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|---------------------|-------------------------------|
| REFERENCE: | Nova Bus Manuals |
| SECTION: | 16: 24-Volt Electrical System |
| RS N°: | MQR 7621-2962, 2973 |
| EFFECTIVE IN PROD.: | LG21 |
| TC RECALL N°: | 2025-304 |
| NHTSA RECALL N°: | 25V-368 |

APPLICATION DEADLINES: N/A CLAIM
REFERENCE NUMBER: SR5732

| | |
|----------------|---|
| SUBJECT: | Turn signal on the digital display |
| JUSTIFICATION: | The affected vehicles may have been manufactured with a defective firmware in the digital display. Following a specific turn signal activation sequence, the defective firmware could cause the turn signal pilot indicator to be stuck ON (solid light). A non-flashing interior tell-tale is a FMVSS 108 non-compliance that could potentially cause driver confusion, however the exterior turn signal lamps function as intended. |

| LEVEL | DESCRIPTION | DIRECT CHARGES | | TIME |
|-------|--|----------------|----------|--------|
| | | LABOUR | MATERIAL | |
| 1 | Update the Parker Head Display (PHD) firmware. | Nova Bus | Nova Bus | 20 min |
| 2 | | - | - | - |

MATERIAL REQUIRED PER VEHICLE

| QTY | PART N° | REV. | DESCRIPTION |
|----------------|---------|------|-------------|
| LEVEL 1 | | | |
| - | - | - | - |
| LEVEL 2 | | | |
| - | - | - | - |

DISPOSAL OF PARTS

| | | | |
|--------------------|-----------|----------|--|
| REMOVED PARTS ARE: | DISCARDED | RETAINED | |
| | - | - | |

REVISION HISTORY

| REV. | DATE | CHANGE DESCRIPTION | WRITTEN BY |
|------|----------|--------------------|-----------------|
| NR | 2025JL07 | Initial release | André Pelletier |

| CLIENT | ORDER | ROAD NUMBER | | VIN (2NVY/4RKY...) | | QTY | PHD parameter files |
|---|-------|-------------|--------|--------------------|----|-----|---------------------|
| | | FROM | TO | FROM | TO | | |
| Ames Iowa - Transit Agency | LE52 | 7157 | 7158 | | | 2 | PHD_LE52_rev_B.txt |
| Bow Valley Transit Alberta | LG18 | — | — | | | 3 | PHD_LG18_rev_C.txt |
| Brampton Ontario | LG34 | 2550 | 2551 | | | 2 | PHD_LG34_rev_B.txt |
| Brampton Ontario | LG34 | 2554 | 2558 | | | 5 | PHD_LG34_rev_B.txt |
| CMBC - Translink | LE13 | H22101 | H22101 | | | 1 | PHD_LE13_rev_F.txt |
| CMBC - Translink | LE14 | H23202 | H23215 | | | 14 | PHD_LE14_rev_B.txt |
| Durham Region Transit Ontario | LF55 | 6130 | 6135 | | | 6 | PHD_LF55_rev_B.txt |
| Grand River Transit Ontario - GRT | LE71 | 22301 | 22306 | | | 6 | PHD_LE71_rev_0.txt |
| Grand River Transit Ontario - GRT | LF56 | 22307 | 22311 | | | 5 | PHD_LF56_rev_A.txt |
| Guelph Ontario | LE69 | 285 | 288 | | | 4 | PHD_LE69_rev_B.txt |
| Guelph Ontario | LF45 | 289 | 295 | | | 7 | PHD_LF45_rev_A.txt |
| Guelph Ontario | LG38 | 296 | 302 | | | 7 | PHD_LG38_rev_C.txt |
| Halifax Nova Scotia | LE91 | 2000 | 2000 | | | 1 | PHD_LE91_rev_D.txt |
| Halifax Nova Scotia | LF31 | 2001 | 2059 | | | 59 | PHD_LF31_rev_B.txt |
| Houston Texas - Metro | LE77 | 3000 | 3019 | | | 20 | PHD_LE77_rev_C.txt |
| Milwaukee Wisconsin - MCTS | LE16 | 1000 | 1000 | | | 1 | PHD_LE16_rev_E.txt |
| Milwaukee Wisconsin - MCTS | LE17 | 1001 | 1010 | | | 10 | PHD_LE17_rev_B.txt |
| Milwaukee Wisconsin - MCTS | LF12 | 1011 | 1014 | | | 4 | PHD_LF12_rev_A.txt |
| New York City Transit, New York - NYCT | LF28 | 3475 | 3479 | | | 5 | PHD_LF28_rev_J.txt |
| Oakville Ontario | LF70 | — | — | | | 15 | PHD_LF70_rev_B.txt |
| OC Transpo - Ottawa | LF94 | 2501 | 2504 | | | 4 | PHD_LF94_rev_B.txt |
| Regina Saskatchewan | LG06 | 2401 | 2407 | | | 7 | PHD_LG06_rev_B.txt |
| San Francisco Municipal Transportation Agency - SFMTA | LE39 | 5010 | 5010 | | | 1 | PHD_LE39_rev_E.txt |
| San Francisco Municipal Transportation Agency - SFMTA | LE72 | 5011 | 5012 | | | 2 | PHD_LE72_rev_B.txt |
| Saskatoon Saskatchewan | LF64 | 2410 | 2411 | | | 2 | PHD_LF64_rev_B.txt |
| Toronto Transit Commission Ontario - TTC | LF65 | 6601 | 6601 | | | 1 | PHD_LF65_rev_G.txt |
| Toronto Transit Commission Ontario - TTC | LF76 | 6602 | 6602 | | | 1 | PHD_LF76_rev_E.txt |

**WARNING**

FOLLOW YOUR INTERNAL SAFETY PROCEDURES.

**NOTE**

The updated firmware will solve the MQR 7621-2962 for the non-flashing interior tell-tale and also the MQR 7621-2973 for the for the battery light on when there is no active fault.

