SOFTWARE REPROGRAMMING

VT AND WSMT

The following instructions update the Virtual Terminal (VT) and Working Set Master (WSMT) to a new software version.

VERIFY 10" VT SOFTWARE VERSION

1. Check the DICKEY-john VT part number found on the back of the terminal. The current software version is indicated in Figure 1.

Figure 1

VT Software Version

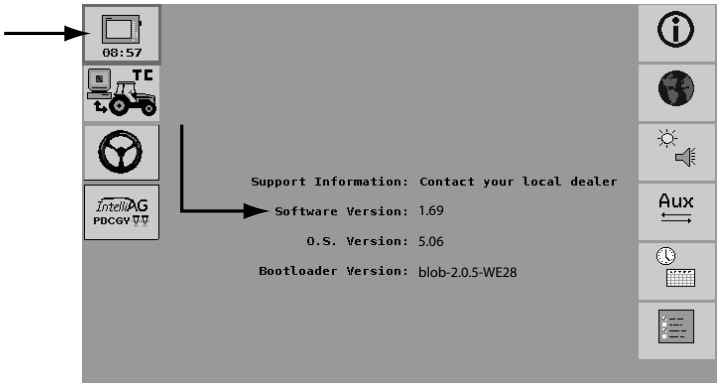
Virtual Terminal	Software Version
467980502 467980502A	1.6.4
467980503	1.6.9

NOTE: Terminal p/n 467980503 has a second connector under the large circular connector.

2. Power on the VT.
3. Select the VT icon located on the left side of screen.
4. Verify the terminal software is the latest version per Figure 1.

Figure 2

VT Software Information Screen



5. If the software is current, proceed to **WSMT Reprogramming**.
6. If the software is not current, proceed to **VT Reprogramming**.

10" VT REPROGRAMMING PREPARATION

To reprogram VT and WSMT software on an IntelliAg system with a 10" VT, a FAT32 formatted SD card is required. If the card is already FAT32 formatted, proceed to Downloading the SD Card Image.

Formatting an SD card to FAT32 in Windows:

1. Connect the SD card reader if using an external SD card reader.
2. Insert the SD card into the reader.
3. Close the SD card Explorer window (if applicable).
4. Go to My Computer and double click the icon.
5. Select the card reader drive.
6. Right click on the card reader drive.
7. Select Format.
8. Select a File System format of FAT32.
9. Click on Start.
10. Click OK to the new card warning. If it is not a new card, verify that the data has been saved and click OK. If the data has not been saved, click Cancel, save the data, and go back to step 3 in case the card is not FAT32.
11. The card will now be formatted and a Format Complete prompt will appear.
12. Click OK.
13. Close the format window (if applicable).
14. The card is ready for use on the IntelliAg system.

VT REPROGRAMMING

NOTE: Contact Great Plains Service for Extranet login information.

The latest VT software is available for download at the DICKEY-john website (www.DICKEY-john.com/Extranet) (located at the bottom of the home page).

Computer:

1. From the extranet site, select the appropriate VT software and download to a known location on the computer.
2. Extract downloaded files to a known location on the computer.
3. Insert an SD card into the card reader. SD card cannot be larger than 2G.
4. Copy defaults and SDCardImg folders and the 13 files that were extracted from the zip folder.
5. Paste the defaults and SDCardImg folders and the 13 files to the blank SD card.
6. After save, remove the SD card from the computer.

VT:

7. Disconnect the terminal harness from the back of the terminal.
8. Insert the SD card into the VT.
9. Reconnect the terminal harness to the back of the terminal.
10. Turn the ignition ON.
11. The system will power up with the DICKEY-john Corporation splash screen for approximately 8 seconds.
12. The screen will turn white momentarily and then gray.
13. An Install Confirmation screen appears to select 'Yes to install the software' or 'No to not install the software'.
    - If No, system reboots and returns to the previous version software.
    - If Yes, new software begins install.
14. Several messages will appear during the reprogramming phase. The reprogramming phase will take approximately 2 minutes to complete.
15. An instruction box will appear.
16. Follow the instructions on the display.
    - Remove the SD card from the VT.
    - Press the **Reboot** button on the VT.
17. The screen will momentarily turn blue, then black, and take up to 5 minutes to complete the software install.
18. A DICKEY-john Corporation splash screen will appear and the light indicator at the top of the VT will flash.
19. The screen will turn gray for approximately 8 seconds and the VT icon will appear as the first button on the left side of the display.
20. The other ISO 11783 devices will login on and their respective buttons appear.
21. All object pools will begin loading. A bar graph will appear at the bottom of the screen. This bar graph represents the uploading of the new object pool.
22. After all object pools upload, the IntelliAg Work screen loads and buttons will appear on the left side of the display for each device connected.
23. Press the **VT** button to verify that the system constants are correct on the VT Information screen and that the system has been successfully updated and ready to operate.

