INSTRUCTION TO SERVICE

ITS: 61598	3/10/2026
SECTION:	260 – Battery Compartment
SUBJECT:	Re-wire traction inverter supply voltages and flash traction inverters
ISSUE:	Traction inverter requires program update
SUMMARY:	Change traction inverter supply and ignition voltages to 12 V for programming

ITS61598

Ref. NHTSA Recall No.	Ref. Transport Canada Recall No.
Not Applicable	Not Applicable

THIS ITS DOCUMENT SHOULD BE RETAINED AND REFERRED TO FOR FUTURE MAINTENANCE UNTIL THE NEW FLYER PARTS AND/OR SERVICE MANUAL IS UPDATED TO REFLECT WORK DONE AS A RESULT OF THIS DOCUMENT. ENSURE THAT THIS DOCUMENT IS AVAILABLE FOR PARTS AND MAINTENANCE STAFF GOING FORWARD.

PROCEDURE:

1. Set-park brake and chock wheels.
2. Turn the main battery disconnect switch to the “OFF” position.
3. Open the curbside LV fuse box. Find and remove fuse F50EP. Store it nearby for reinstallation later.
4. Terminate one end of a 50 cm length of 16-gauge wire with a 16-gauge terminal. Terminate the other end with an alligator clip. Repeat this step for a total of three 50 cm jumpers.
5. Terminate one end of a 30 ft length of 16-gauge wire with a 16-gauge terminal. Terminate the other end with an alligator clip. Repeat this step for a total of two 30 ft jumpers.
6. Insert the terminal end of the first 50 cm jumper into bottom of socket F50EP.
7. Connect alligator clip ends of the jumper used above to 12 V bus bar in LV junction box (12VBATFB). See Figure 1 below.

Figure 1: Connect F50EP to 12 V bus bar

8. Enter the bus and gain access to the electrical panel above the rear-most exit door.
9. Locate node 19 and disconnect the black J4 connector.
10. De-pin J4-7 INVERTER_ENA_SIG. Reconnect J4 connector with J4-7 removed.

11. Attach terminal end of the second 50 cm jumper to end of previously disconnected INVERTER_ENA_SIG wire (54EP87N). Do not connect alligator clip end.
12. Gain access to the electrical panel above the center exit door.
13. Locate node 10 and disconnect the black J4 connector.
14. De-pin J4-8 CTR_INVERTER_ENA_SIG. Reconnect J4 connector with J4-8 removed.
15. Attach terminal end of the third 50 cm jumper to the end of previously disconnected CTR_INVERTER_ENA_SIG wire (53EP87PA). Do not connect alligator clip end.
16. Open the window forward of the articulated joint on the curb side. The centre axle jumpers will be run through here.
17. Gain access to the centre axle inverter rack in front of the articulated joint. Ensure fall protection equipment is used and in proper working condition.
18. Open the centre axle inverter rack and locate the fuse block between the 2 centre axle inverters, see figure 2.