**NOTE**

To perform the following steps you will need a laptop computer on which the programs *SetIP*, *PHD_Packager* et *PHD Configuration Tool* are installed. To obtain these programs contact your customer support manager. See Figure 1

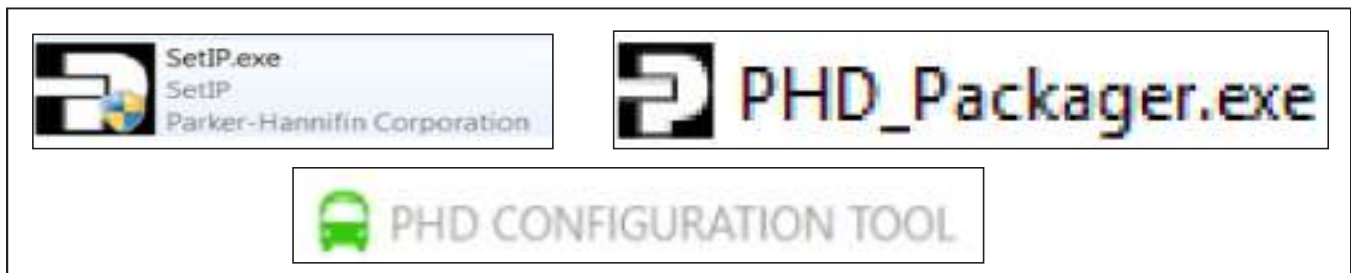


Figure 1 - Program SetIP, PHD_Packager and PHD Configuration icon

**NOTE**

Prior to the following steps of the procedure, you will need a USB Type A to Type B cable and Kvaser USB- CAN Interface. See Figure 2.

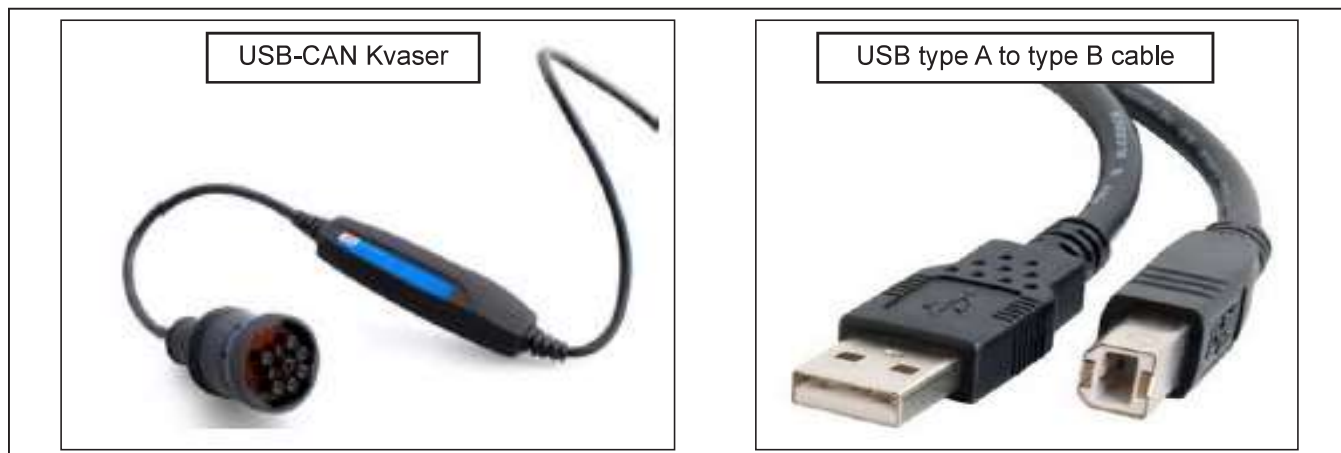


Figure 2 - Required Kvaser Interface and USB Cable

**NOTE**

Prior to the following steps of the procedure contact your customer support manager to obtain the required PHD program V1.02.047 or any higher version. Save the new software program on the laptop computer to be used for the program update.

**NOTE**

Prior to the following steps of the procedure contact your customer support manager to obtain the required PHD parameter files (*PHD_LXXX_Rev_X.txt*) listed in the client list, or any higher version. Save the new parameter files on the laptop computer to be used.

PROCEDURE

- 1.1. Park the vehicle on an even surface with the transmission on neutral.
- 1.2. Apply the parking brake and set the master control switch to the **ON** position.
- 1.3. Note the mileage indicate on the speedometer.
- 1.4. Verify that the PHD screen is powered.
- 1.5. Connect the USB cable to the USB port located under the dashboard and the other end to the laptop computer. See Figure 3.

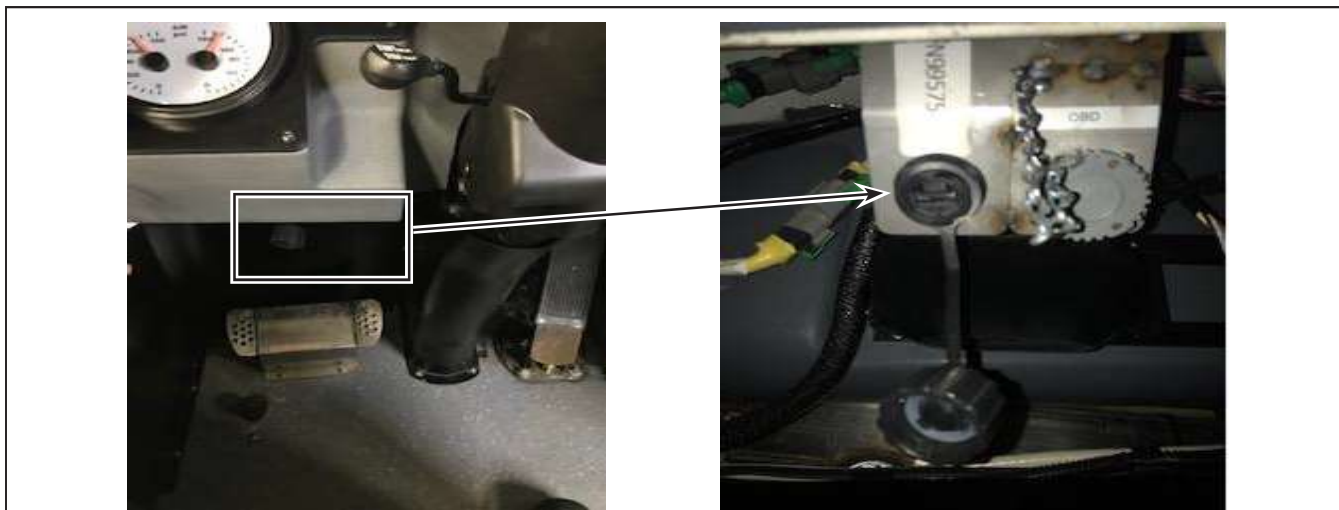


Figure 3 - Location of USB Port under Dashboard

- 1.6. Click on the **SetIP** icon to open the program. See Figure 4.
- 1.7. Click **YES** to authorize the execution of the application.
- 1.8. Close the application when finished. See Figure 4.

