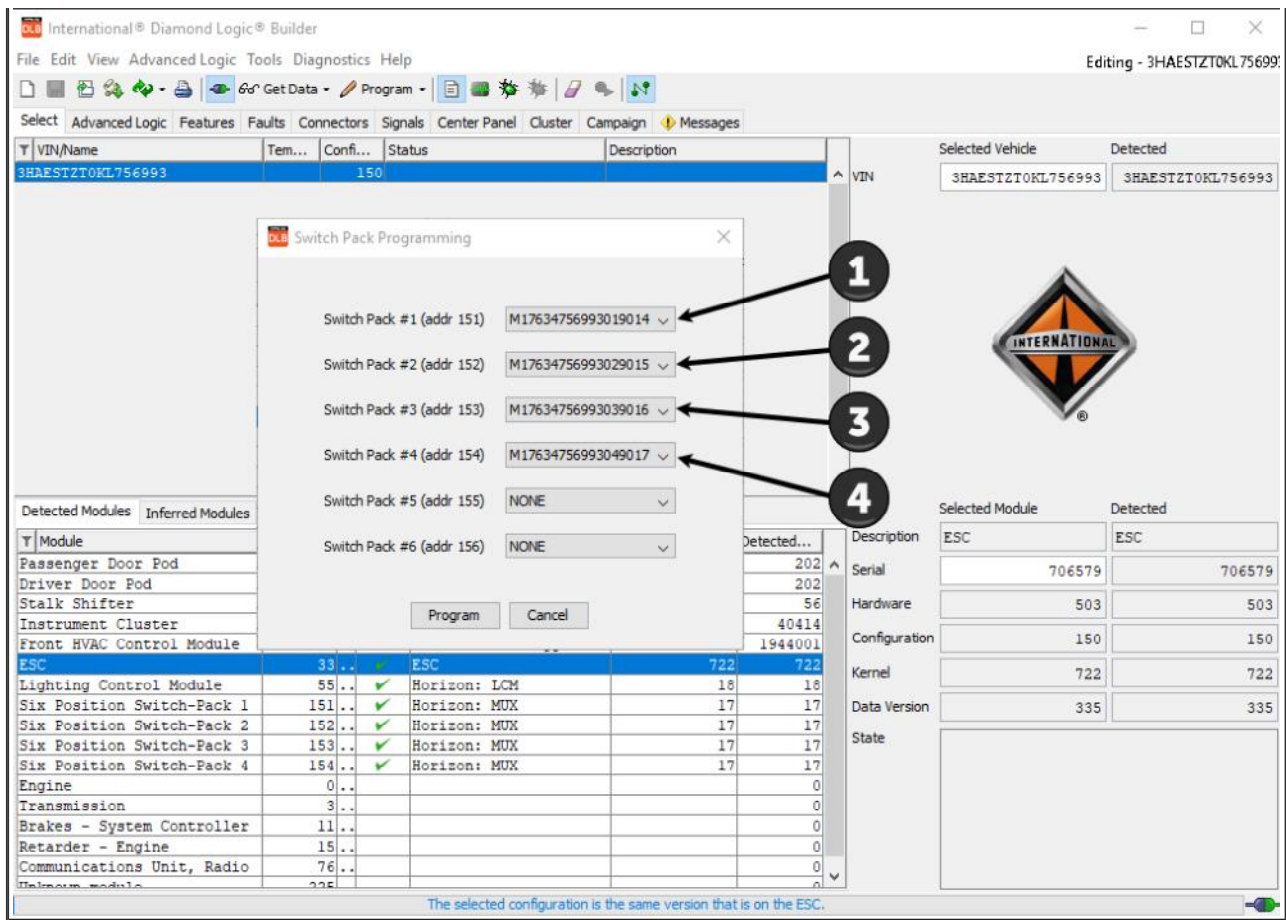
8. Figure 9 below is a prompt to check operation of each switch pack. This will help ensure the switch packs were at the proper source address before programming was performed
 - Clicking Yes - Programming is now complete, no further action is required.
 - Clicking No - You will be given a dialogue box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



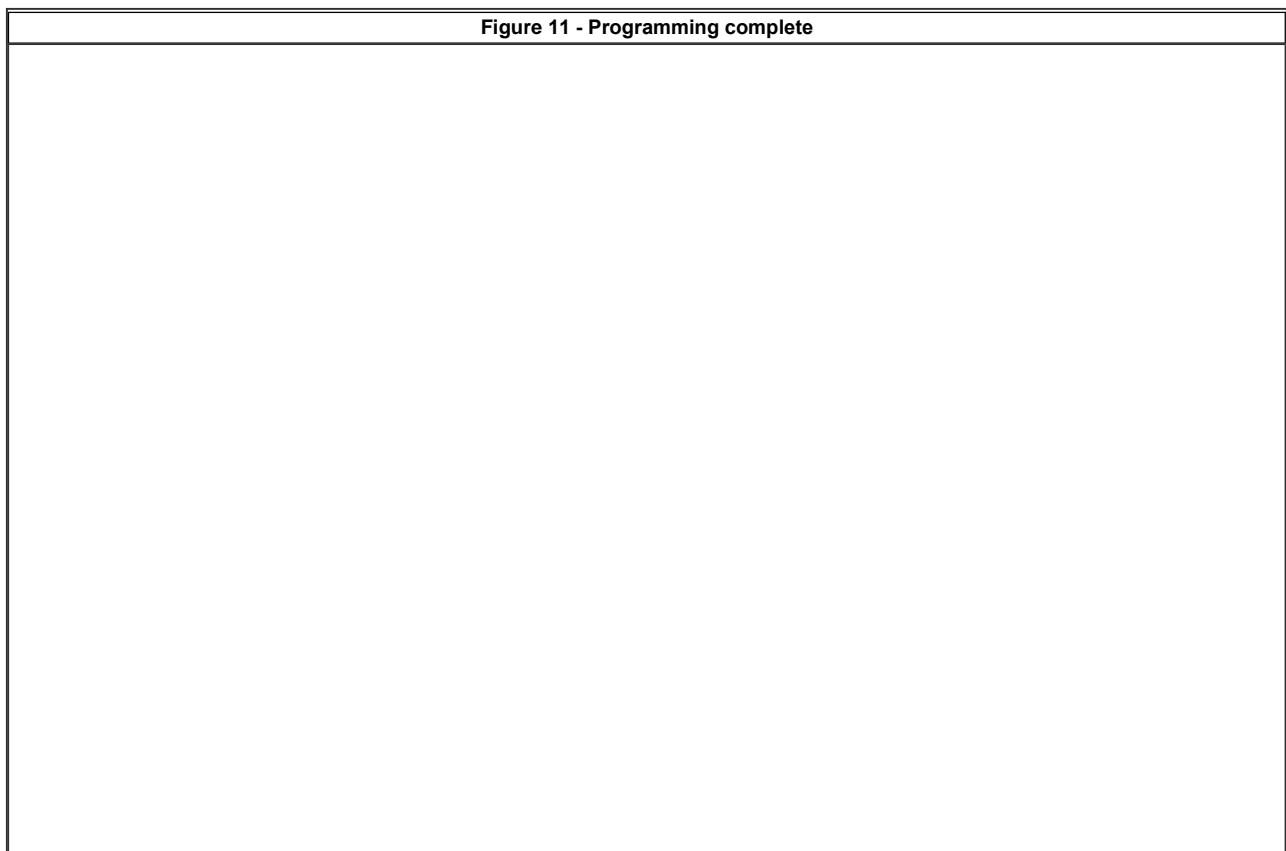


9. Manually set the source address. Use the drop down menu to assign a switch pack serial number to the proper source address.
 - Figure 10 shows an example of 4 switch packs, Each switch pack will have a drop down showing all 4 serial numbers. Choose the correct serial number for each location, and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





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



The screenshot shows the International Diamond Logic Builder software interface. The main window displays a table of detected modules for a vehicle with VIN 3HAESTZTOKL756993. The selected configuration is 150. The detected modules table is as follows:

Module	Address	In ...	Kernel Name	Kernel	Detected...
Passenger Door Pod	237	✓	Horizon: Doorpod Pa...	202	202
Driver Door Pod	236	✓	Horizon: Doorpod Dr...	202	202
Stalk Shifter	5	✓	Horizon: Stalk Shif...	56	56
Instrument Cluster	23	✓	Horizon: Instrument...	40414	40414
Front HVAC Control Module	25	✓	Horizon: HVAC app	1944001	1944001
ESC	33	✓	ESC	722	722
Lighting Control Module	55	✓	Horizon: LCM	18	18
Six Position Switch-Pack 1	151	✓	Horizon: MUX	22	22
Six Position Switch-Pack 2	152	✓	Horizon: MUX	22	22
Six Position Switch-Pack 3	153	✓	Horizon: MUX	22	22
Six Position Switch-Pack 4	154	✓	Horizon: MUX	22	22
Engine	0				0
Transmission	3				0
Brakes - System Controller	11				0
Retarder - Engine	15				0
Communications Unit, Radio	76				0
Helium module	225				0

The right side of the interface shows the detected configuration details for the selected module (ESC):

Description	ESC	Detected
Serial	706579	706579
Hardware	503	503
Configuration	150	150
Kernel	722	722
Data Version	335	335
State		

The International logo is also visible in the center of the interface.

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

([Return to Menu](#))

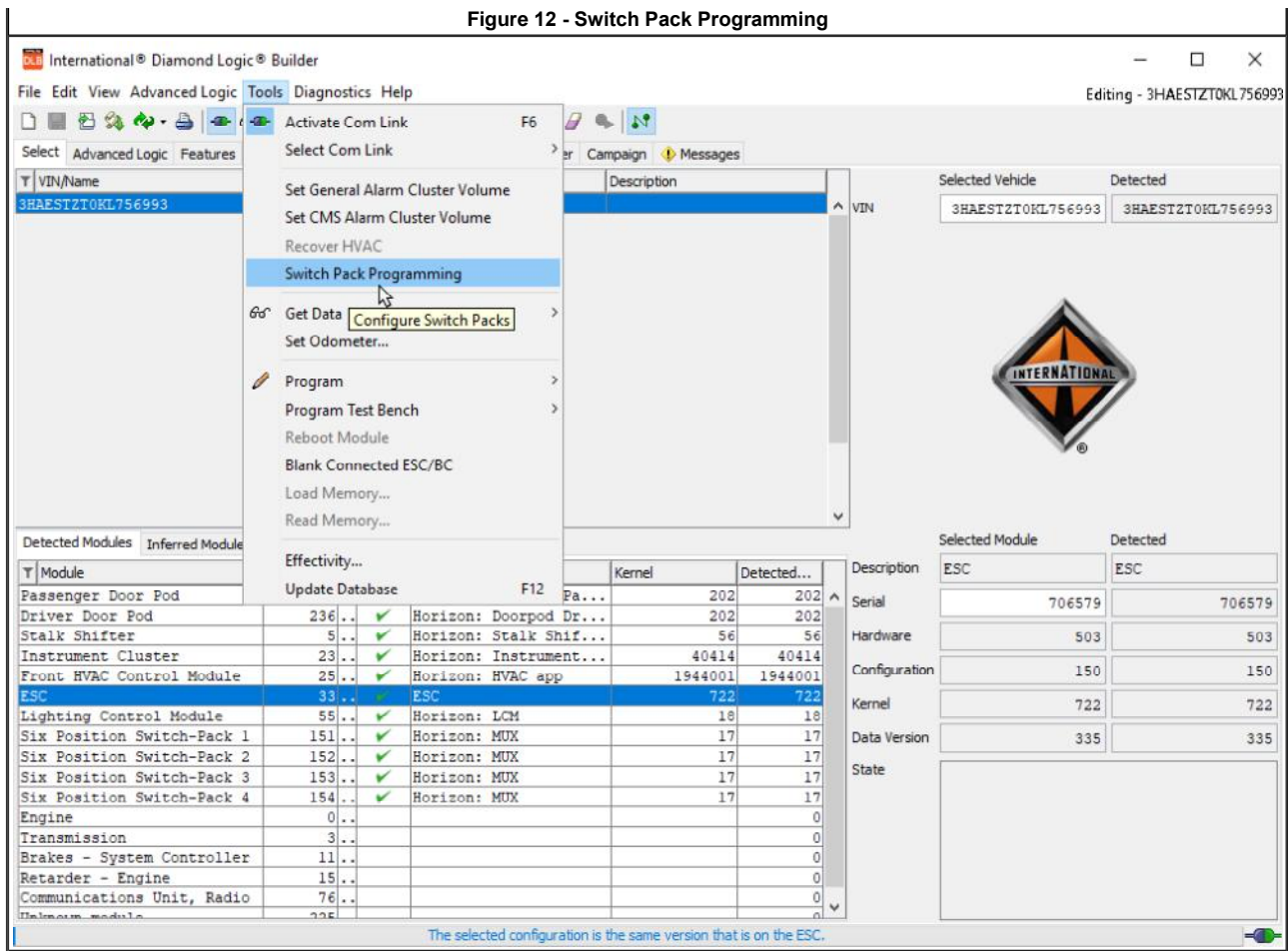
Replacing switch pack - Truck switch packs are at 17 - Replacement part is at 22

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.

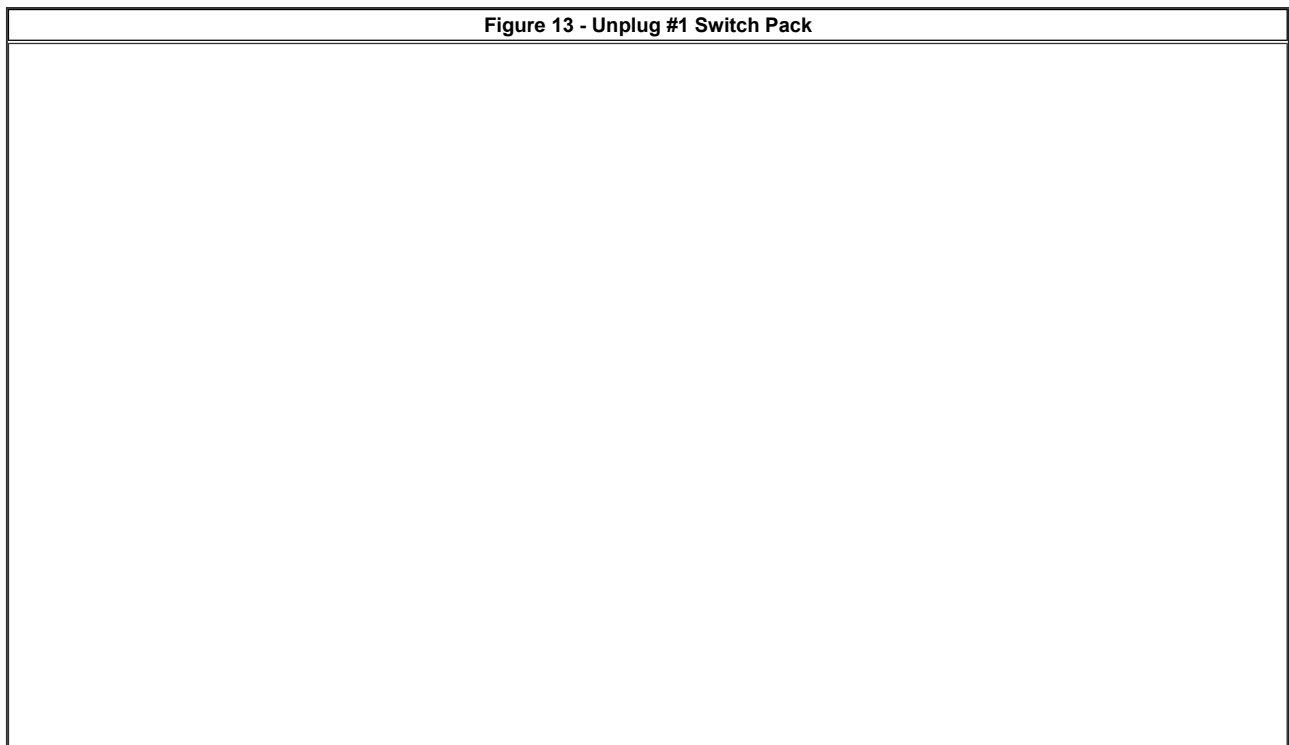
- Record the serial numbers of the switch packs in the vehicle, as well as the serial number for the new switch pack that will be installed, and their location
 - You do not need the serial number of the faulty switch pack that is being replaced
 - Record the location (or source address) with the serial number together. Example: #1 - S/N M2000000181011039, #2 - S/N M2000000181011040, #3 - S/N M200000018101103941
 - 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.
- Key OFF.
- Remove the faulty switch pack.
- 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).
- Key ON.
- Navigate to the tools menu and select "Switch Pack Programming" as shown in Figure 12 below.