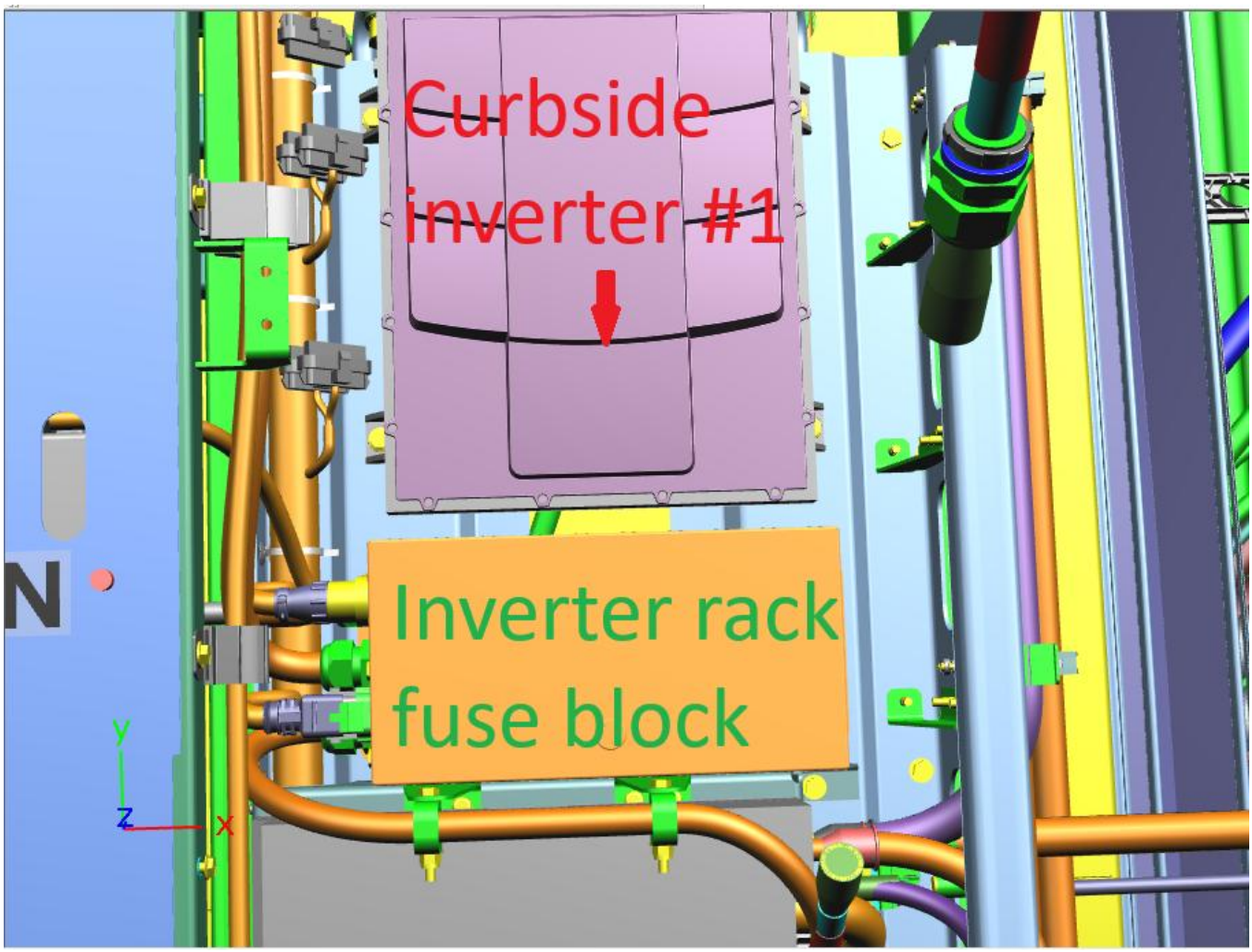

Figure 2: Centre axle fuse block box

19. Open the lid of the box and locate fuses F1EP and F2EP. Remove both of them and store nearby for reinstallation later, see figure 3.