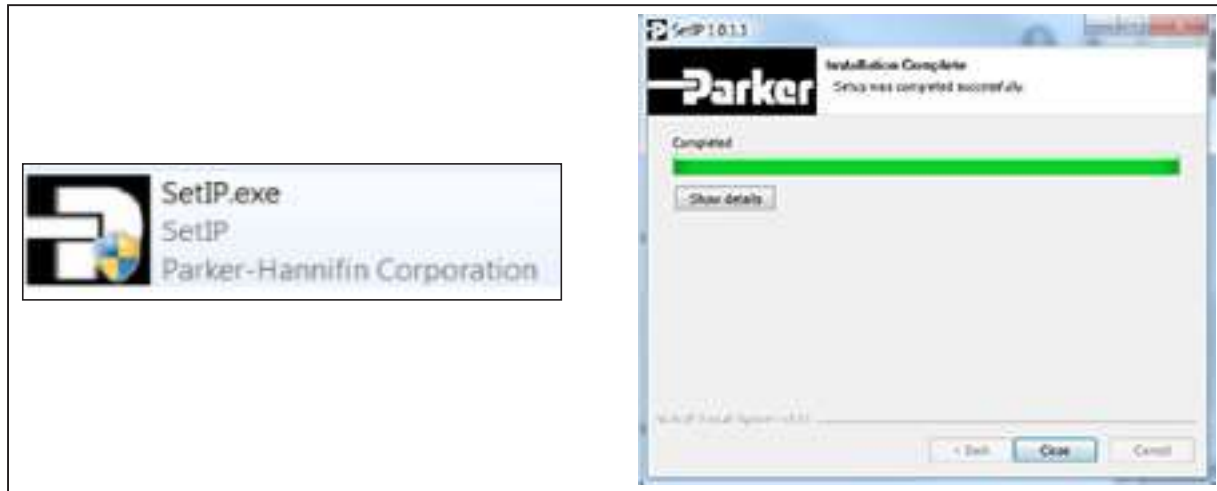


Figure 4 - SetIP Icon and SetIP Completed

- 1.9. In the computer's settings menu, open the **Network & Internet** section.
- 1.10. Click on **WiFi** (1) and select **Show available Networks** (2). See Figure 5.

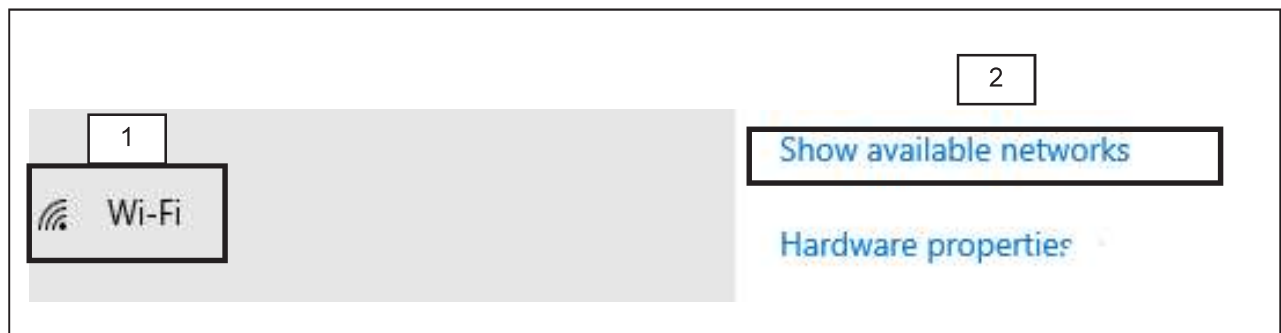


Figure 5 - WiFi Menu and Available Network

1.11. Click on **Network & Internet Settings**. See Figure 6.

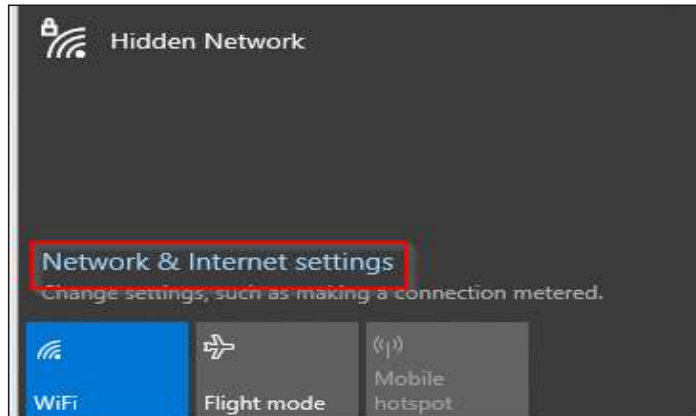


Figure 6 - Network & Internet Setting

1.12. Select **Network & Sharing Center** (1) and click on Public Network **Connexions** (2) to access the **Network Connection & Status** window. See Figure 7.