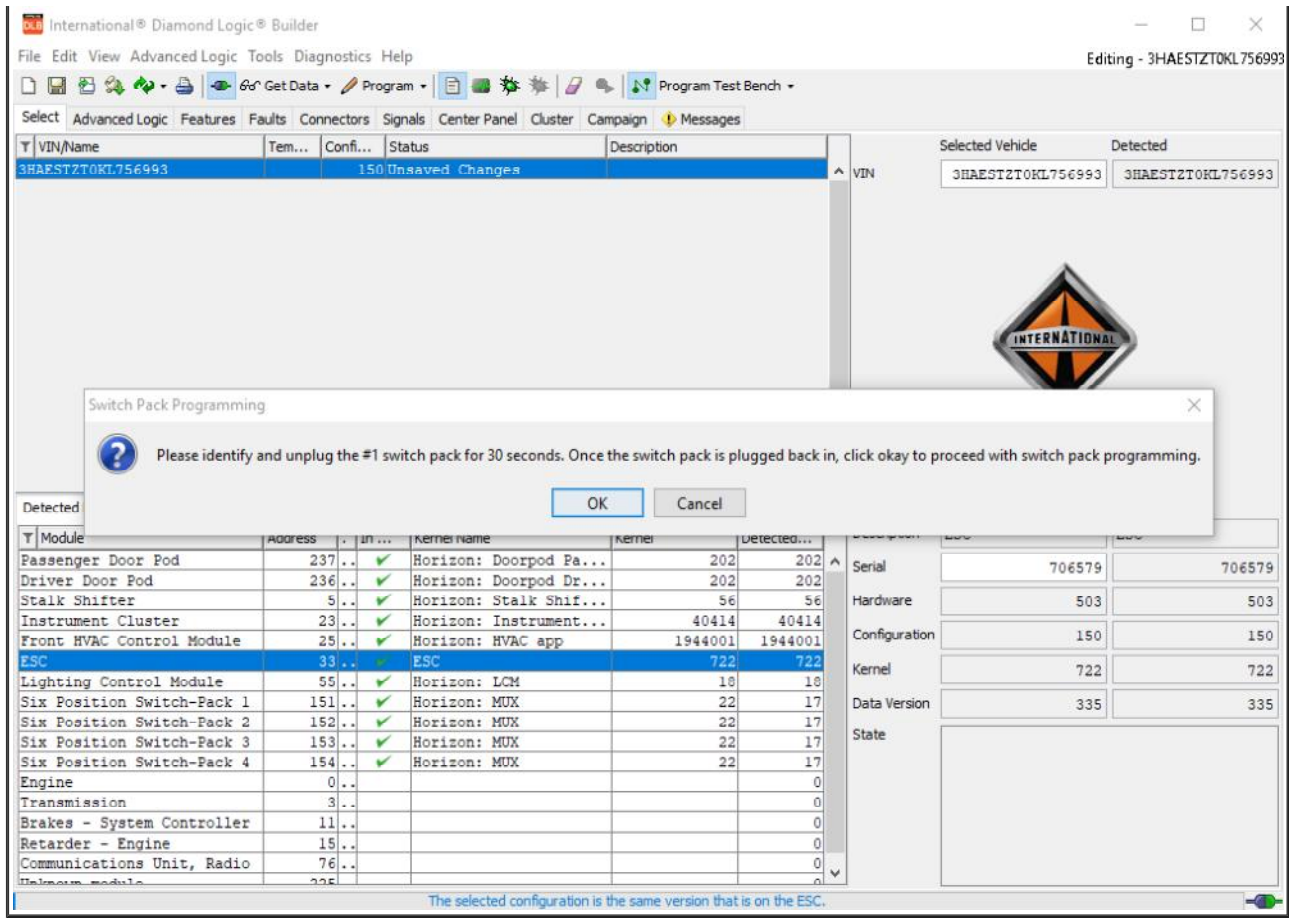
NOTE:

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.

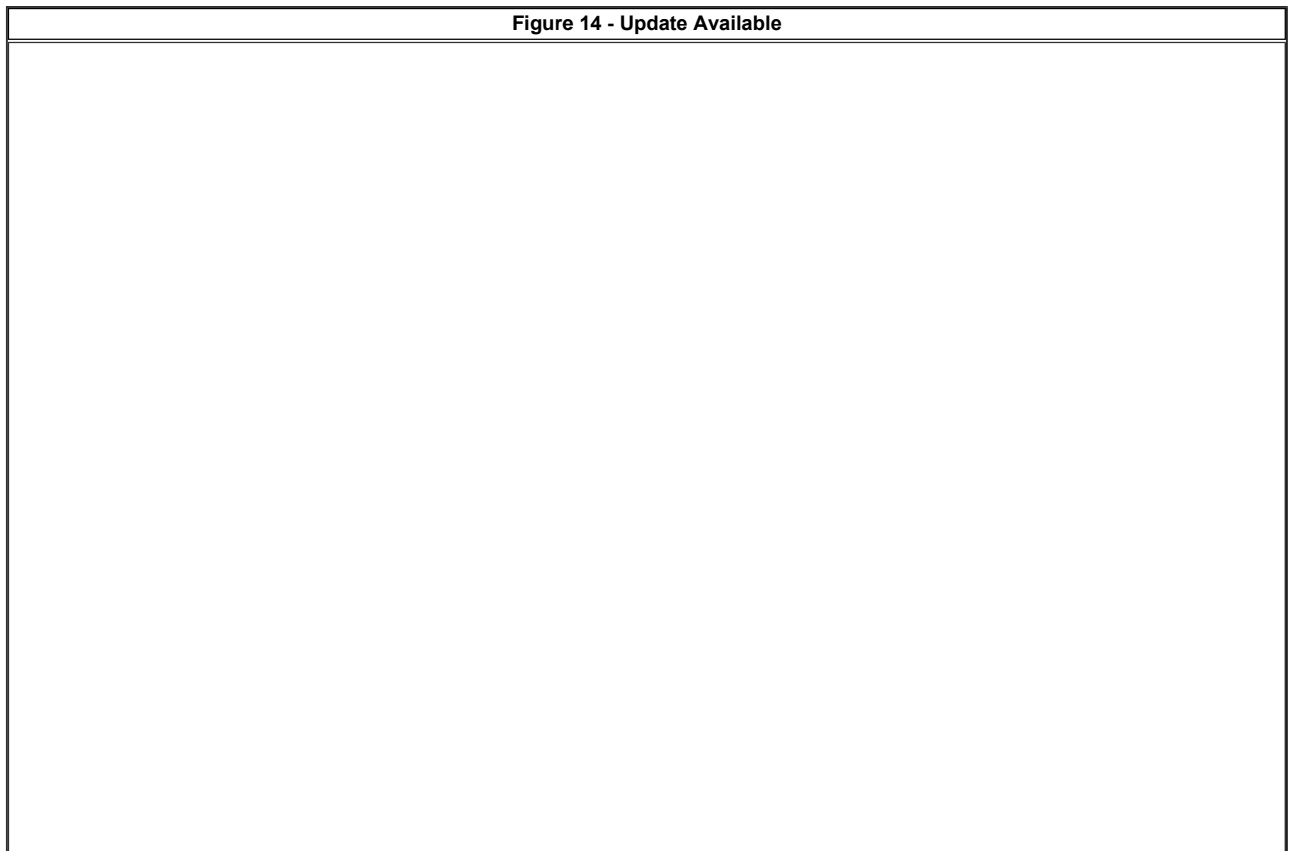


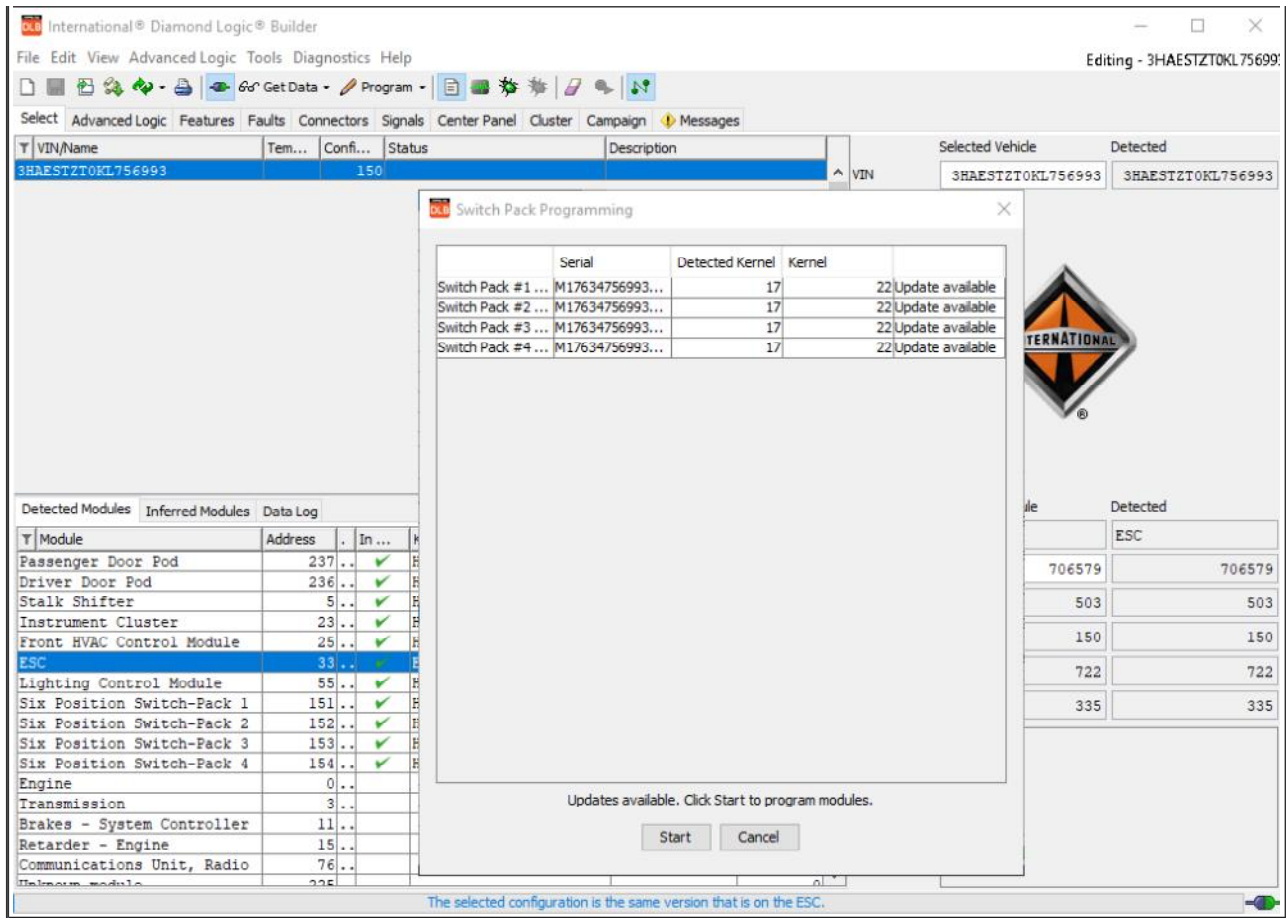
7. To start the programming process, you are asked to unplug the #1 switch pack. This will force the switch packs to perform a source address claim.
 - This step is not required if the vehicle is equipped with only one switch pack.





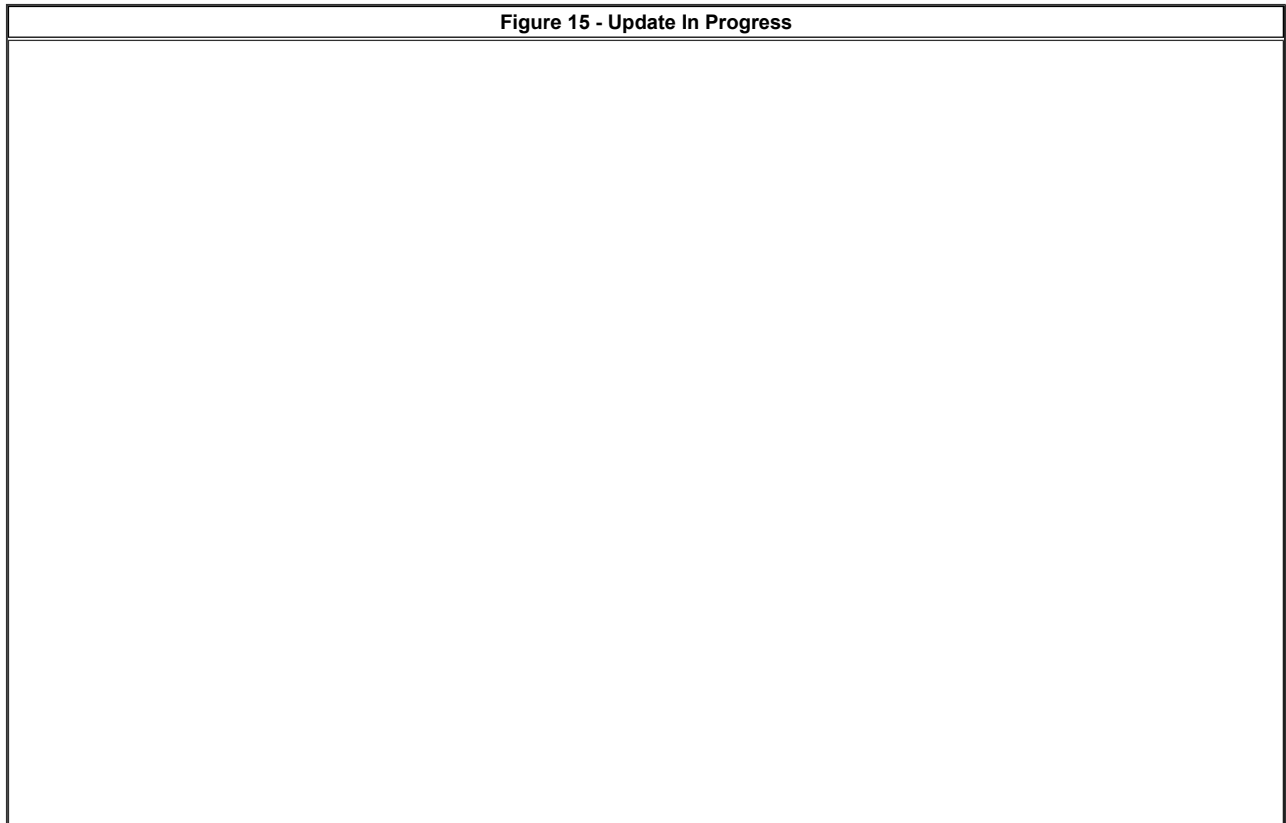
8. To initiate programming click start as shown in Figure 14