IMPORTANT: If issues occur during the reprogramming phase and the ignition has to be turned OFF, the VT stays in a sleep mode for 2 hours. Turning the ignition ON before the 2 hour window has expired will NOT force the VT to read the SD card and start the reprogramming process again. To avoid sleep mode, disconnect the connector on the back of the VT and reconnect. This will force the VT to read the SD card when the unit powers back on.

WSMT REPROGRAMMING (10" VT)

Some constants may reset to factory default settings during software reprogramming. A configuration export should be performed before reprogramming to prevent loss of data. Refer to Setup Constant Verification for further instruction.

IMPORTANT: Do NOT remove power during the reprogramming process.

Computer:

1. Insert an empty SD card into the SD card reader. The SD card cannot be larger than a 2G.
2. Verify SD card is formatted as FAT32.
3. Select the zip file with the new software version. Software is available through Great Plains Service.
4. Save the zip file to computer in a known location.
5. Extract the files from the zip folder to a known location.
6. Copy the SD CardImg folder and the 8 files that were extracted from the zip folder.
7. Paste the SD CardImg and the 8 files to the blank SD card.
8. Remove the SD card from the computer.

VT (Record Setup Constants)

A few setup constants may reset to factory defaults after reprogramming from versions older than 4.0 and it is recommended that the following constants be recorded:

- Hopper Assignment
- RPM Assignment
- Gear Ratio
- Row Assignment
- Row Pattern
- Population Filter

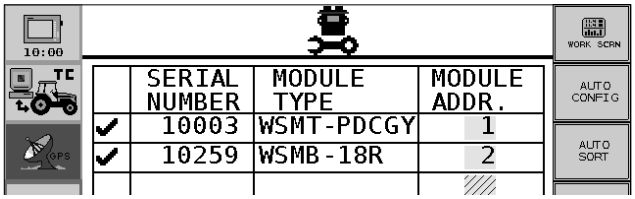
VT (**Record Module Addresses and Serial #):**

Before reprogramming, record module addresses and serial numbers found at the Module Configuration screen. This information is required before loading the config file back once programming is complete at step 31.

1. Press the **IntelliAg** button.
2. Press the **Next Page** button.
3. Press the **Module Configuration** button.
4. Record all module serial numbers, module types, and addresses.

Figure 3

Module Configuration Screen



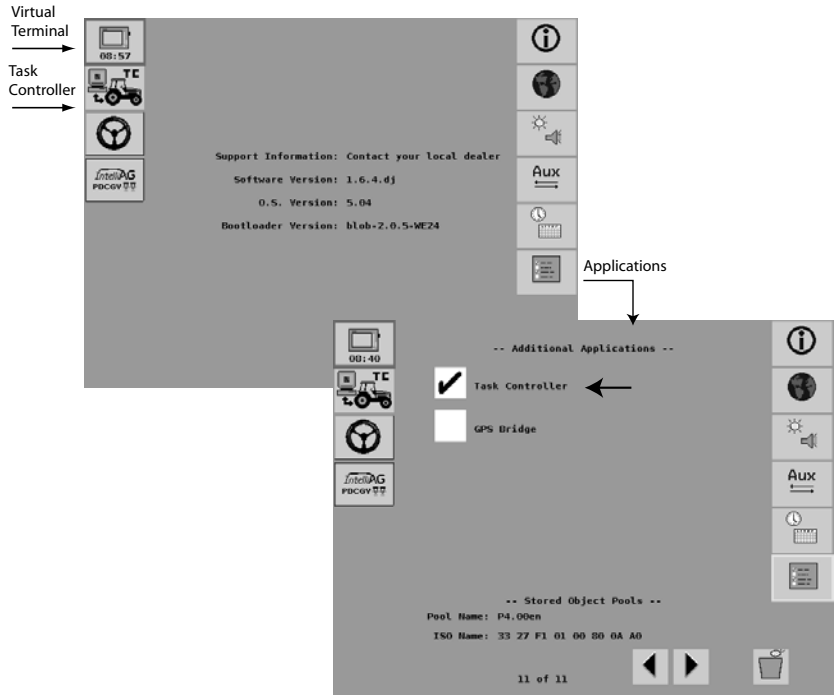
If the WSMT is a recent production unit, the configuration file can be exported before reprogramming.