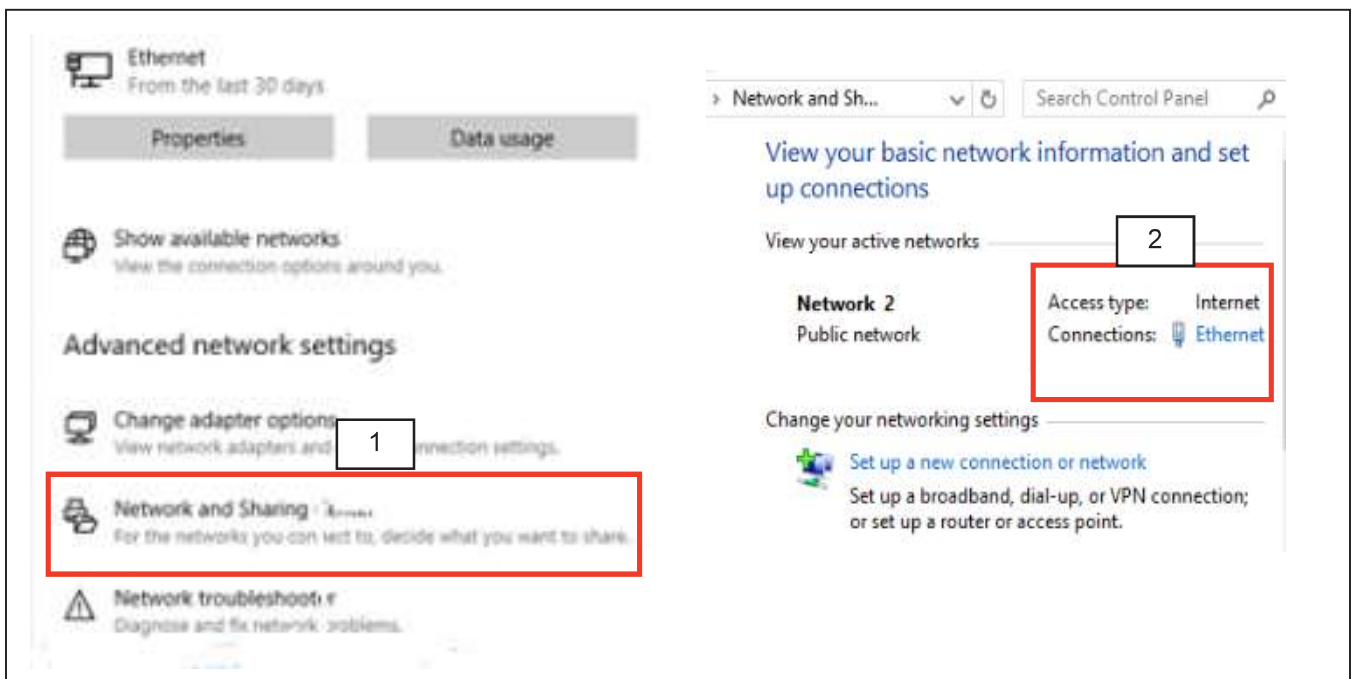


Figure 7 - Network & Sharing Center - Public Network Connection

- 1.13. In the **Local Area Connection and Status** window click on **Details** button to open the **Network Connection Details** window and verify if the IP address value matches the one indicates in Figure 8. If the address corresponds to the one indicates in Figure 8, proceed to the next step (1.14). If the address doesn't correspond to the one indicates in Figure 8, perform the following sub-steps.

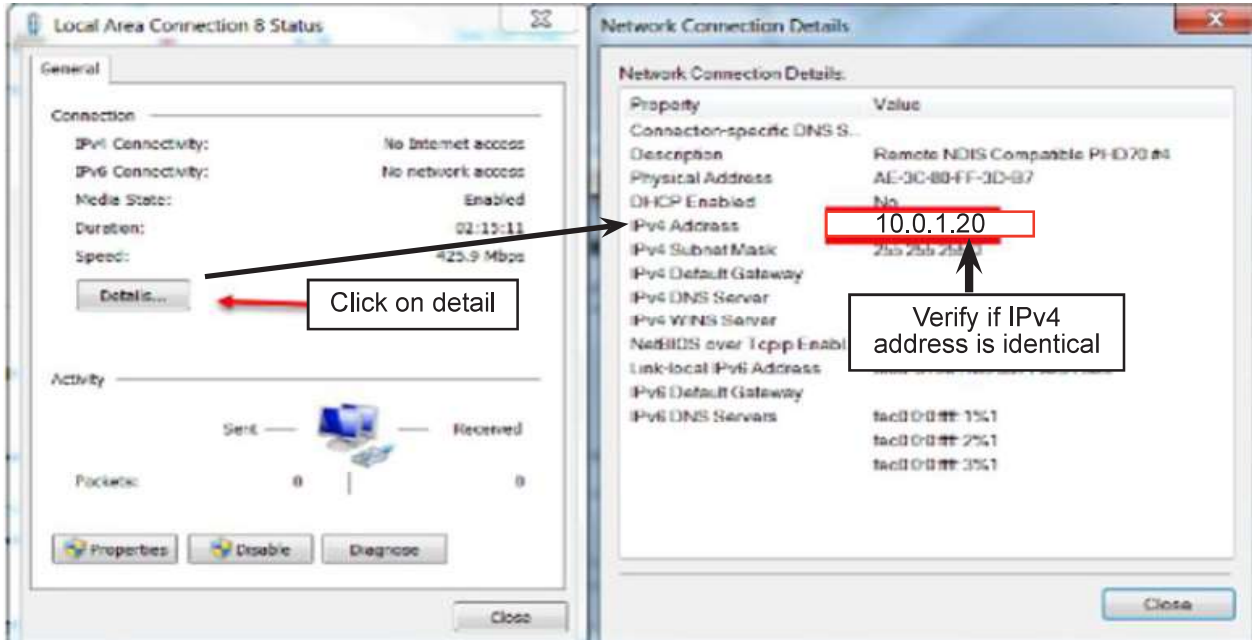


Figure 8 - Verification of the IP Address

- a. In the **Local Area Connection and Status** window click on the **Properties** button. See Figure 9.



Figure 9 - Local Area Connection and Status access Button

b. Select **Internet Protocol Version 4** and click the **Properties** button. See Figure 10.