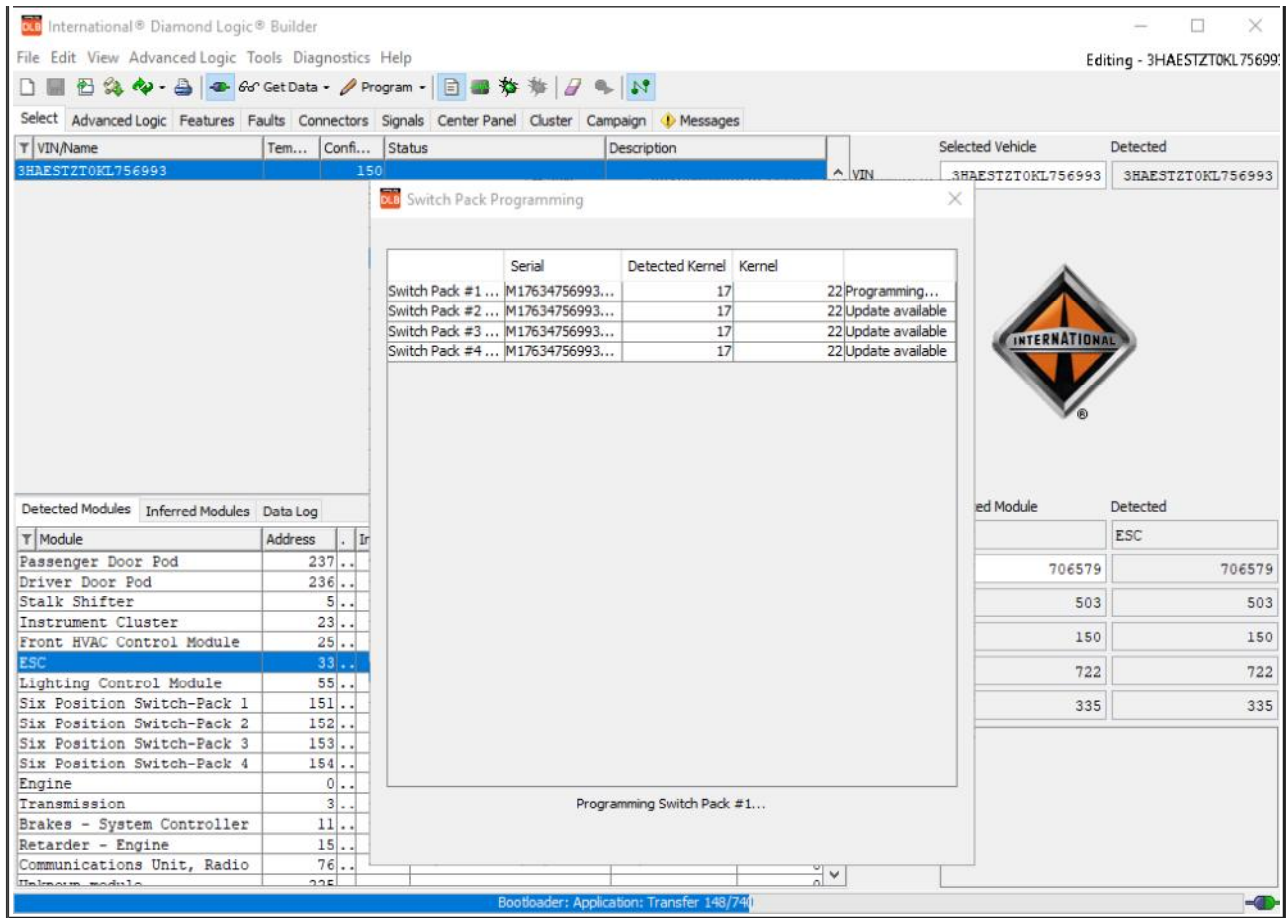




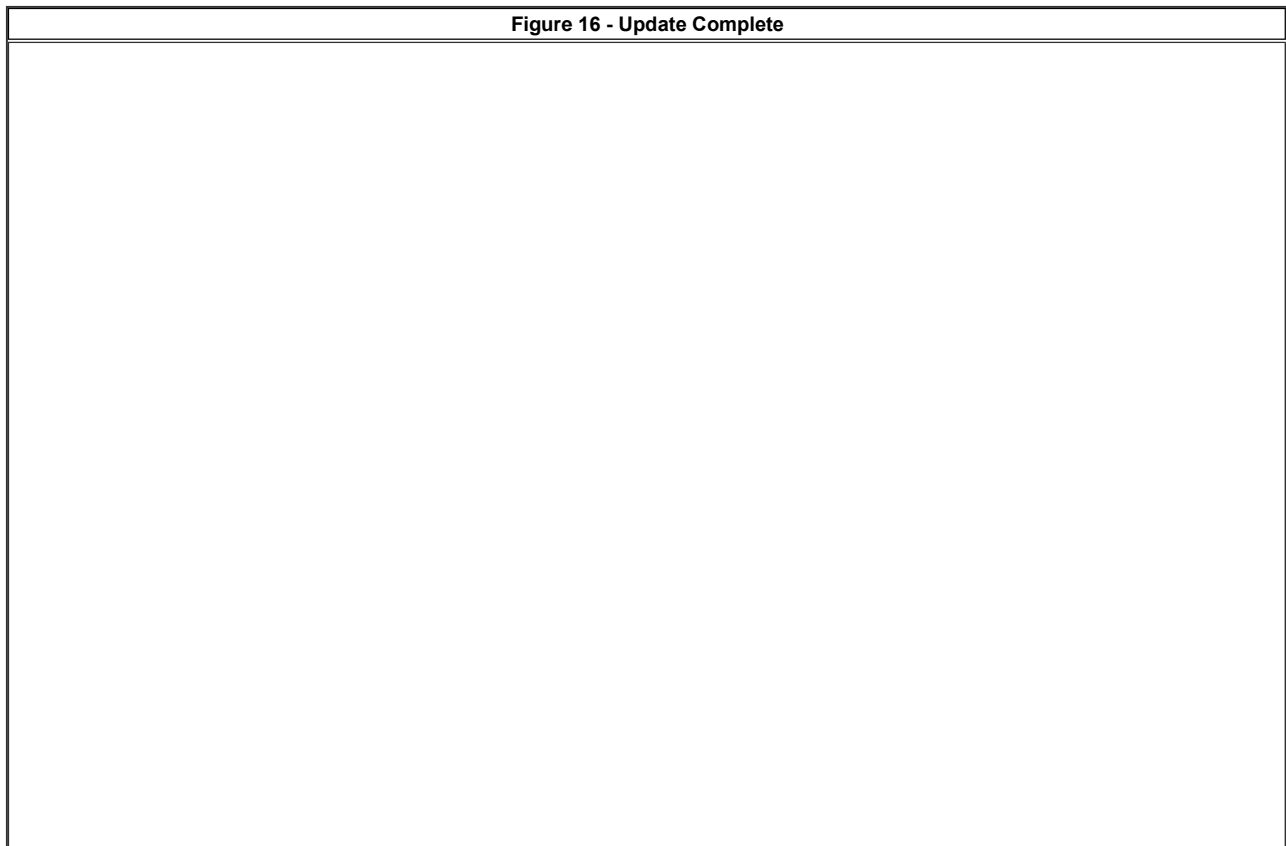
- Status bar indicating programming progress while the switch packs program. All switch packs will be programmed automatically. Each switch pack will take approx. 5 1/2 minutes to complete.

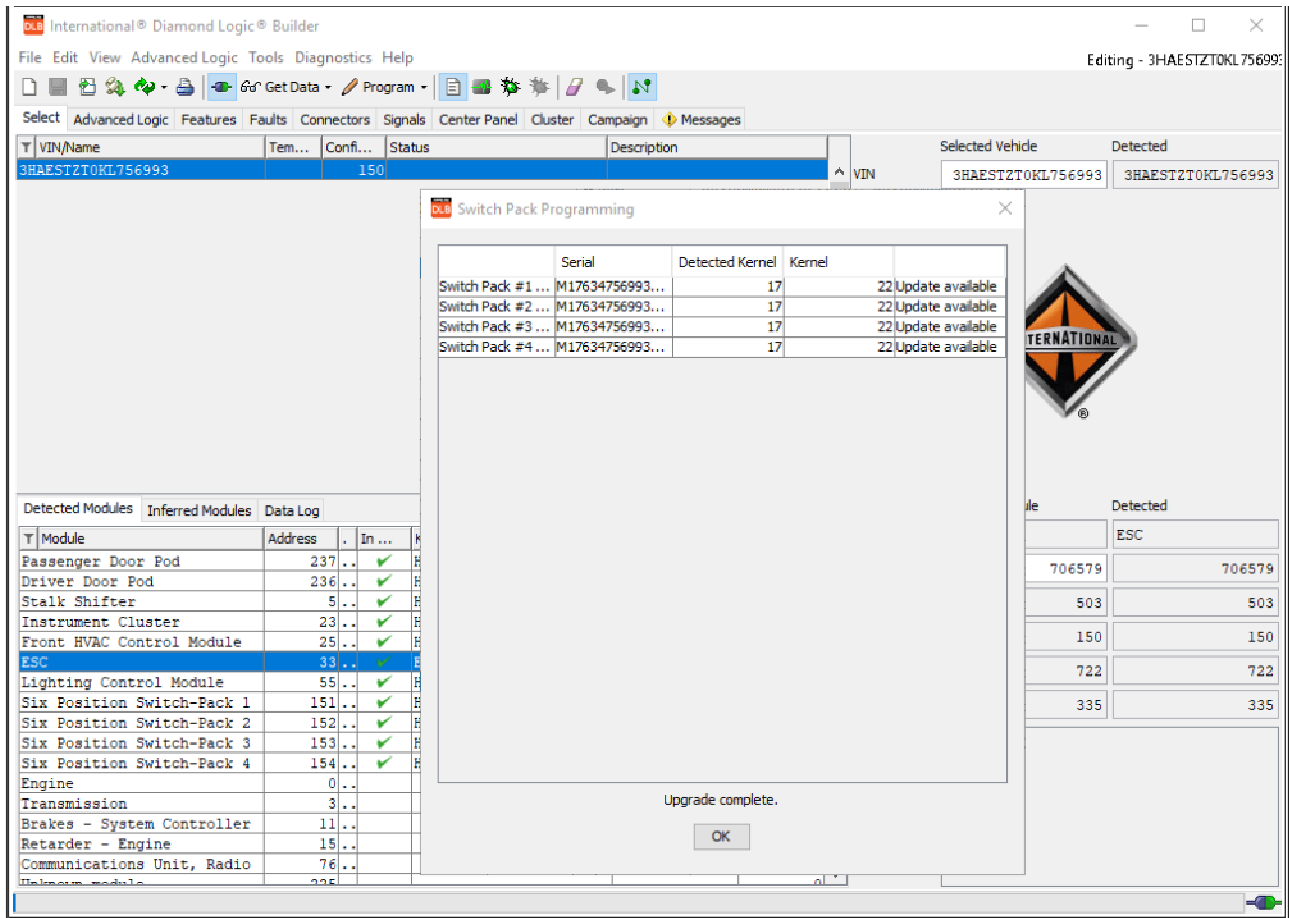
Figure 15 - Update In Progress





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



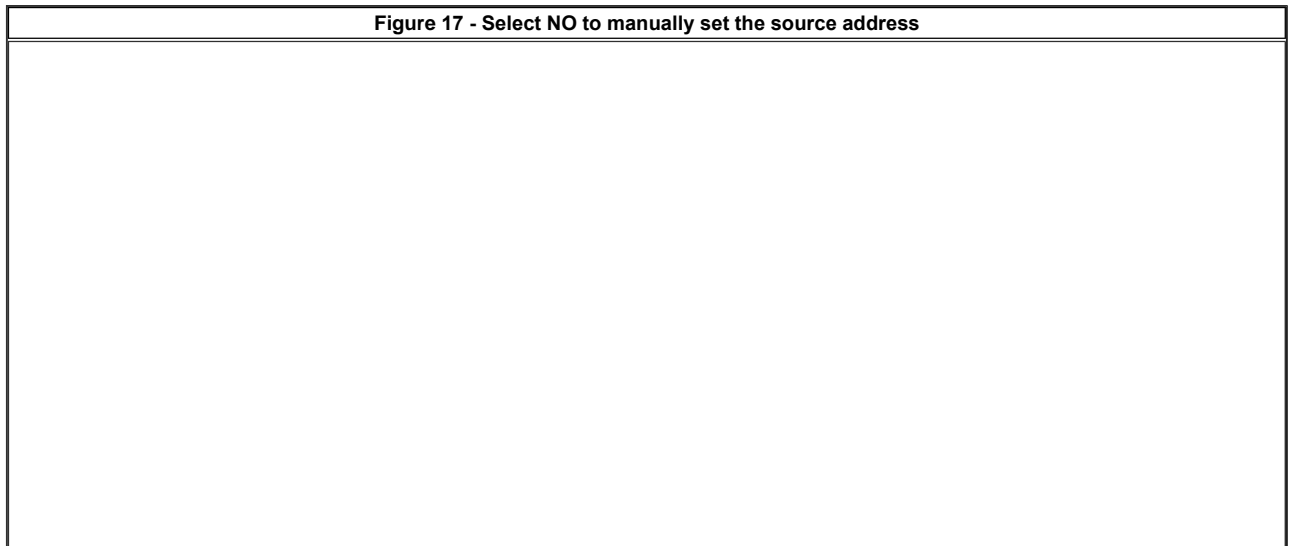


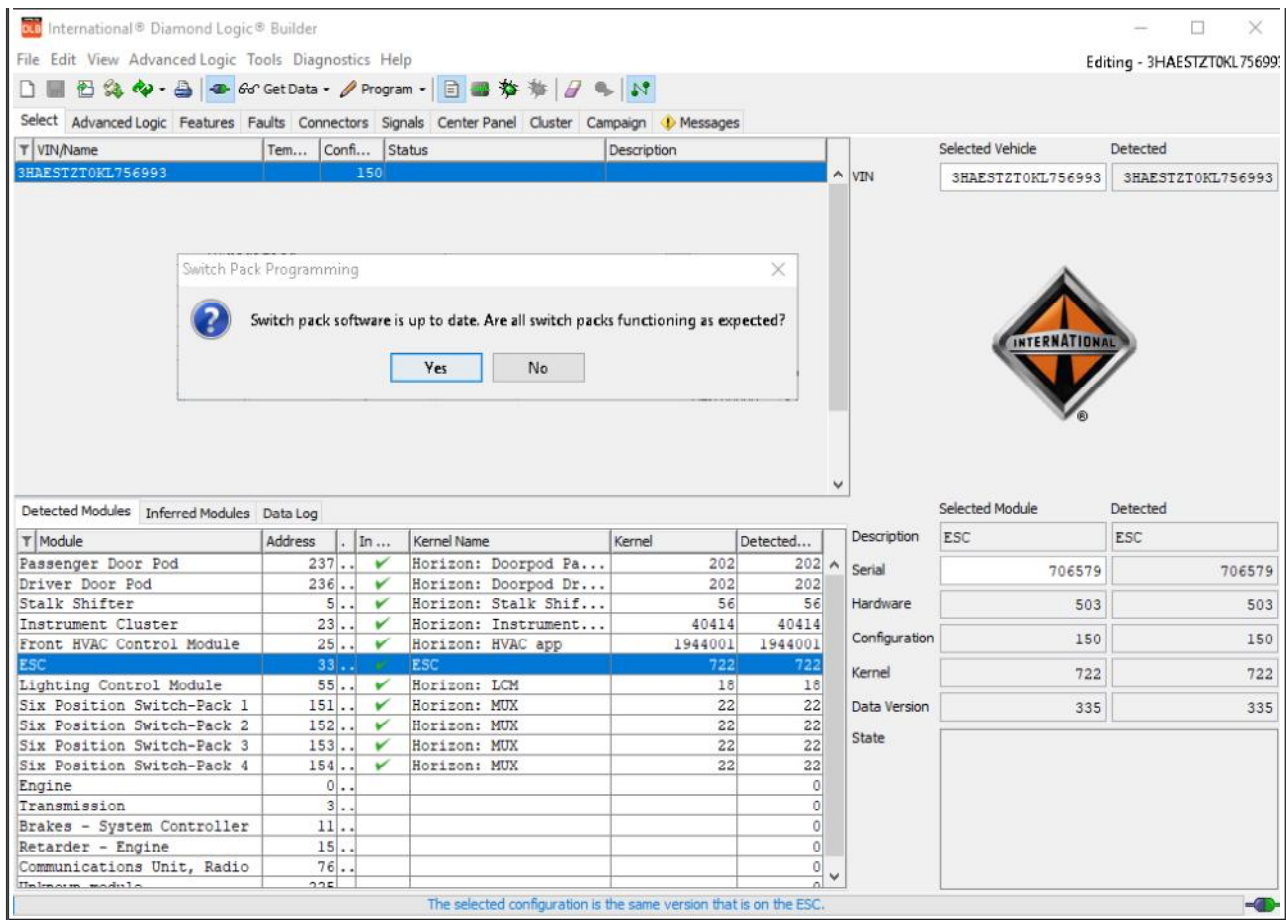
11. Key OFF.
12. Install all the switch packs, including the new service part into their proper location in the vehicle.
 - All switch packs are installed in the vehicle, and all switch packs are now at Kernel 22.
13. Key ON.