To Verify WSMT:

1. Power ON the VT.
2. Verify the **Task Controller** button appears on the left of screen (Figure 4).
3. If the **Task Controller** button does not appear, press the **VT** button.
4. Press the **Applications** button.
5. Press the Task Controller input box to enable. A check mark will appear.
6. Return to the IntelliAg Work screen by pressing the **IntelliAg** button.
7. The object pool will load and the **Task Controller** button will appear.

Figure 4

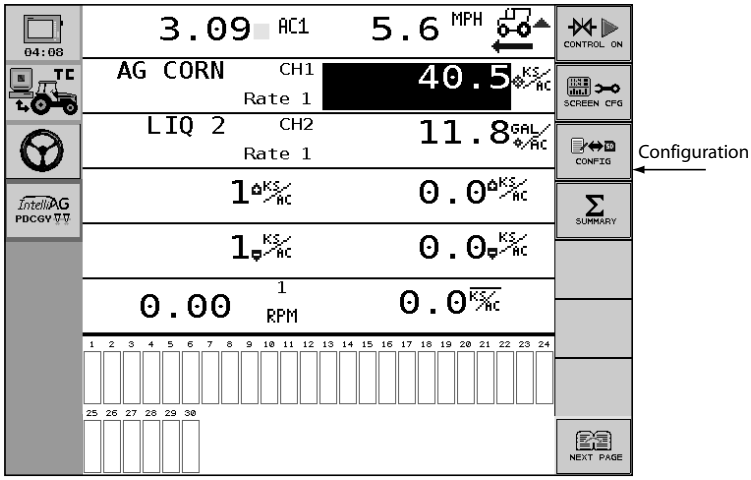
Task Controller Icon



8. At the IntelliAg Work screen, press the **Next Page** button until the **Config** button appears.
   – If the **Config** button does not appear, ALL setup constants should be recorded and re-entered after reprogramming.

Figure 5

IntelliAg Work Screen



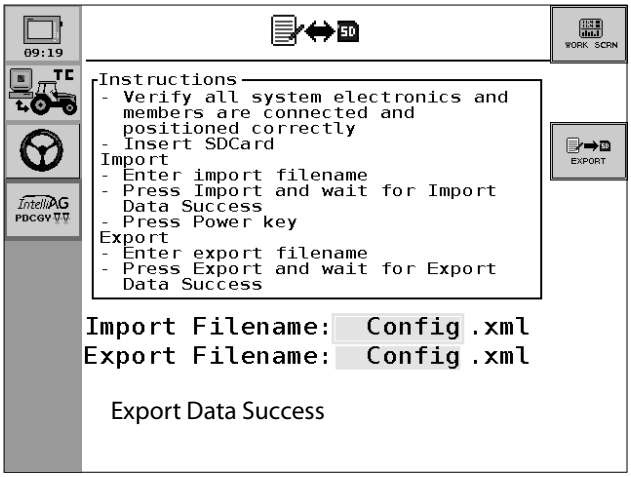
NOTE: Remember the file name as it is required to re-enter as an exact match once WSMT programming is complete.

IMPORTANT: Before performing an export, record all module addresses and serial numbers and setup constants stated on page 4.

9. Insert a blank SD card and press the **Config** button to display the Configuration screen.

Figure 6

Export Screen



10. Enter an Export file name and press the **Export** button.
11. Wait for Export Data Success to appear on the display.
12. After complete, press the **Task Controller** button to display the Task Controller screen.
13. Press the **SD Eject** button to save.
14. Remove the SD card.
15. Turn OFF the ignition.
16. Disconnect the terminal harness from the back of the terminal.