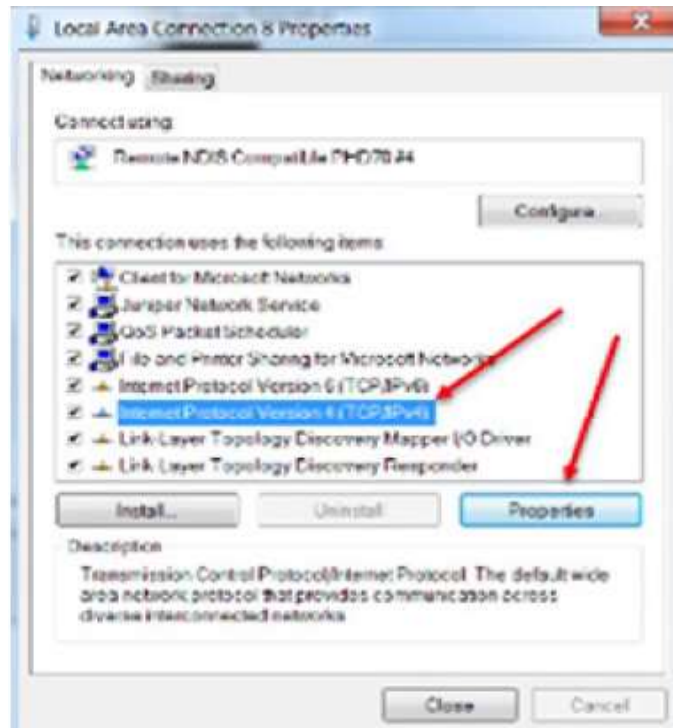


Figure 10 - Internet Protocol IPv4 Selection

c. In the new window, select **Use the following IP address** (1) and enter the value (2) shown in Figure 11.

d. Check **Validate setting upon exit** (3) and click the **OK** (4) button. See Figure 11.

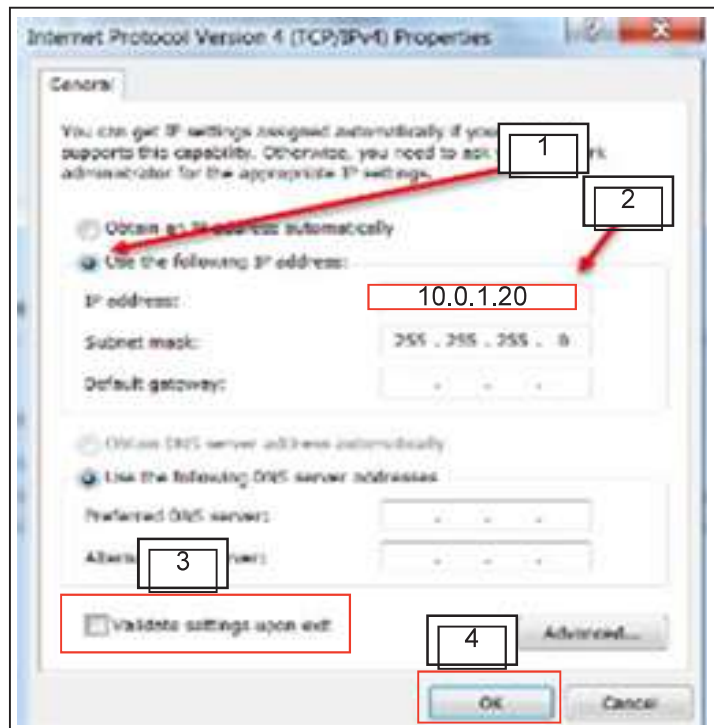


Figure 11 - IP Address Modification

- 1.14. Open the **PHD_Packager** software.
- 1.15. Select the **Select Application** (1) tab and check the **Install a prebuilt PHD application** (2) box. See Figure 12.
- 1.16. Click the **Browse** (3) button and select the new **PHD V1.02.41** program or any higher version provided by your customer support manager. See Figure 12.

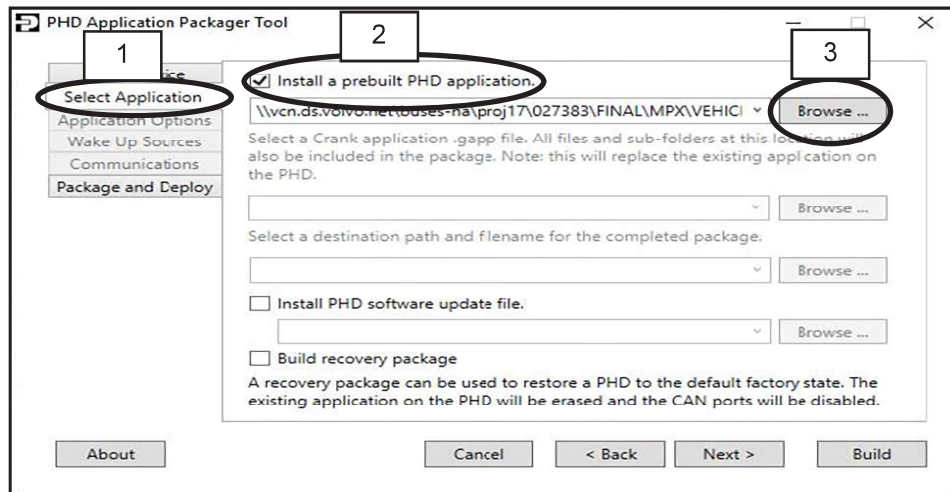


Figure 12 - Select Application - Program Window

- 1.17. Select the **Package and Deploy** (1) tab and check the **Connect to PHD via USB and install package** (2) box and click on the **Build** (3) button. See Figure 13.