NOTE:

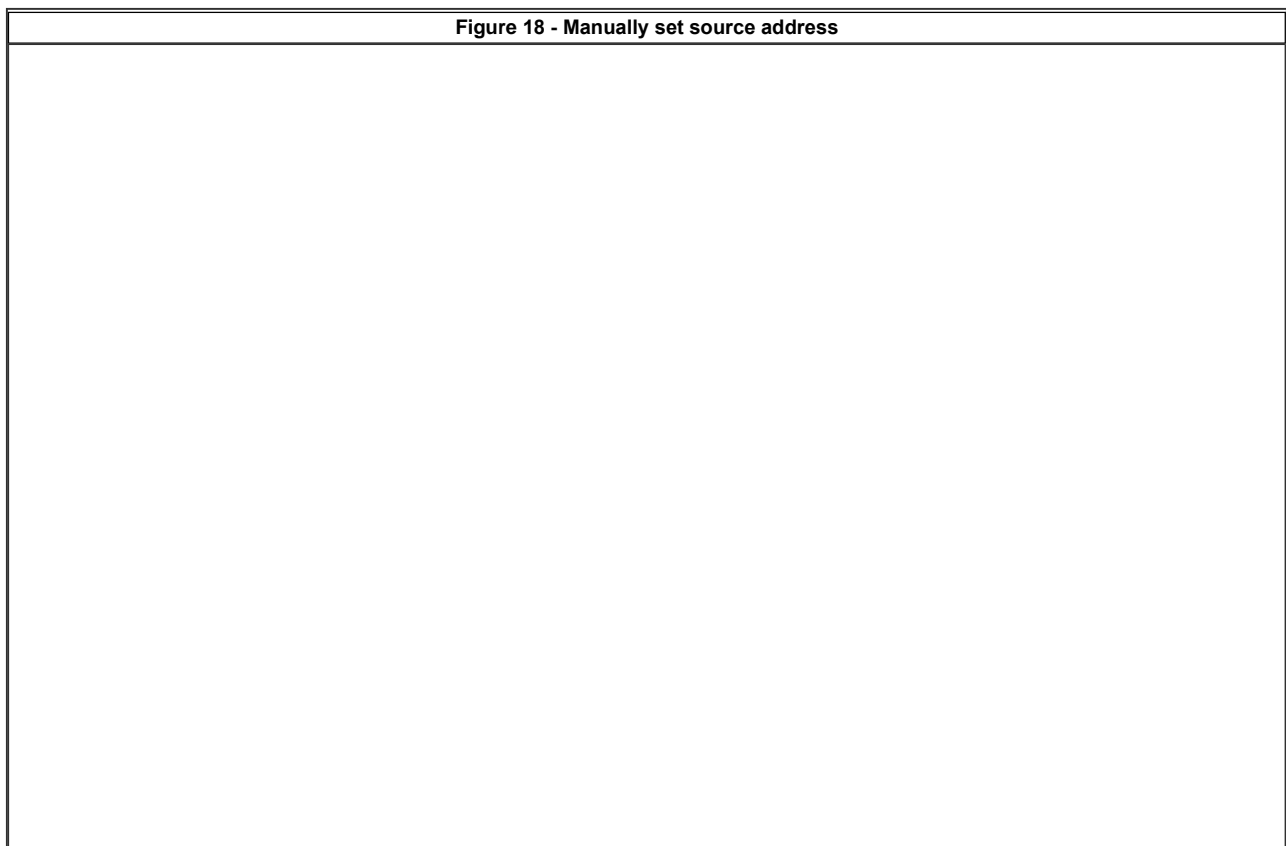
Switch packs may be flashing red, and the replacement part may be non-responsive. This is normal until you manually set the source address.

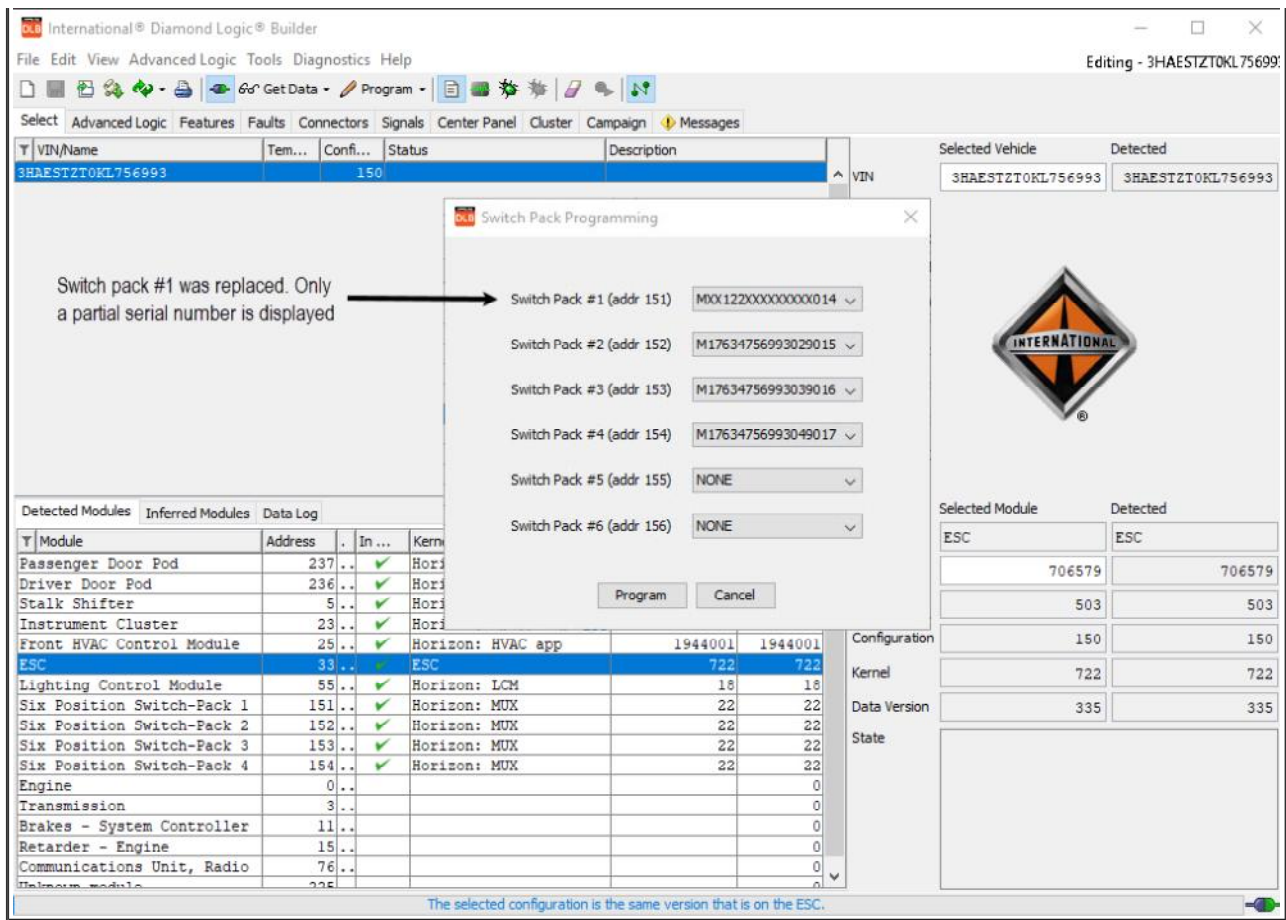
14. Navigate back to the tools menu and select "Switch Pack Programming".
15. You will receive the pop up message shown. Select NO. This will allow you to manually set the source addresses.





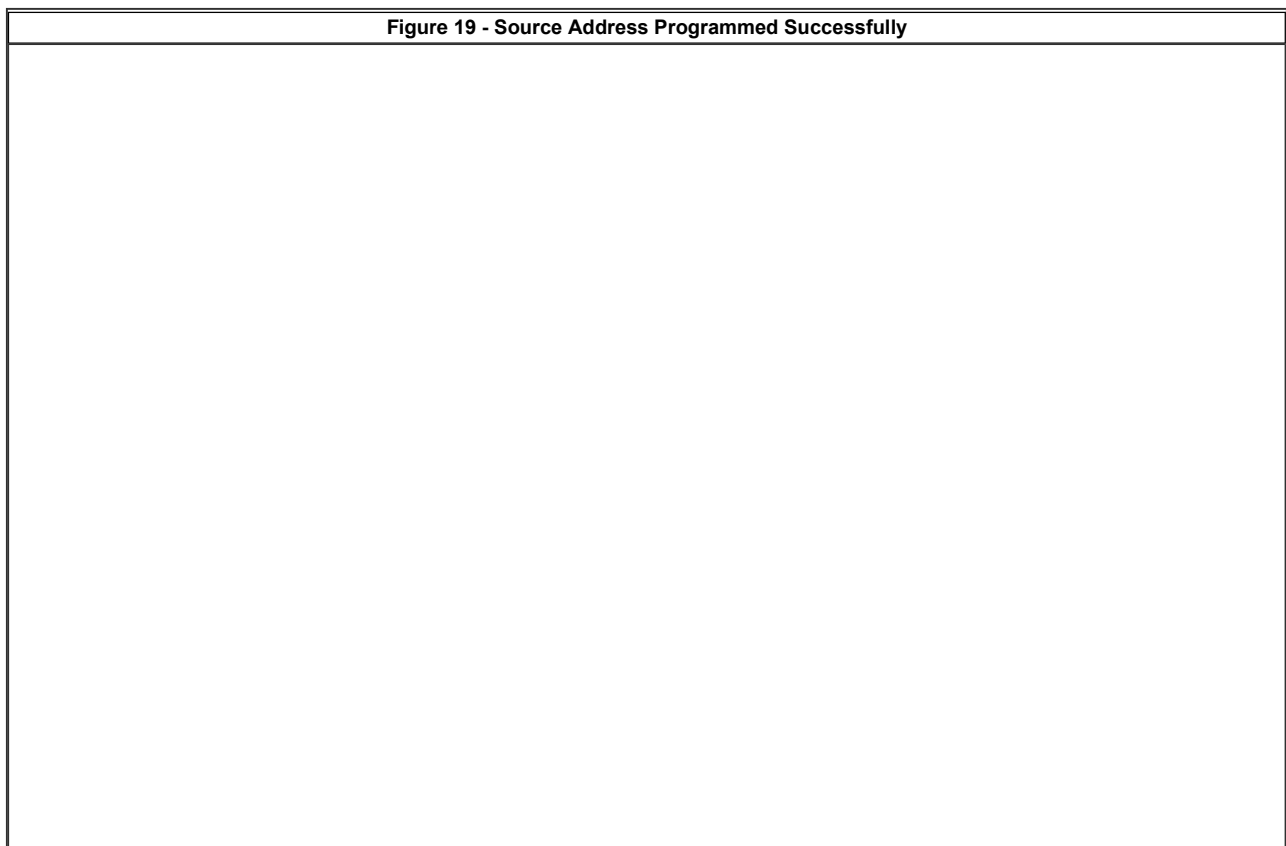
16. Set the switch pack source addresses based on their serial number and location in vehicle. Click Program.

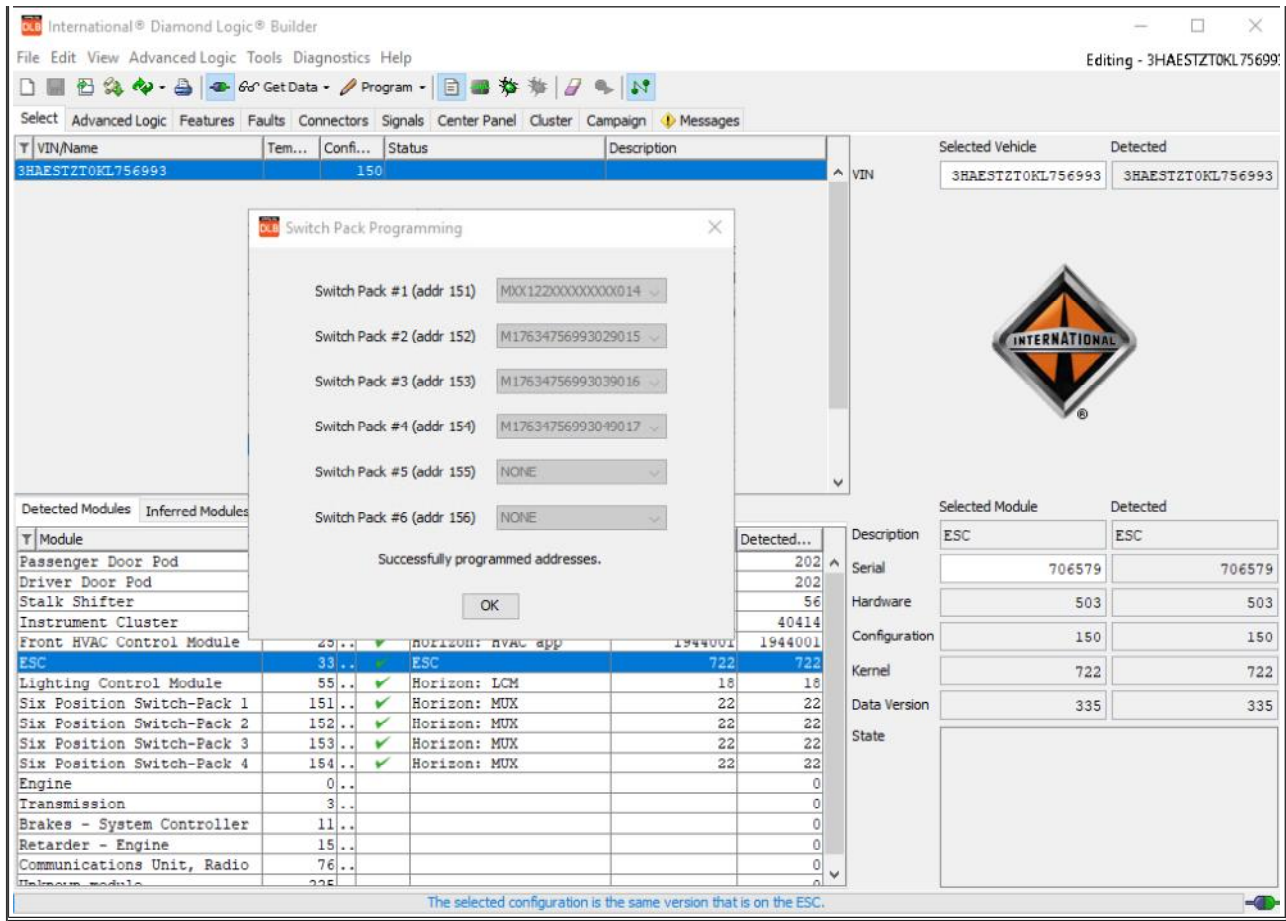




17. Source address programming complete.

Figure 19 - Source Address Programmed Successfully





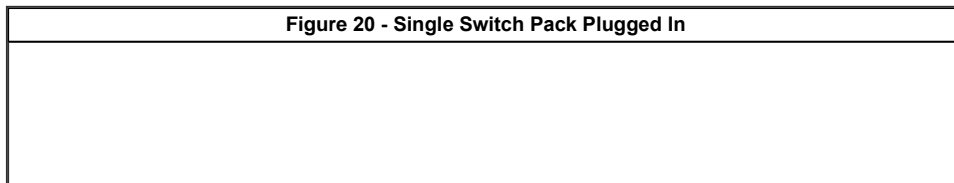
18. Verify one switch from each switch pack operates the correct feature as assigned.

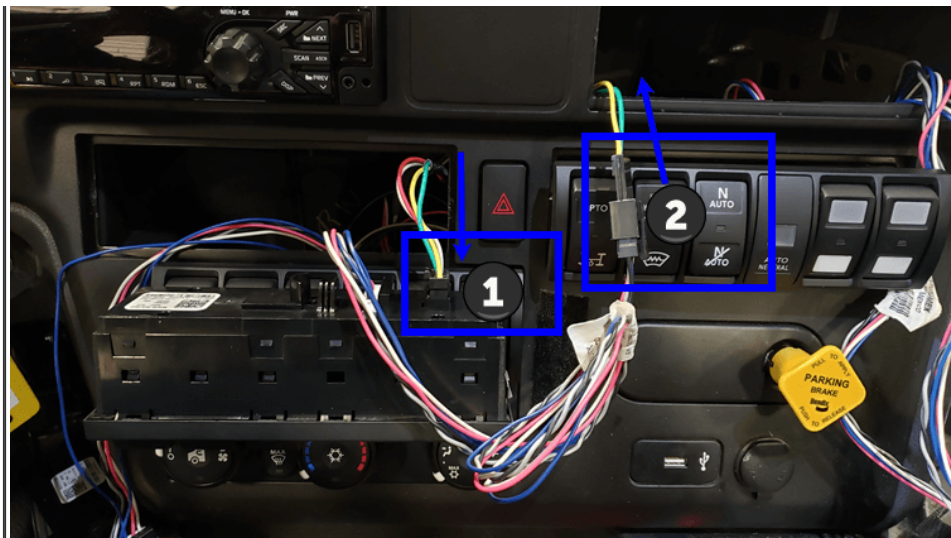
([Return to Menu](#))

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.