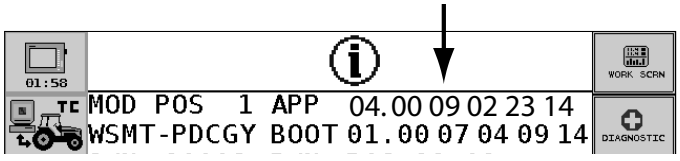
17. For systems using Autopilot, disconnect the 2-pin P2 power cable connection from the Autopilot harness connector.
18. Insert the SD card with the new version of software reprogramming files into the terminal.
19. Reconnect the terminal harness to the terminal.
20. Verify that the WSMT is also connected along with the hitch connector.
21. Turn ON the ignition.
22. The system will power up with the DICKEY-john Corporation splash screen for approximately 8 seconds.
23. The screen will turn white momentarily and then gray.
24. Several messages will appear during the reprogramming phase:
    - Update all software! and J1939 CAN Node Programmer
    - Target: Dj ISO Planter Monit
    - Initializing and Establishing Communications
    - Verifying Checksum and PROGRAM COMPLET

The reprogramming phase will take approximately 2 minutes to complete. Communications will then be re-established and the system will indicate the remote upgrade as successful.

25. Approximately 10 seconds later an instruction box will appear.
26. Follow the instructions on the display.
    - Remove the SD card from the VT.
    - Press the **Reboot** button on the VT.
27. The screen will turn blue with a yellow flashing cursor in the upper left corner for approximately 15 seconds; the display will momentarily fade to black.
28. A DICKEY-john Corporation splash screen will appear for approximately 8 seconds.
29. The screen will turn gray for approximately 8 seconds and the VT icon will appear as the first button on the left hand side of the display.
30. The other ISO11783 devices will log on and their respective buttons will appear.
31. If the object pool of the new software is different than what is stored in the VT, a bargraph will appear at the bottom of the screen. This bargraph represents the uploading of the new object pool. The uploading of the object pool will take approximately 90 seconds.
32. After the object pool uploads, the IntelliAg Work screen will display and the **IntelliAg** button will appear on the left side of the display.
33. To verify the software is loaded, press the **Diagnostics** button.
34. Press the **Information** button.
35. On the Information screen, the APP line should have four digits that reflect the software version number. If the version number does not match, repeat the Reprogramming WSMT section (Figure 7).
36. Reconnect the power cable to the Autopilot harness.

Figure 7

Information Screen



RESETTING MODULE ADDRESSES

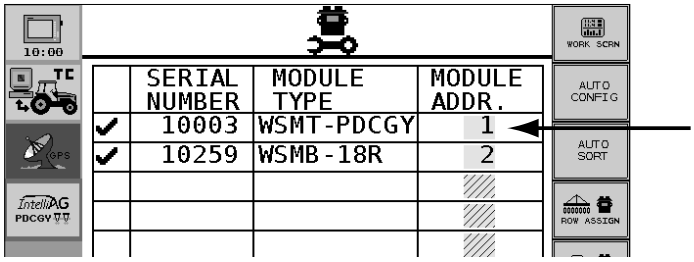
Before importing configuration files, the module addresses must be reset. The system must be in Access Level 2 status to reset.

To Reset:

1. At the IntelliAg Work screen, press the **Next Page** button to view the **Summary** button.
2. Press the **Summary** button to access the Summary screen.
3. Press the **Password** button to access the Password screen.
4. Enter the 6 digit Level 2 password (2 followed by WSMT serial number). Example: WSMT-PDC serial number 10155. Level 2 access is 210155. (Serial # of WSMT previously recorded at the VT Record Module Addresses and Serial # section).
5. Press the **OK** button to automatically reset and change to Level 2. "Dealer screens on" will appear at screen bottom.
6. Press the **Work Screen** button to return to the Work screen.
7. Press the **Next Page** button to access the **Module Configuration** button.
8. Press the **Module Configuration** button to display the Module Configuration screen.
9. Change the module addresses to match the list recorded earlier.

Figure 8

Changing Module Addresses



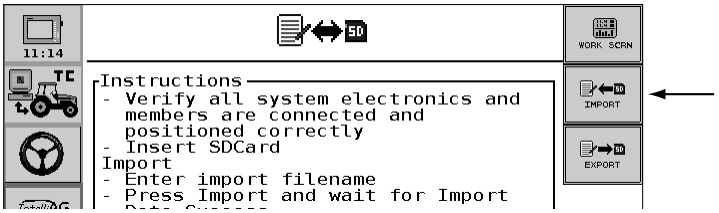
10. Proceed to Importing Configuration Files.

IMPORTING CONFIGURATION FILES

1. Insert the SD card with the configuration file.
2. At the IntelliAg Work Screen, press the **Next Page** button to access the **Config** button.
3. Press the **Config** button to access the Config screen.
4. Enter the exact file name into the Import File Name input box.
5. Press the **Import** button.