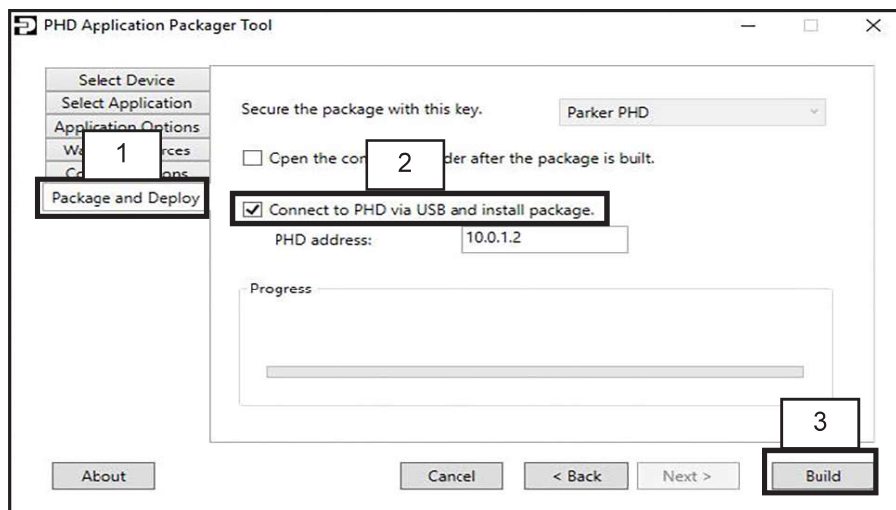


Figure 13 - Package and Deploy - Window

- 1.18. Wait for the **File Transfer Completed** message to appear and close the software. See Figure 14.

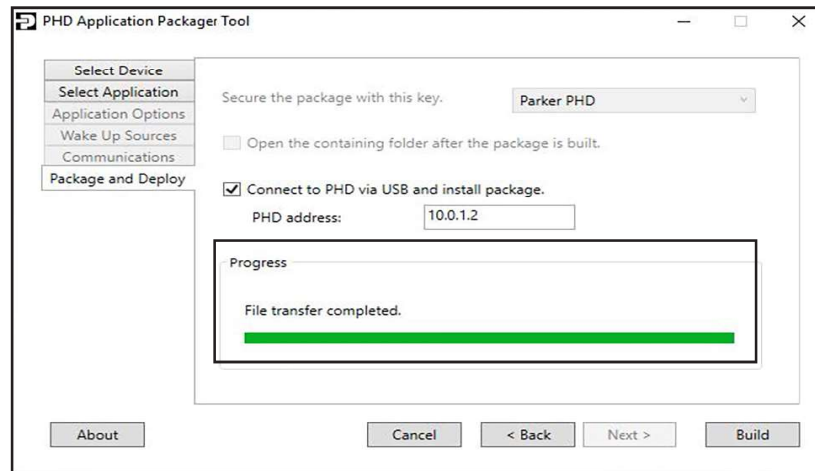


Figure 14 - File Transfer Completed

- 1.19. The PHD screen should start approximately 30 seconds after the new program has been installed. If the PHD screen does not start, contact your customer support manager.
- 1.20. Validate that the information displayed on the PHD screen is compliant.
- 1.21. Connect the USB-CAN Kvaser interface to your computer and the appropriate DDR connector. Consult your vehicle electrical diagram to see which DDR connector is connected to the PHD Display network. See Figure 15.



Figure 15 - Kvaser Interface

- 1.22. Click the **PHD CONFIGURATION TOOL** icon to open the program. See Figure 16.
- 1.23. Click the **SuperUser** (1) button and enter the password **volvo99** (2) in the Superuser box. See Figure 16.

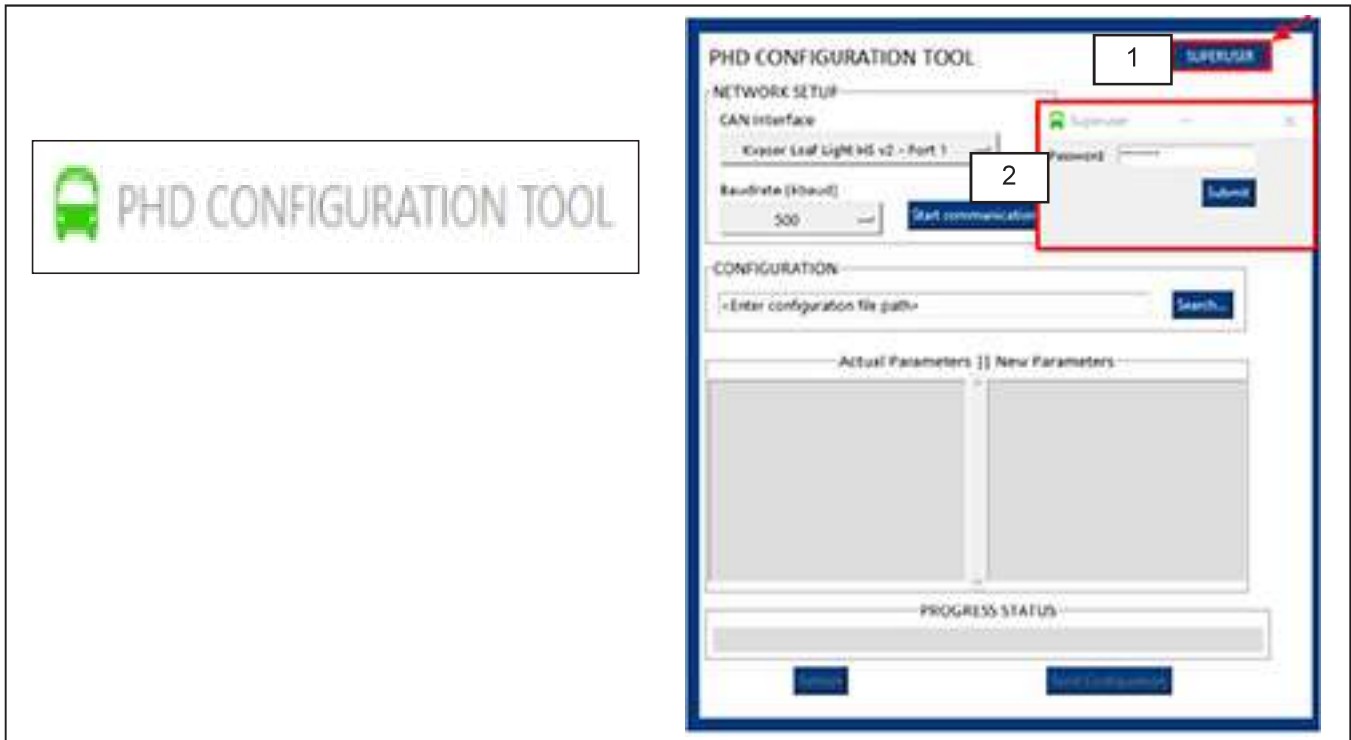


Figure 16 - PHD Configuration Tool Icon and Program Opening Menu

- 1.24. In the **NETWORK SETUP** section, make the following selections;
 - a. In the **CAN Interface** box select **port 1**. See Figure 17.
 - b. In the **Baudrate (kbaud)** box, select **500**. See Figure 17.
 - c. In the **Vehicle Type** box select **LFSe+**. See Figure 17.
 - d. Click the **Start communication** button. See Figure 17.