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.

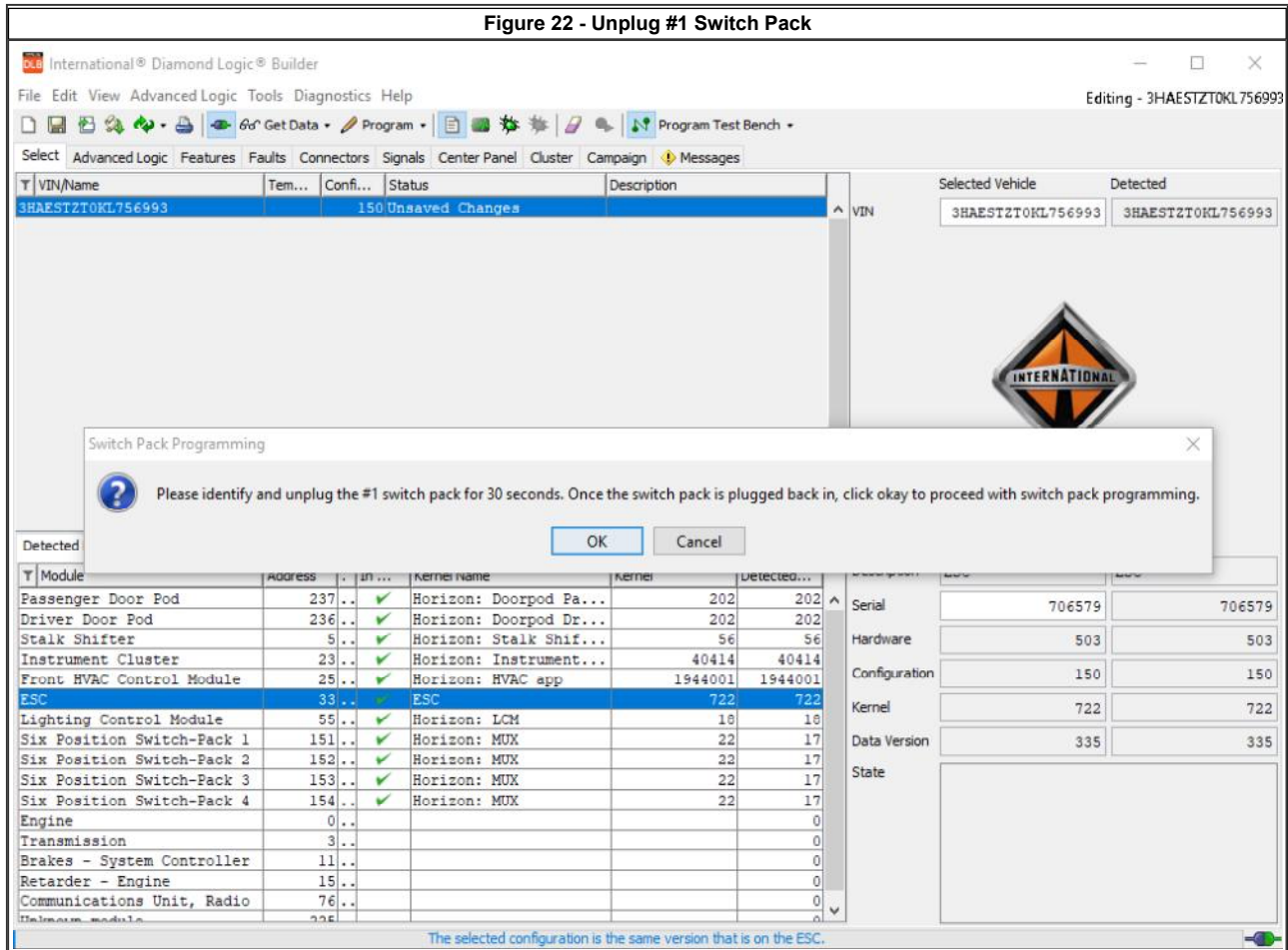
Figure 21 - Switch Pack Programming

Detected Modules		Inferred Module	
Module	Version	Module	Version
Passenger Door Pod			
Driver Door Pod	236	Horizon: Doorpod Dr...	202
Stalk Shifter	5	Horizon: Stalk Shif...	56
Instrument Cluster	23	Horizon: Instrument...	40414
Front HVAC Control Module	25	Horizon: HVAC app	1944001
ESC	33	ESC	722
Lighting Control Module	55	Horizon: LCM	18
Six Position Switch-Pack 1	151	Horizon: MUX	17
Six Position Switch-Pack 2	152	Horizon: MUX	17
Six Position Switch-Pack 3	153	Horizon: MUX	17
Six Position Switch-Pack 4	154	Horizon: MUX	17
Engine	0		0
Transmission	3		0
Brakes - System Controller	11		0
Retarder - Engine	15		0
Communications Unit, Radio	76		0

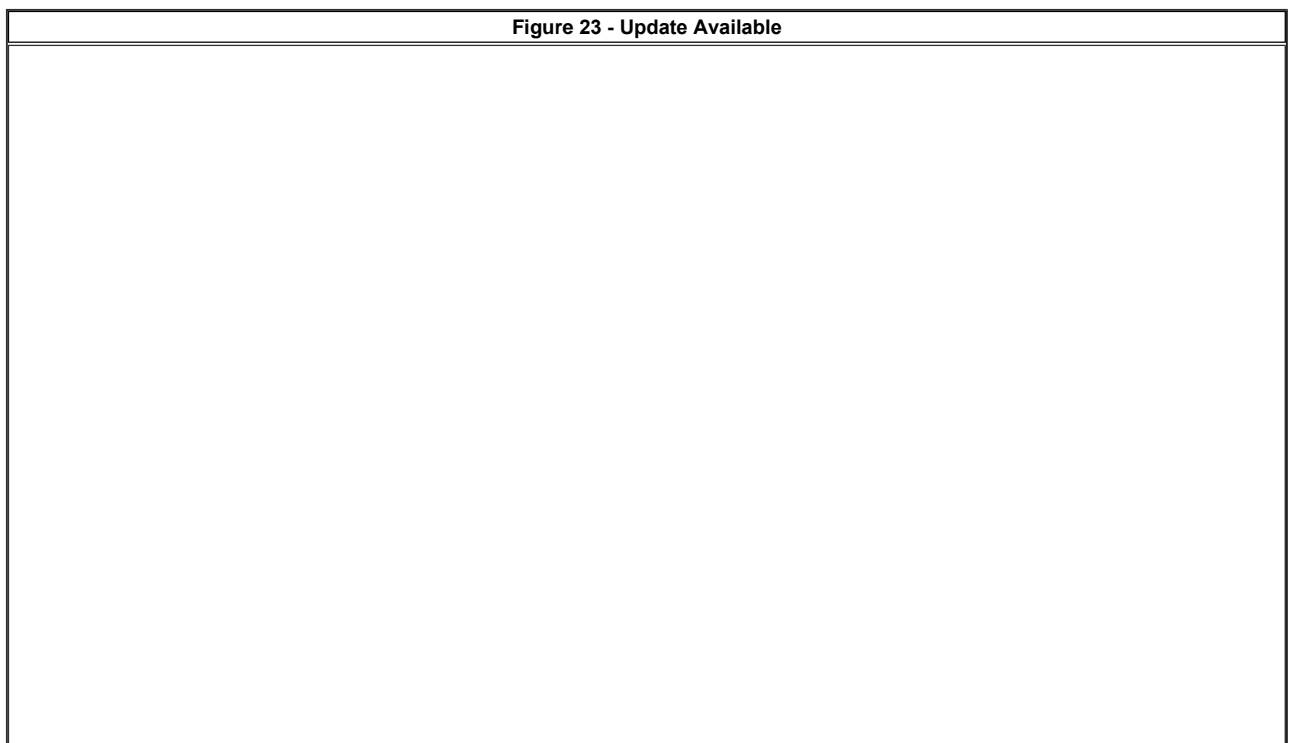
	Selected Module	Detected
Description	ESC	ESC
Serial	706579	706579
Hardware	503	503
Configuration	150	150
Kernel	722	722
Data Version	335	335
State		

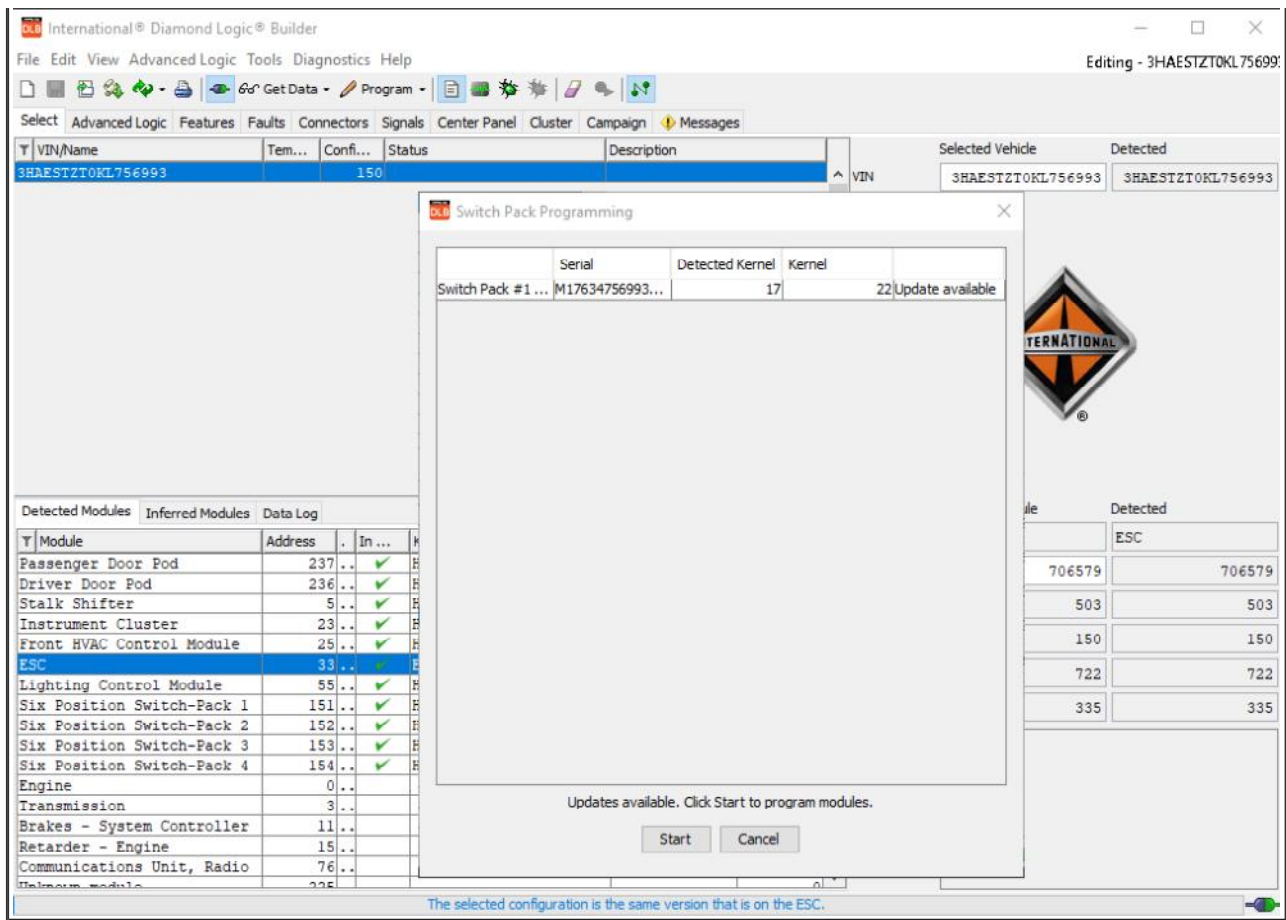
The selected configuration is the same version that is on the ESC.

- 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.