Figure 9

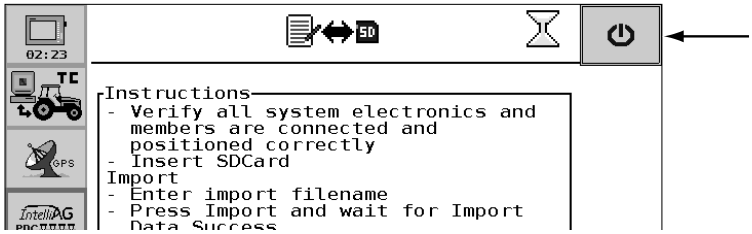
Importing Config Files



6. Once the import completes, a **Power Down** button will appear.
7. Remove the SD card.
8. Wait for Import Data Success message and then press the **Power Down** button. The system will automatically restart and load the IntelliAg Work screen.

Figure 10

Power Down



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SETUP CONSTANT VERIFICATION

A few setup constants may have reset to factory defaults after reprogramming and it is recommended that the following be verified:

- Hopper Assignment
- RPM Assignment
- Gear Ratio
- Row Assignment
- Row Pattern
- Population Filter

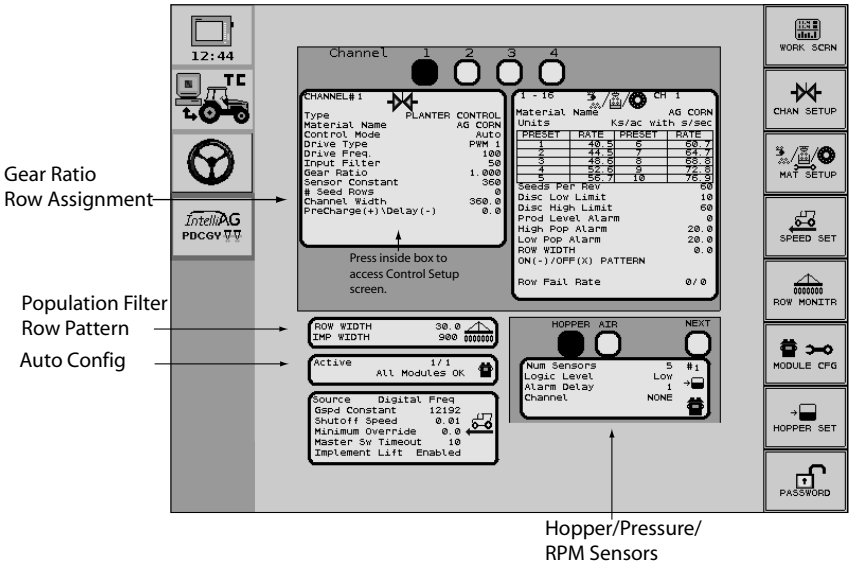
To Verify Setup Constants:

NOTE: After power down, the system automatically resets to Access Level 1 and will need to be changed to Access Level 2. Refer to Resetting Module Addresses steps 1-6 for password instructions.

1. At the IntelliAg Work screen, press the **Next Page** button to access the **Summary** button.
2. At the Summary screen, press inside the appropriate boxes to change setup constants.

Figure 11

Summary Screen



To Configure Sensors:

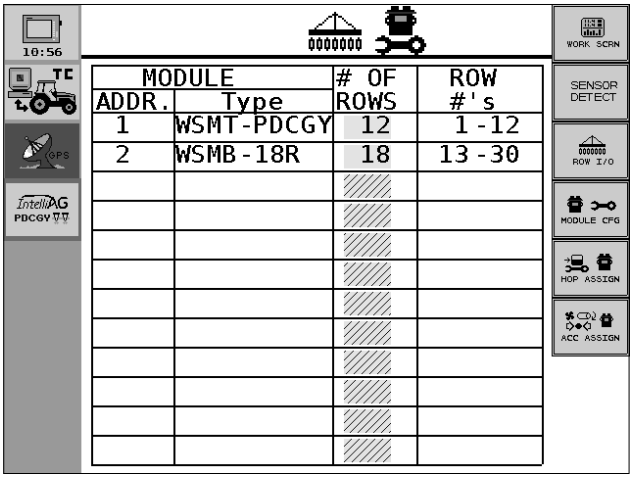
3. Press the Module Configuration box to access the Module Configuration screen.
4. Press the **Auto Config** button to automatically configure hopper and pressure sensors, if any.
5. Press the **Hopper Assignment** button to verify/add # of Hoppers, if required.
6. Press the **Accessory Assignment** button to verify pressure sensors and to manually enter number of RPM sensors, if required.