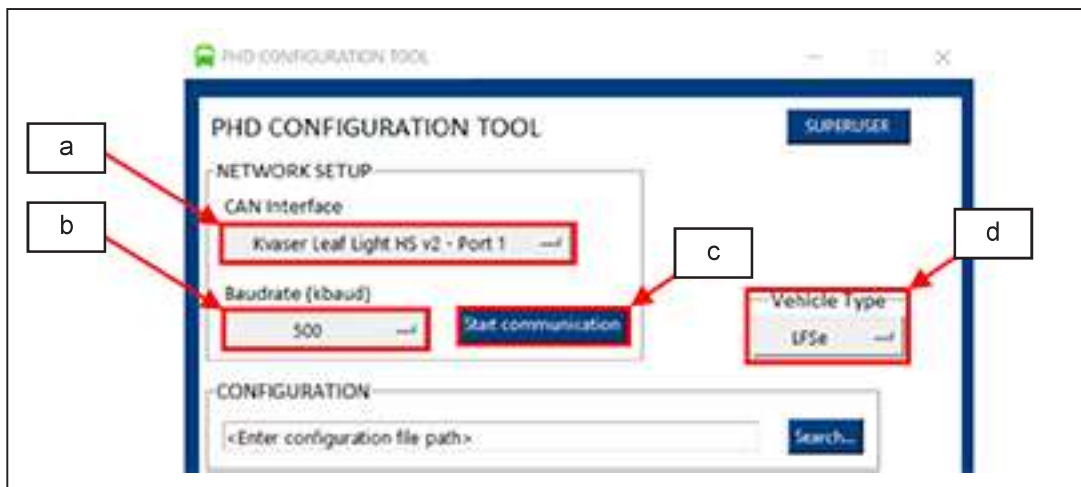


Figure 17 - Network Setup Section

- 1.25. In the **CONFIGURATION** section select (1) the required parameter program (see Appendix A) for the PHD operator display. See Figure 18.
- 1.26. Click the **Send Configuration** (2) button to start downloading the parameter file. See Figure 18.

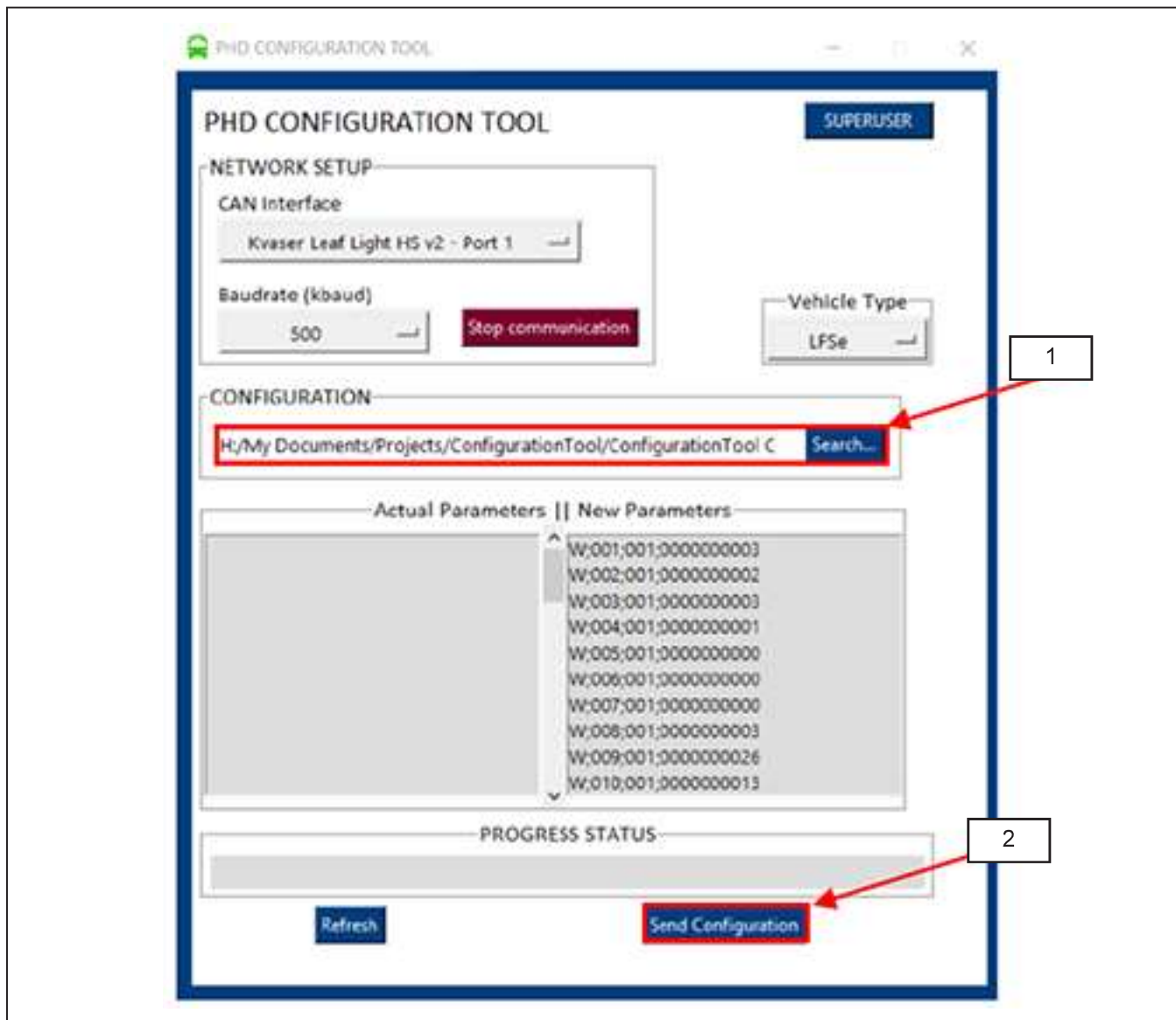


Figure 18 - Configuration Menu for Parameter Files Download

- 1.27. Verify that the download is completed successfully (1). If an error message appears, contact your customer support manager. See Figure 19.
- 1.28. Click the **Stop Communication** (2) button and keep the program open. See Figure 19.