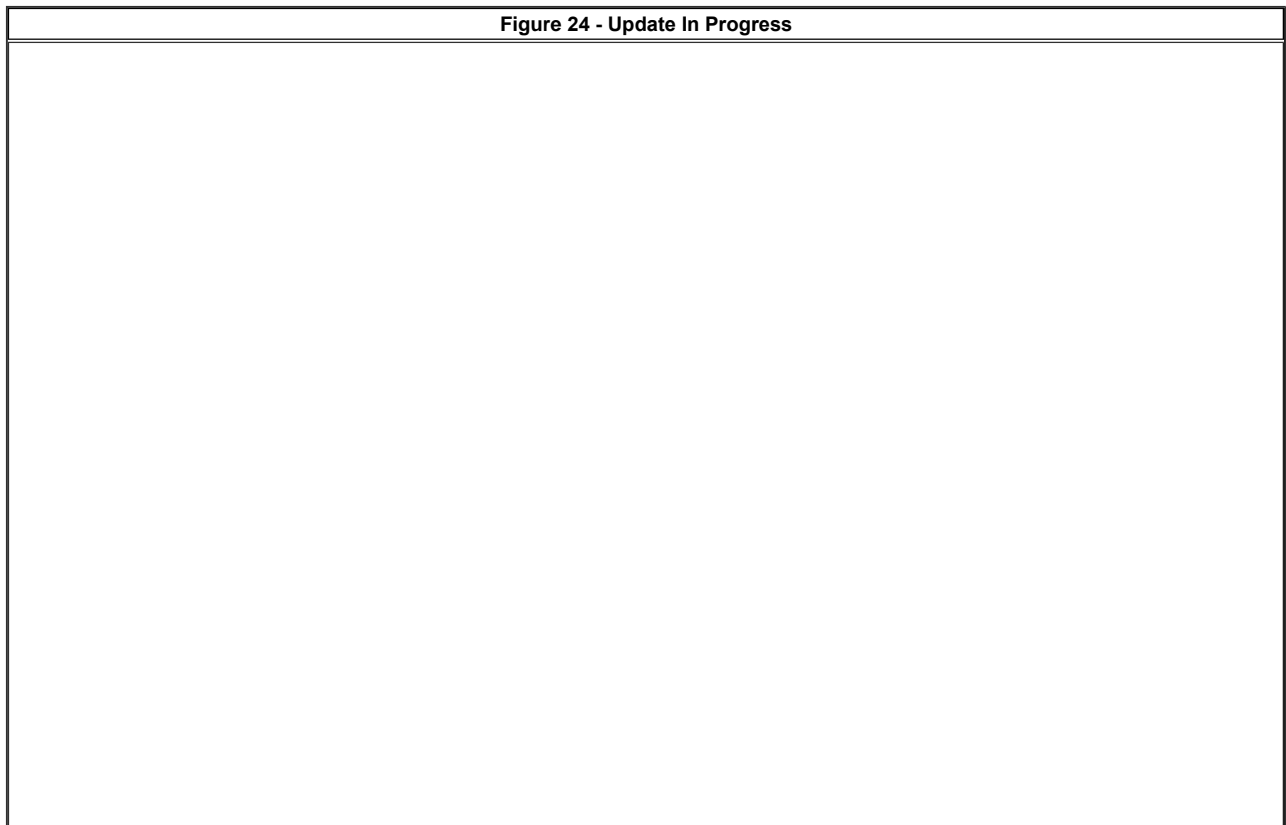


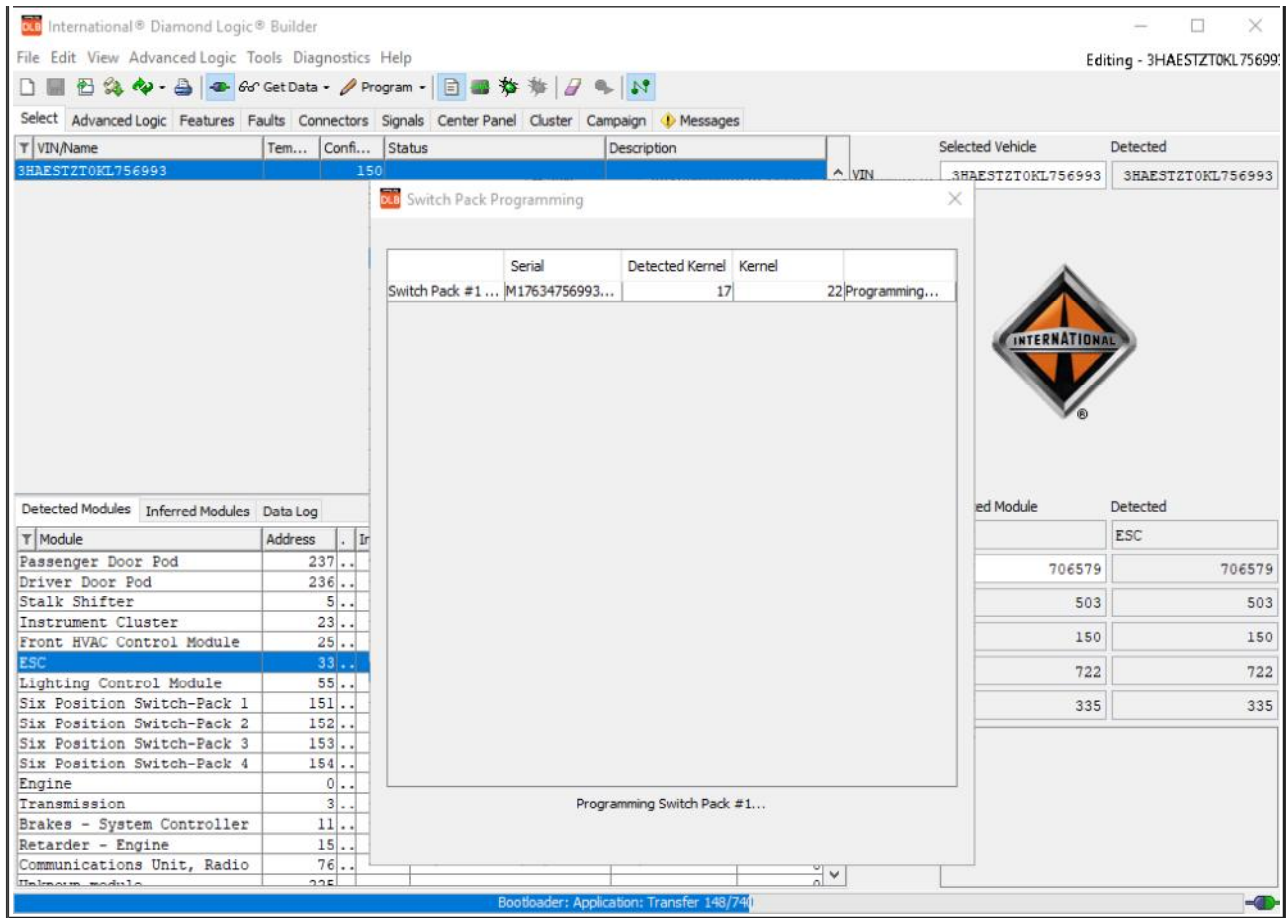
- To initiate programming click start as shown in Figure 23.



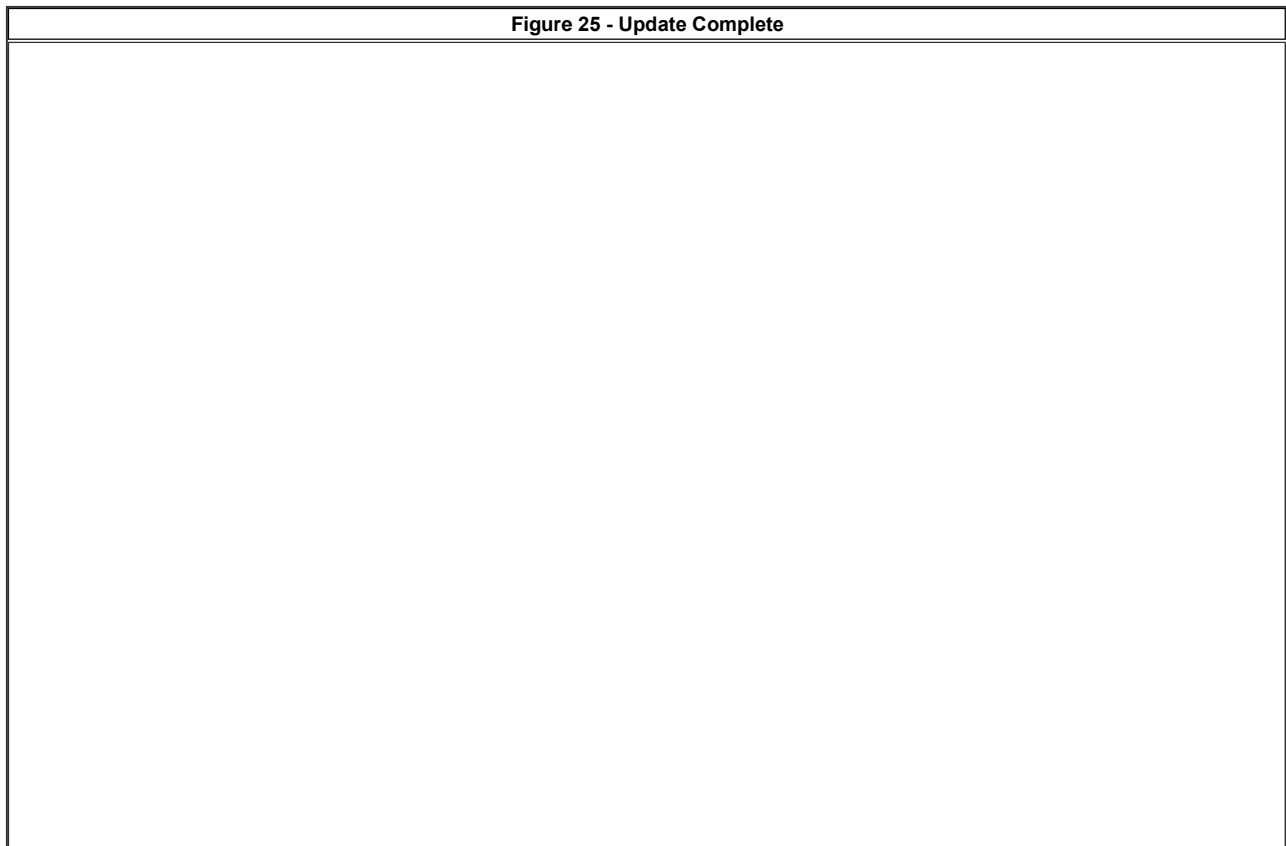


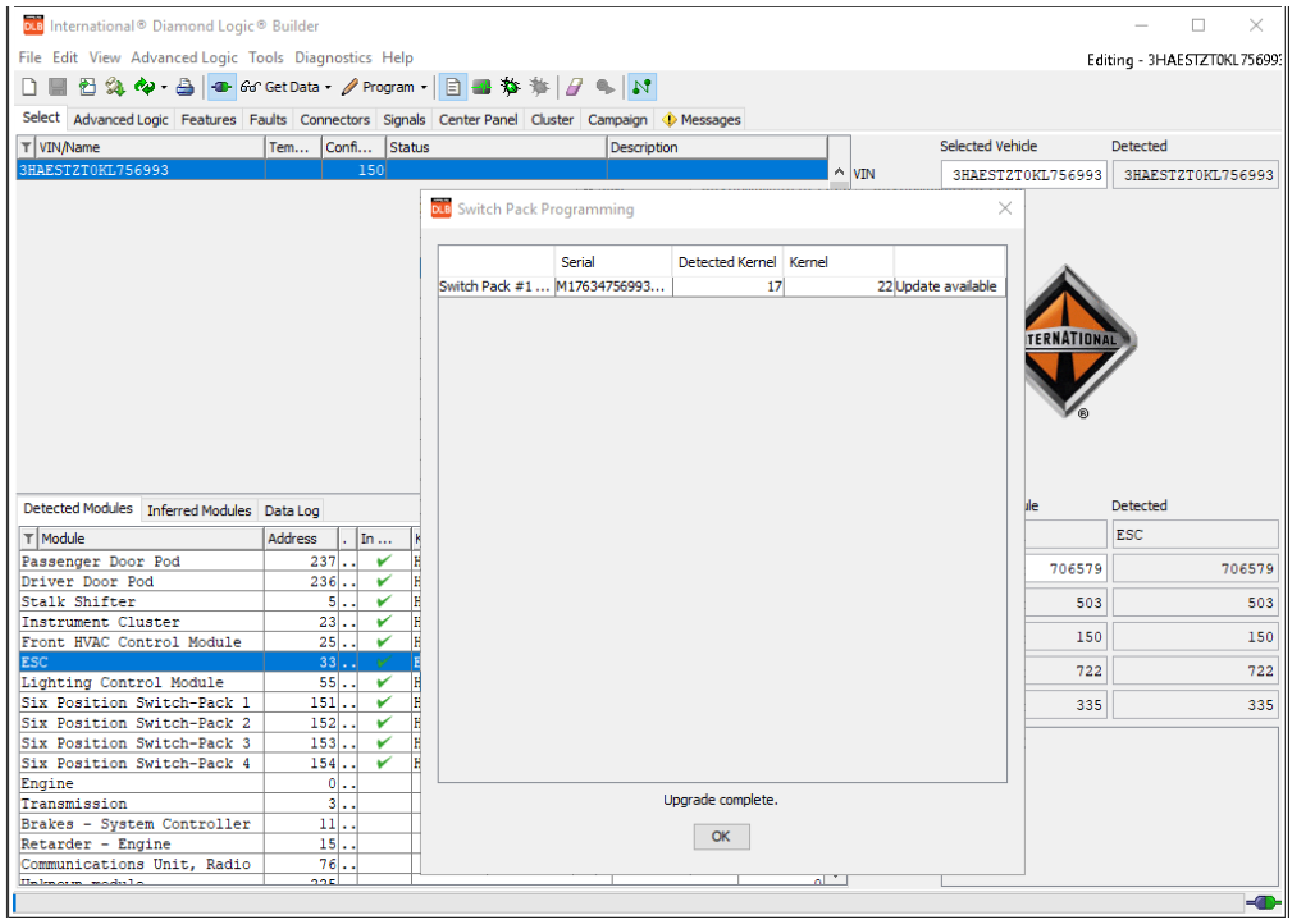
- Status bar indicating programming progress while the switch pack programs. The switch pack will take approx. 5 1/2 minutes to complete programming.





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



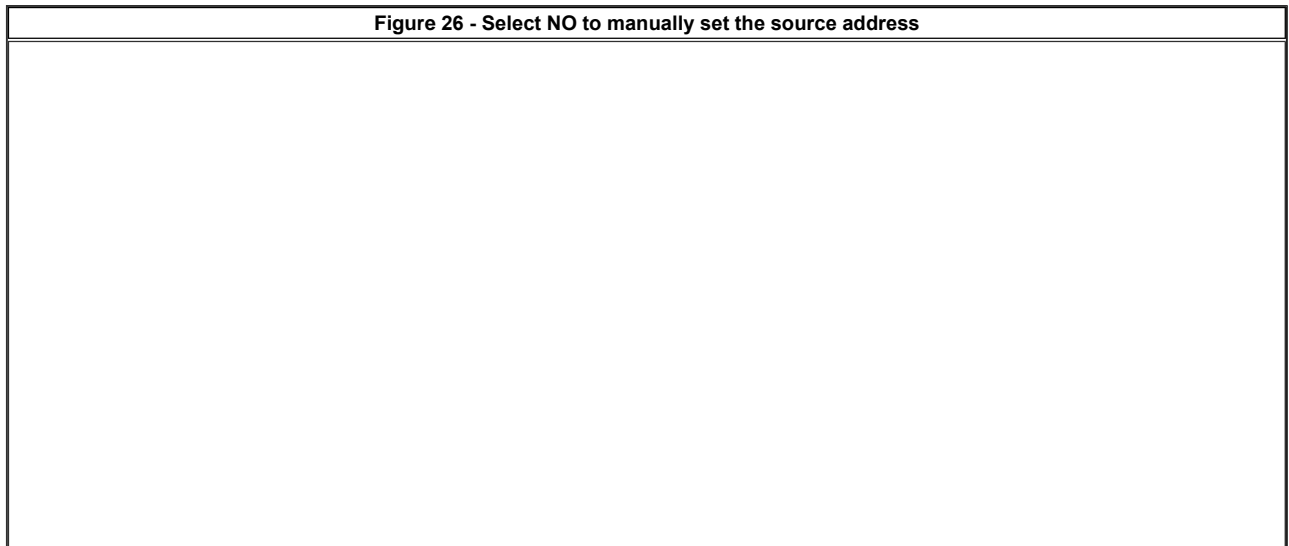


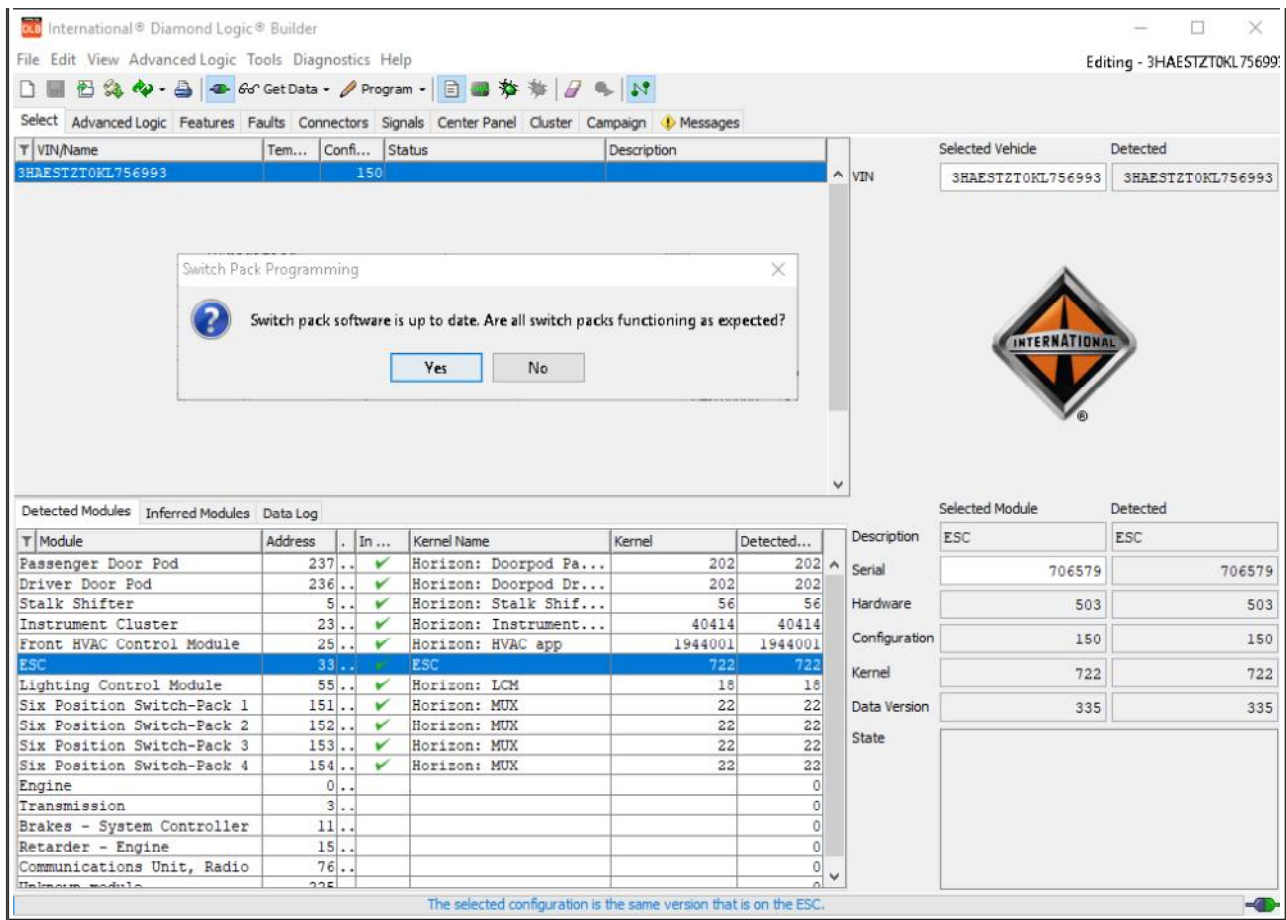
13. Key OFF.
14. Install all the switch packs, including the new service part into their proper location in the vehicle.
 - All switch packs are installed in the vehicle, and all switch packs are now at Kernel 22
15. Key ON.