To Assign Rows and Patterns:

7. Press the **Row Assignment** button to access the Row Assignment screen and verify/enter # of rows.
8. Press the **Row I/O** button to enter patterns.

Figure 12

Module Configuration Screen



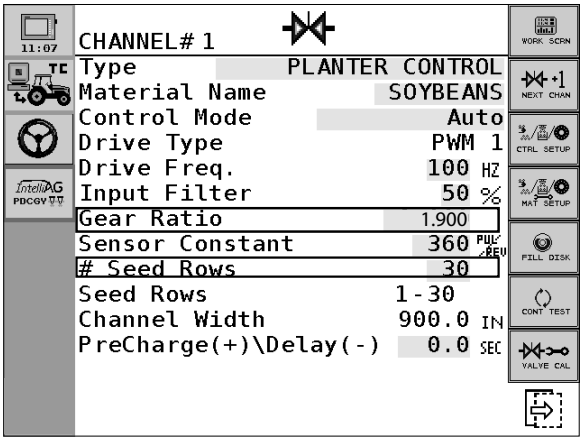
9. Press the **Work Screen** button to return to Main Work screen.
10. Press the **Next Page** button to access the **Summary** button.

To Set Gear Ratio and # of Seed Rows:

11. At the Summary screen, press inside the Control Channel area to access to the Channel Setup screen.
12. Change Gear Ratio to the correct manufacturing setting that was previously recorded on page 4, if required.
13. Enter/verify # of Seed Rows, if required.

Figure 13

Channel Setup Screen

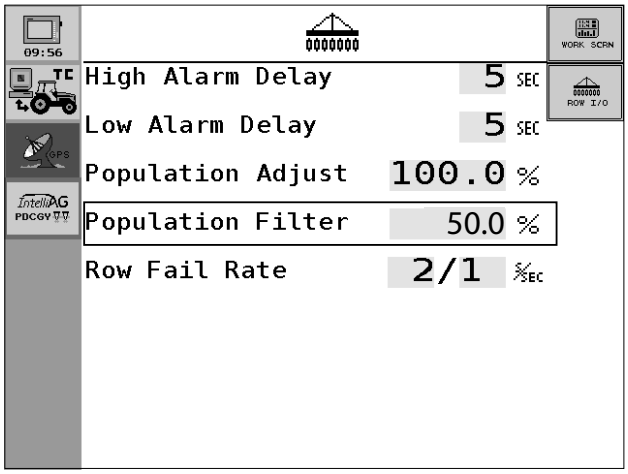


To Set Population Filter:

14. At the Summary screen, press inside the Row Monitor screen.
15. Change Population Filter to 50%.
16. The system is ready to operate.

Figure 14

Row Monitor Screen



WSMT REPROGRAMMING (5" VT)

To reprogram WSMT software on an IntelliAg system with a 5" VT, a FAT formatted SD card is required.

Computer:

1. Insert an empty SD card into the card reader. The SD card cannot be larger than 2G.
2. Verify SD card is formatted as FAT using Windows Explorer.
3. If formatted correctly, select the zip file with the new software version. Software is available through Great Plains Service.
4. Save the zip file to computer in a known location.
5. Extract the files from the zip folder to a known location.
6. Copy the 4 files that were extracted from the zip folder.
7. Paste 4 files to the blank SD card.
8. Remove the SD card from the computer.

VT:

1. At the VT, disconnect the terminal harness from the back.
2. Insert the SD card with the files into the VT.
3. Reconnect the terminal harness to the back of the terminal.
4. Verify that the WSMT is also connected along with the hitch connector.
5. Power ON the VT. The screen will indicate files are copying to RAM.
6. When complete, press the 1 button to accept the new software update.
7. To select an ECU, turn the knob and select the line starting with 80 (or 81 if 80 does not appear).
8. Press the 1 button to start programming.

IMPORTANT: Do not turn power off while reprogramming.

9. The screen will indicate data is transferring and the * will flash.
10. "Finished transfer" will appear when complete.
11. Remove the SD card.
12. Turn the knob to select Reset and press the 1 button. The VT will reset.
13. The system will restart and a new object pool will begin transferring.
14. After transfer completion, the IntelliAg Work screen will display.
15. To verify software is loaded, press the **Diagnostics** button.
16. Press the **Information** button.
17. On the Information screen, the APP line should have the first four digits that reflect the loaded software version. If the version number does not match, repeat the reprogramming WSMT section.