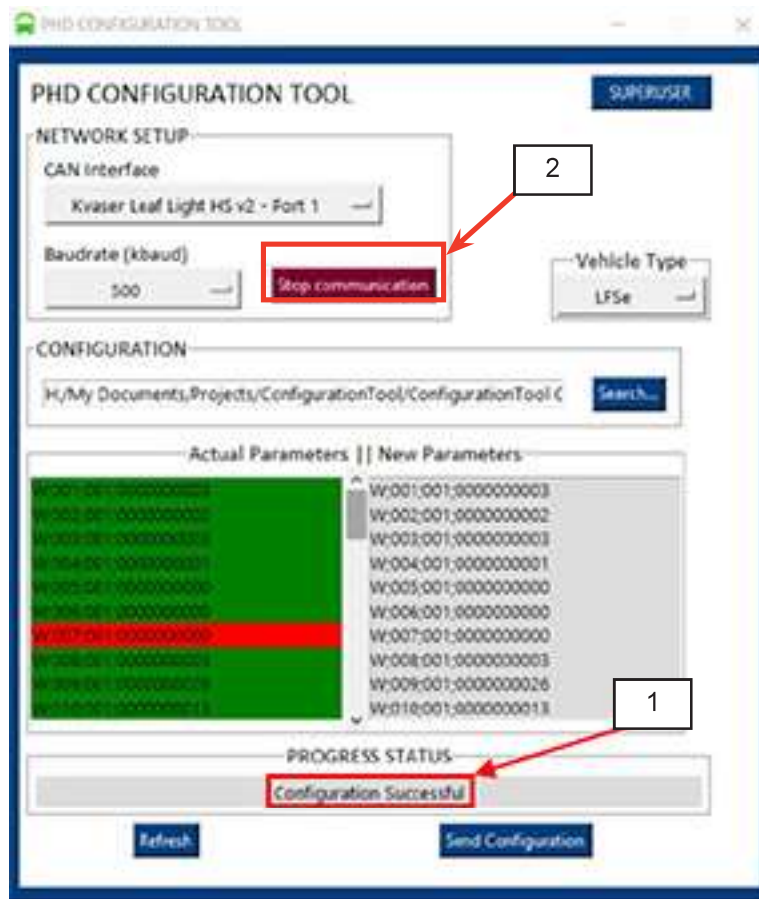


Figure 19 - PHD Configuration Completed with success

- 1.29. Set the master control switch to the **Stop** position.
- 1.30. In the battery compartment, set the battery disconnect switch to **OFF** position.
- 1.31. Wait 4 minutes and set the battery disconnect switch to the **ON** position.
- 1.32. Set the master control switch to the **On** position and check that the PHD display has started properly.
- 1.33. Restore communication between **PHD CONFIGURATION TOOL** and the PHD screen by repeating steps 1.22 to 1.24.

- 1.34. Click the **Refresh** (1) button and confirm that the correct parameters have been downloaded by validating that all rows in the **Actual Parameters / New Parameters** box are green (2). If any of the settings are in a red status, please contact your customer support manager. See Figure 20.

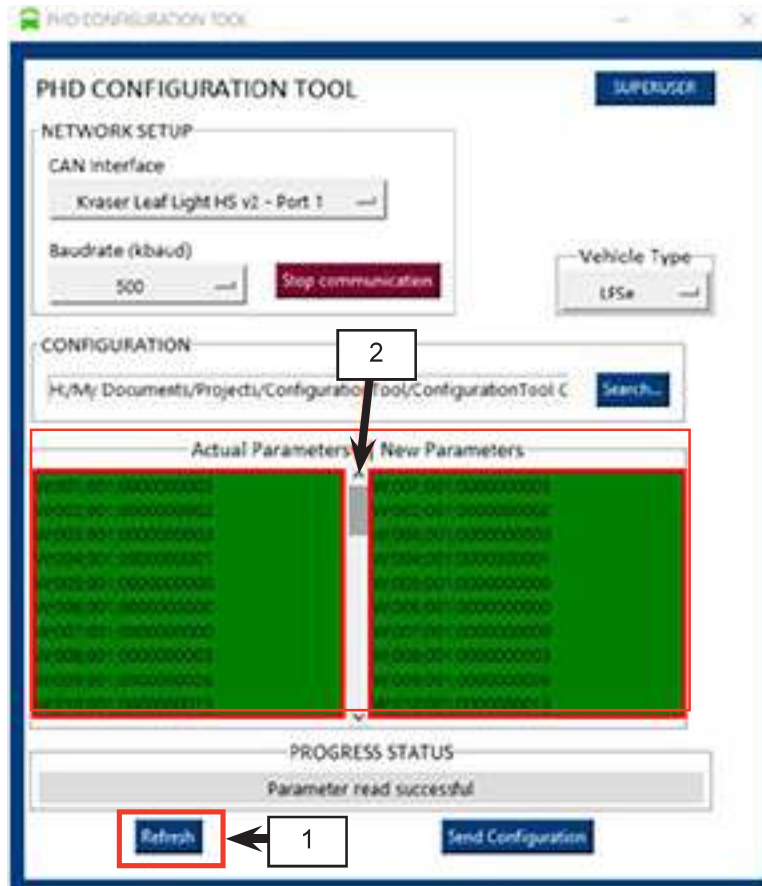


Figure 20 - Refresh and Validation of PHD Screen Parameters Files

- 1.35. The vehicle can return in service.