NOTE:

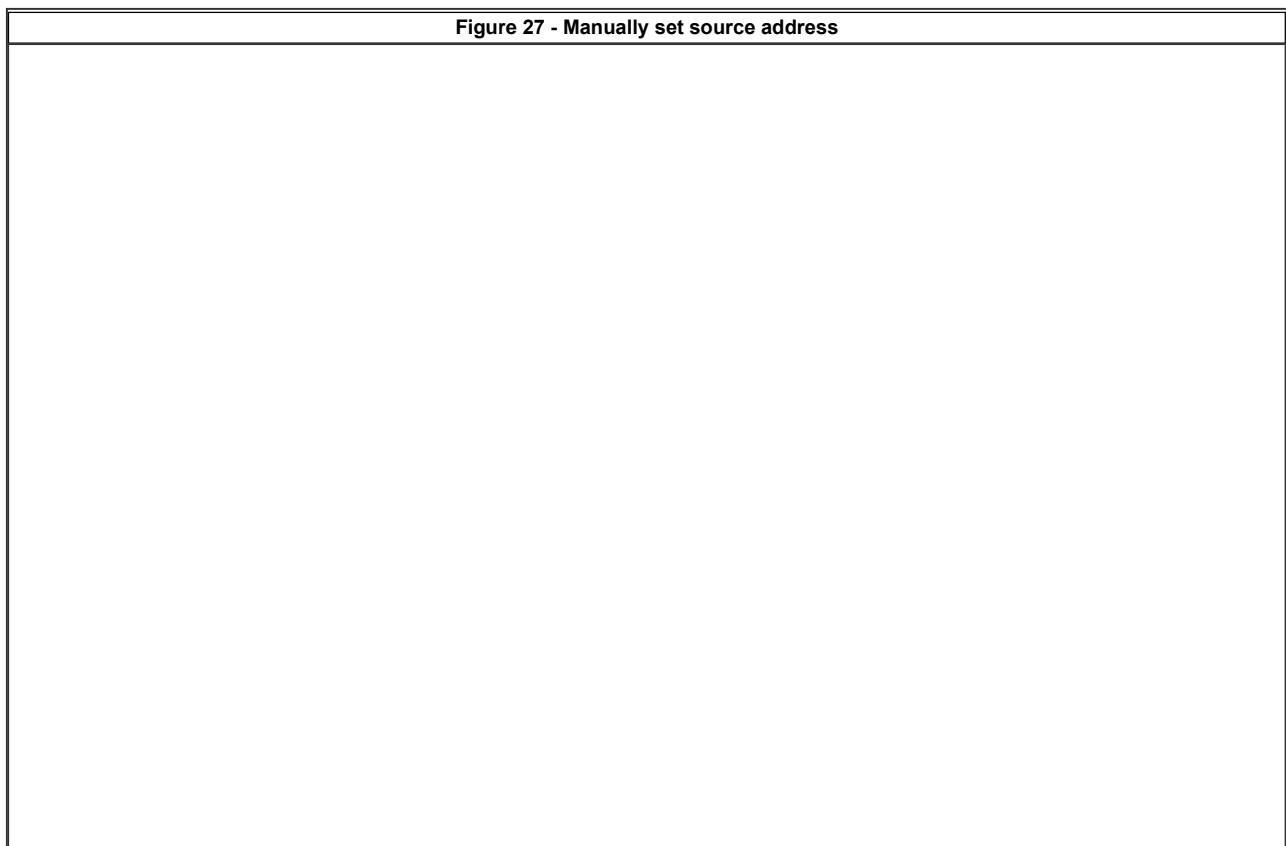
Switch packs may be flashing red, and the replacement part may be non-responsive. This is normal until you manually set the source address.

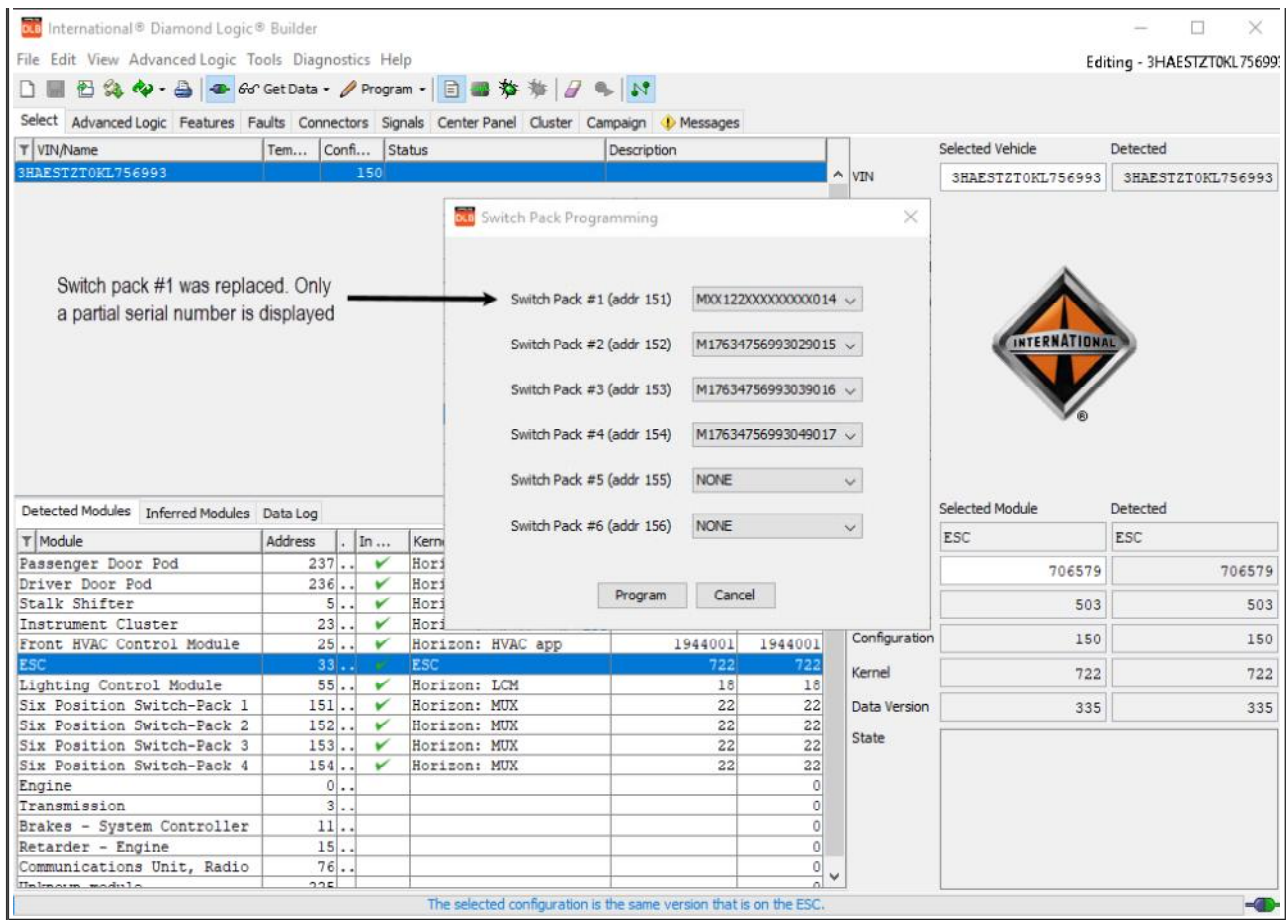
16. Navigate to the tools menu and select "Switch Pack Programming".
17. You will receive the pop up message shown. Select NO. This will allow you to manually set the source addresses.





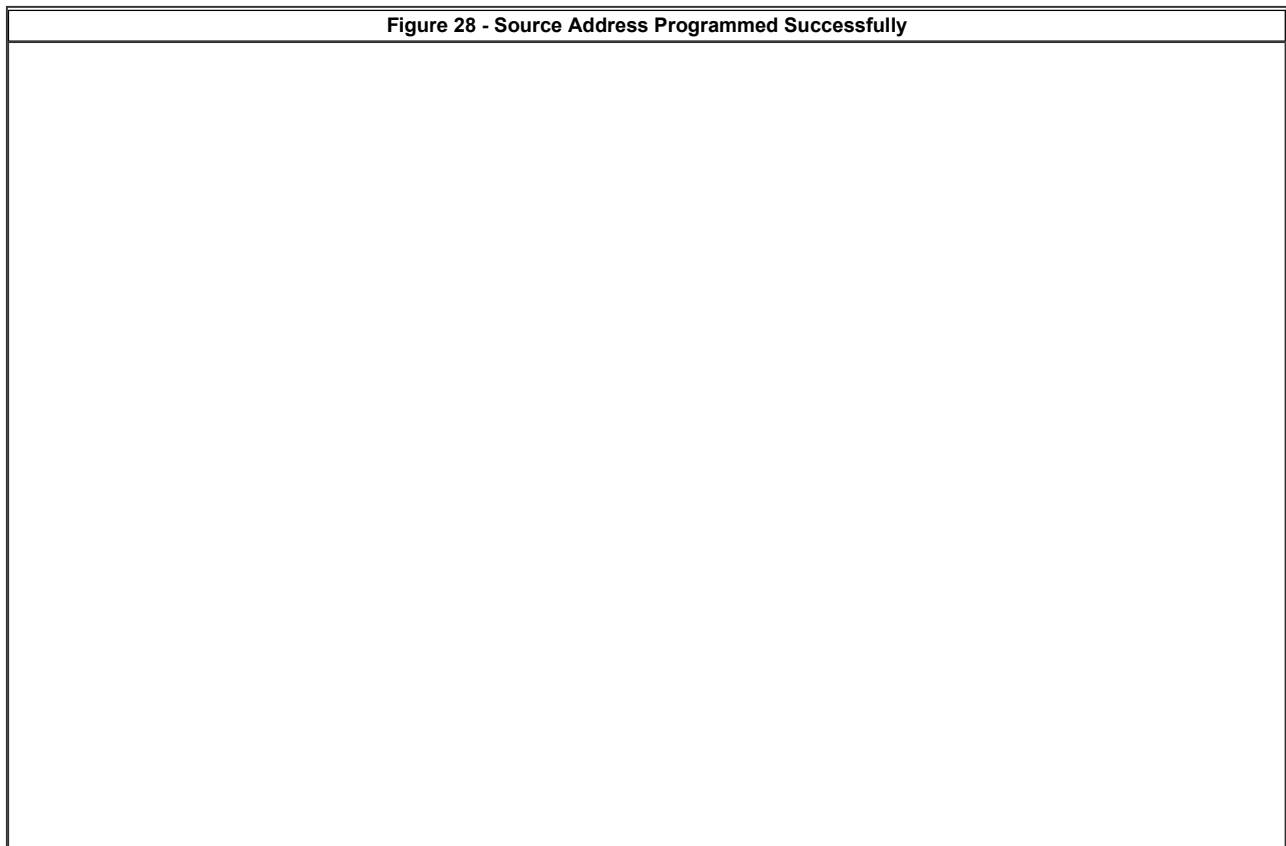
18. Set the switch pack source addresses based on their serial number and location in vehicle. Click Program.

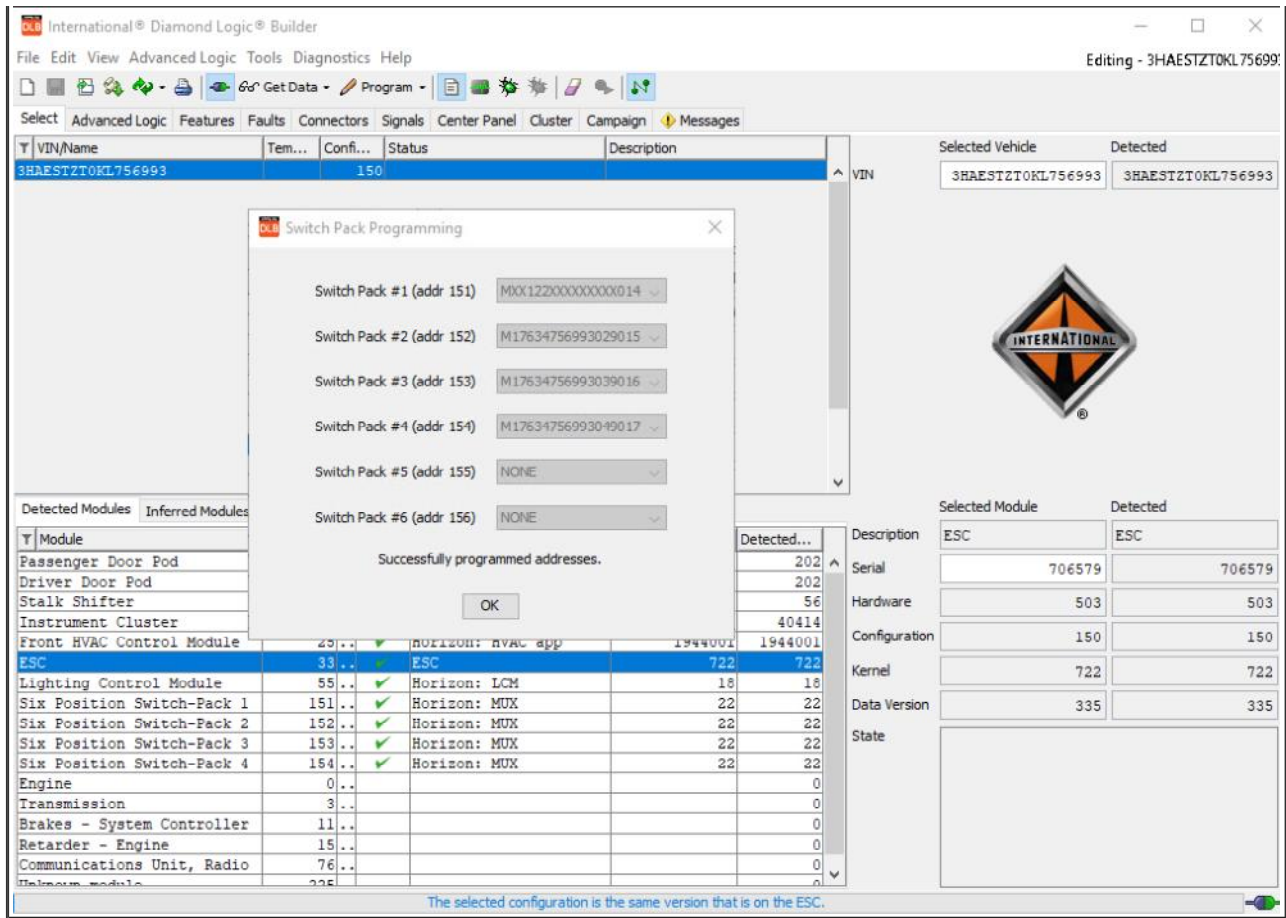




19. Source address programming complete.

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

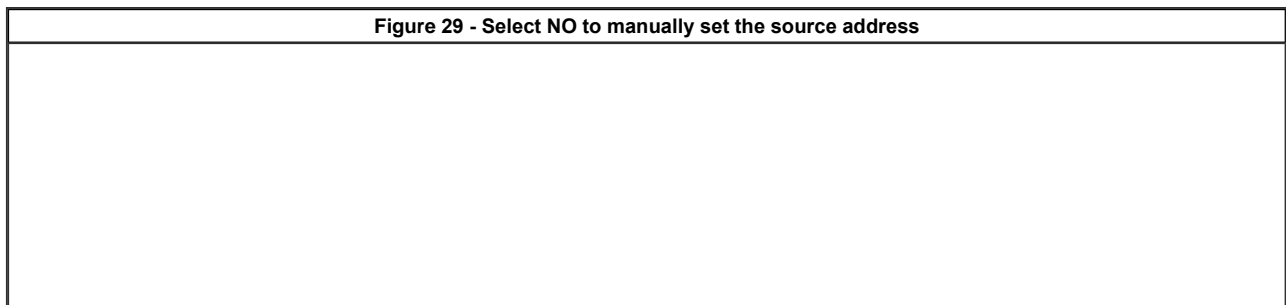
All switch packs are at the desired Kernel level. This section will provide instructions on how to install the replacement part and manually set the source address.

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.

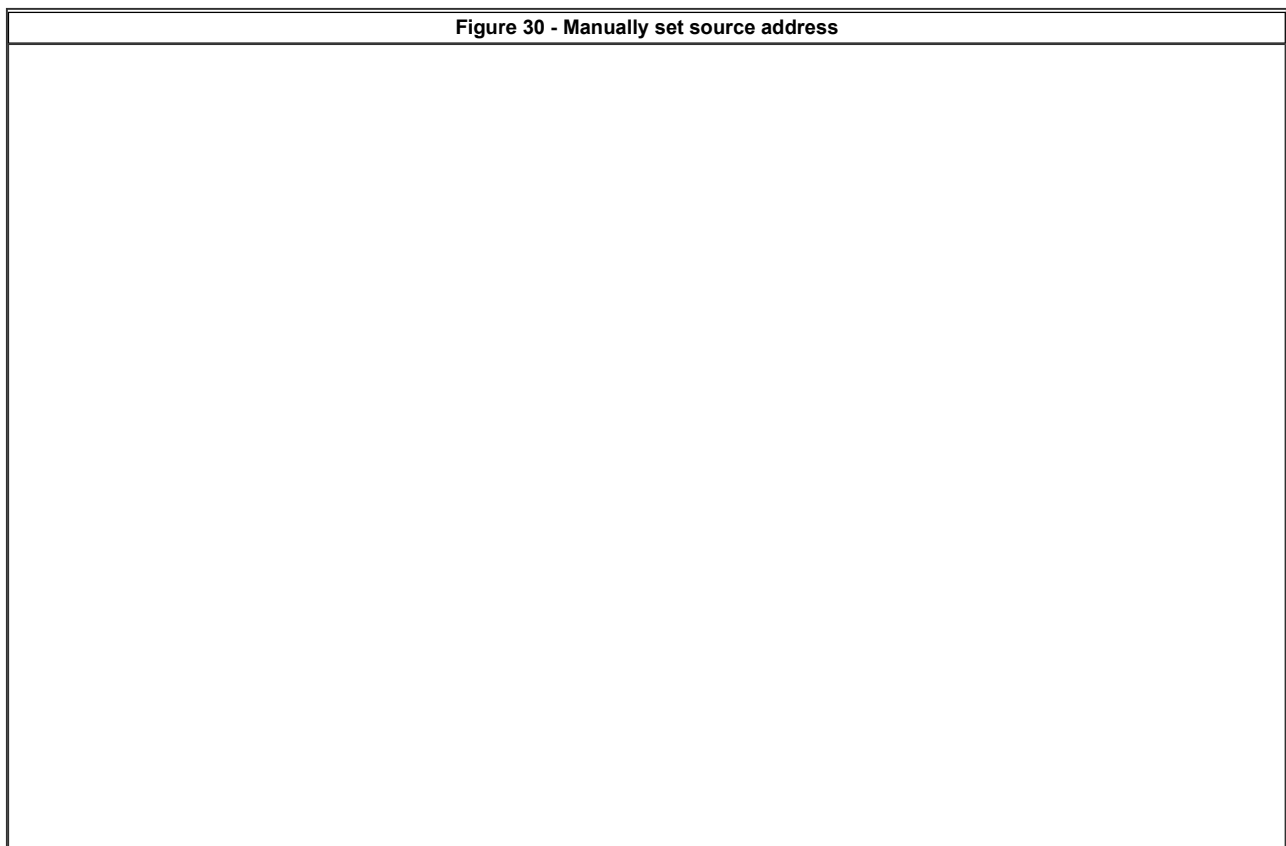
5. Navigate back to the tools menu and select "Switch Pack Programming".
6. You will receive the pop up message shown. Select NO. This will allow you to manually set the source addresses.

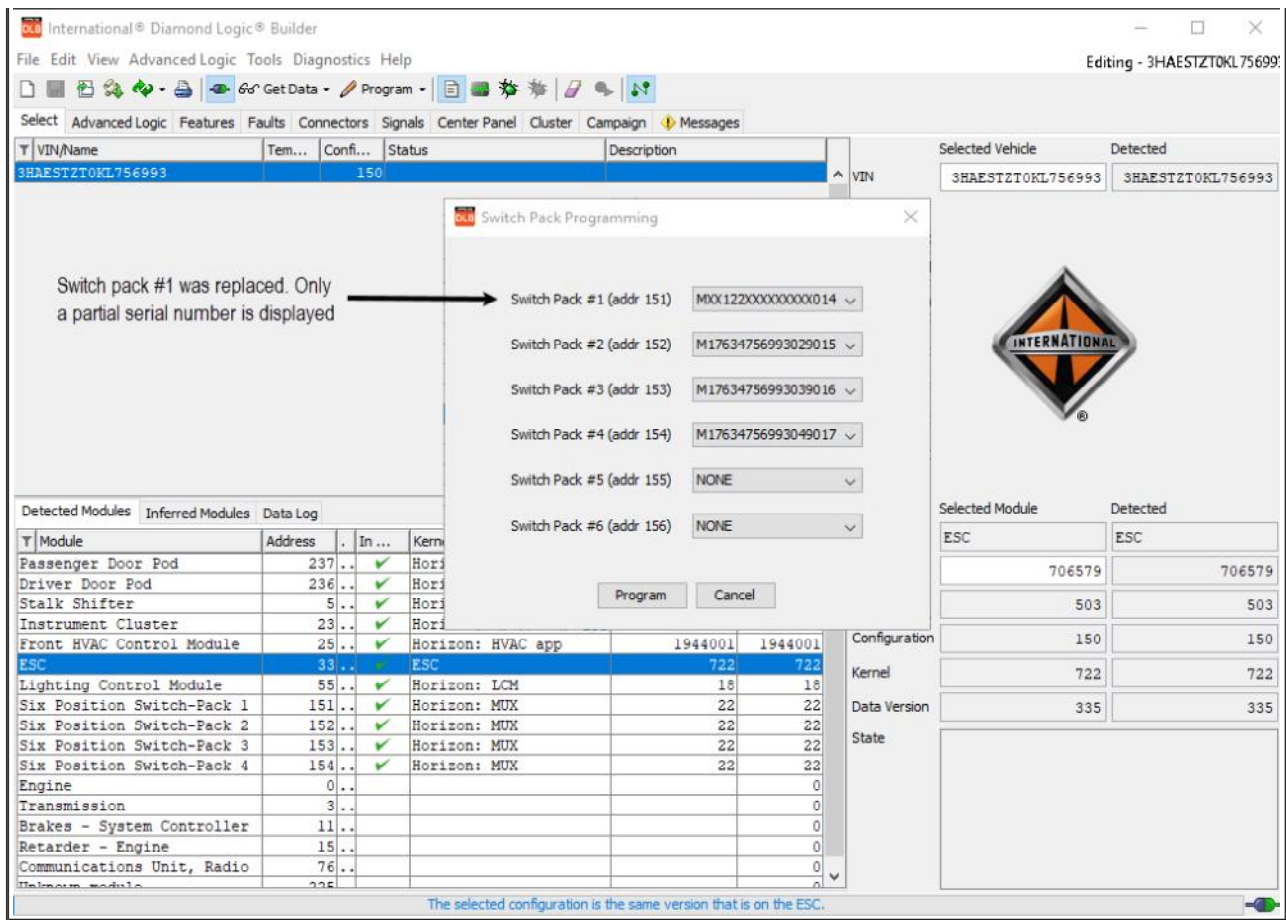


The screenshot shows the International Diamond Logic Builder interface. A modal dialog box titled "Switch Pack Programming" is centered on the screen, containing a question mark icon and the text: "Switch pack software is up to date. Are all switch packs functioning as expected?". Below the text are two buttons: "Yes" and "No".

The background interface includes a menu bar (File, Edit, View, Advanced Logic, Tools, Diagnostics, Help) and a toolbar. A table at the top left lists detected modules with columns for VIN/Name, Temp, Conf., Status, and Description. The VIN 3HAESTZTOKL756993 is selected. A right-hand panel displays "Selected Vehicle" and "Detected" VIN information, along with the International logo. Below this is another table for "Detected Modules" with columns for Module, Address, In..., Kernel Name, Kernel, and Detected... The "ESC" module is highlighted. A bottom status bar indicates: "The selected configuration is the same version that is on the ESC."

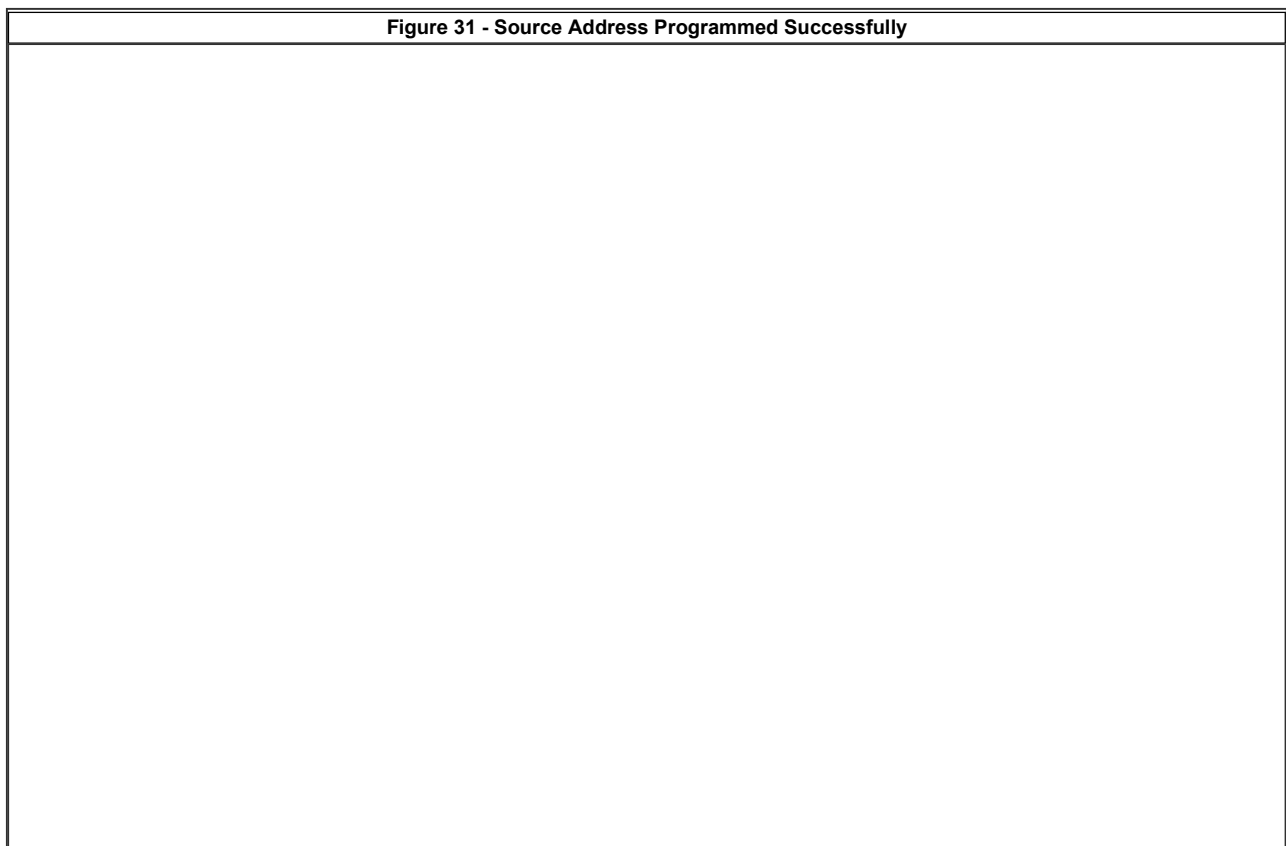
- Set the switch pack source addresses based on their serial number and location in vehicle. Click Program.

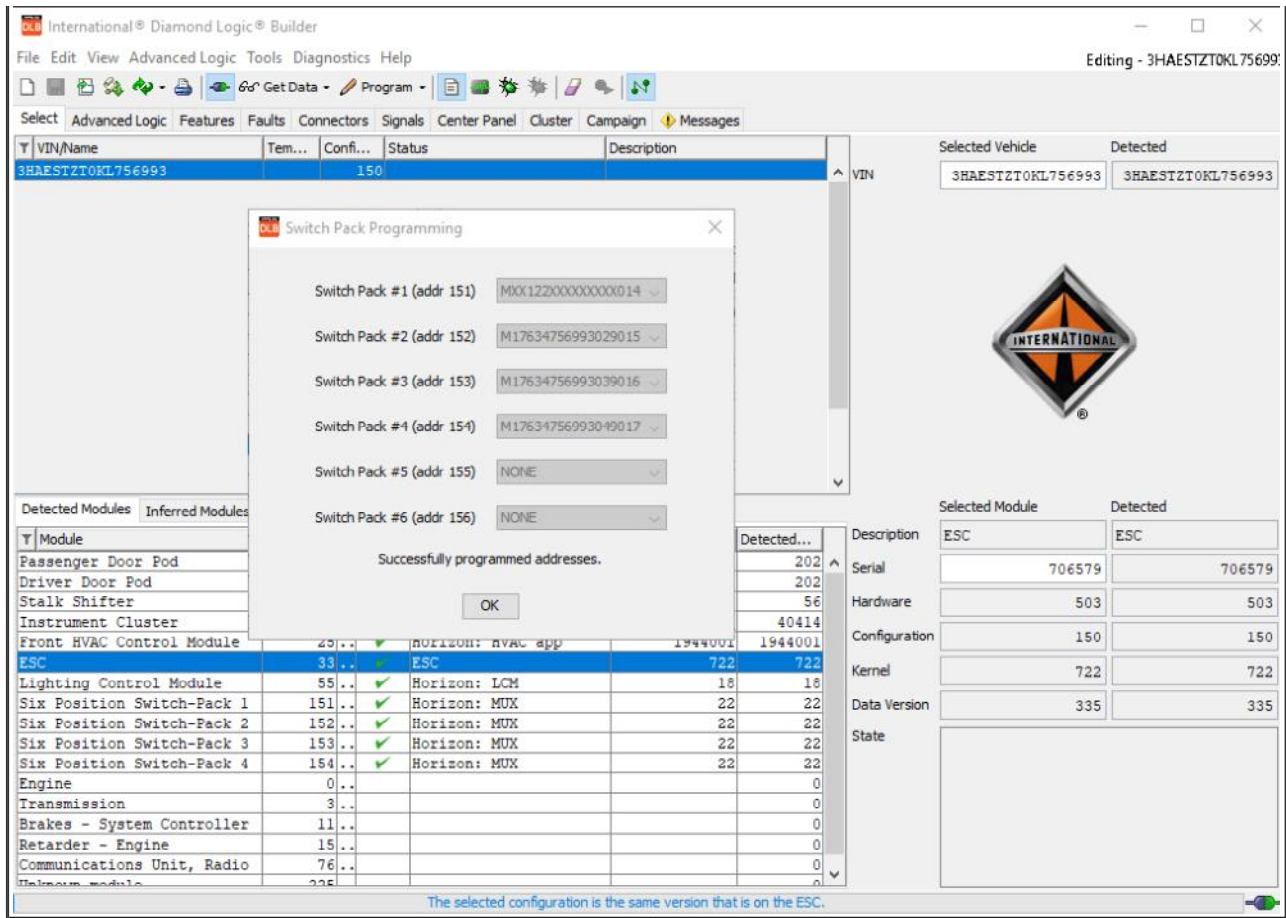




8. Source address programming complete.

Figure 31 - Source Address Programmed Successfully





Switch Pack Programming

Switch Pack #1 (addr 151) MX01220000000014

Switch Pack #2 (addr 152) M17634756993029015

Switch Pack #3 (addr 153) M17634756993039016

Switch Pack #4 (addr 154) M17634756993049017

Switch Pack #5 (addr 155) NONE

Switch Pack #6 (addr 156) NONE

Successfully programmed addresses.

OK

Module	Address	Status	Horizon	Module	Address	Module	Address
ESC	33	✓	ESC	722	722		
Lighting Control Module	55	✓	Horizon: LCM	18	18		
Six Position Switch-Pack 1	151	✓	Horizon: MUX	22	22		
Six Position Switch-Pack 2	152	✓	Horizon: MUX	22	22		
Six Position Switch-Pack 3	153	✓	Horizon: MUX	22	22		
Six Position Switch-Pack 4	154	✓	Horizon: MUX	22	22		
Engine	0						
Transmission	3						
Brakes - System Controller	11						
Retarder - Engine	15						
Communications Unit, Radio	76						
Helium module	225						

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

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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: 465
 Helpful: 3
 Not Helpful: 0

No Feedback Found

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