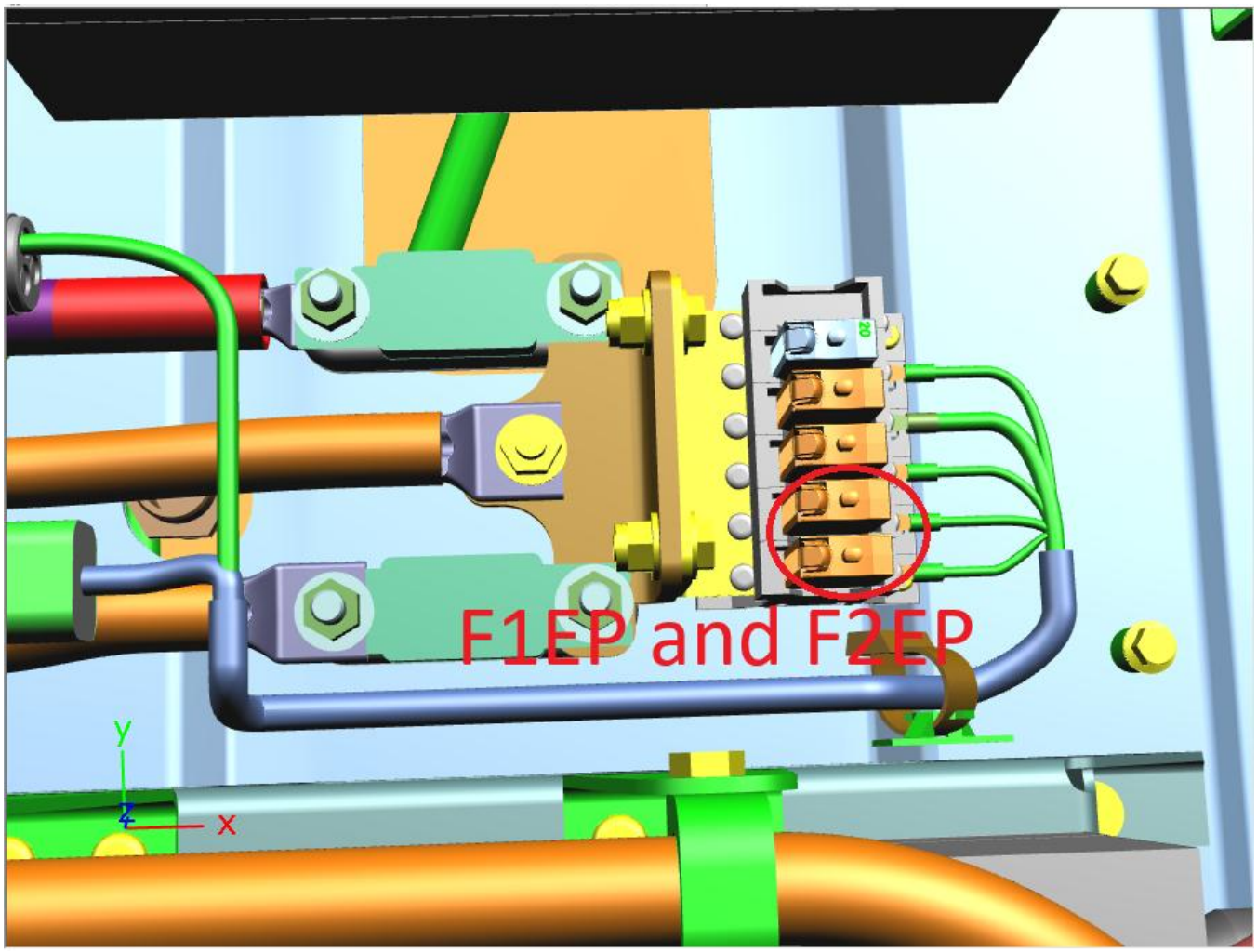

Figure 3: Centre axle inverter fuses F1EP and F2EP

20. Insert the terminal ends the two 30 foot jumpers into the end of fuse block connected to the wires previously occupied by fuses F1EP and F2EP.
21. Route the jumper wires through the window opened in step 16 to node 10 in the centre door panel. Connect the alligator clip end of both jumpers to 12 V bus bar 12VBATCD.
22. Turn the main battery disconnect switch to the “ON” position.

☞ **NOTE: Consult the table below prior to connecting the PCAN. Use rear propulsion port channel 2 (H and J) unless otherwise noted in the table below.**

SR	Diag Port For Inverter program flash
SR-2659	EBUS Diag CAN2
SR-2777	EBUS Diag CAN2
SR-2804	EBUS Diag CAN2
SR-2817	EBUS Diag CAN2
SR-2822	EBUS Diag CAN2
SR-2829	EBUS Diag CAN2
SR-2834	EBUS Diag CAN2
SR-2836	EBUS Diag CAN2
SR-2847	EBUS Diag CAN2
SR-2848	EBUS Diag CAN2
SR-2849	EBUS Diag CAN2
SR-2853	EBUS Diag CAN2
SR-2854	EBUS Diag CAN2
SR-2855	EBUS Diag CAN2
SR-2864	EBUS Diag CAN2
SR-2877	EBUS Diag CAN2
SR-2881	EBUS Diag CAN2
SR-2912	EBUS Diag CAN2

23. Open the curbside rear advertisement panel and gain access to the Transtech voltage regulator. Disconnect the CAN connector from it.
24. Gain access to the rear panel of the vehicle. Connect the Deutsch 9-pin end of PN 711447 to the rear propulsion port unless noted in the table above.
25. Connect USB end of PCAN tool to laptop USB port 1.
26. Connect male DB9 end of PCAN tool to female DB9 connector on CAN 2 (H and J) cable of 711447.
27. Turn the hazard switch to the ON position.
28. Open supplied CANFlash program on laptop.
29. Once CANFlash is open, select **P-CAN** under the Vendor drop-down menu. Select **PCAN_USBBUS1** under the Port drop-down menu (see figure 4 below). It's important to ensure the physical connection to the laptop matches the same port as dictated by the CANFlash setup. Click **Next** when complete.

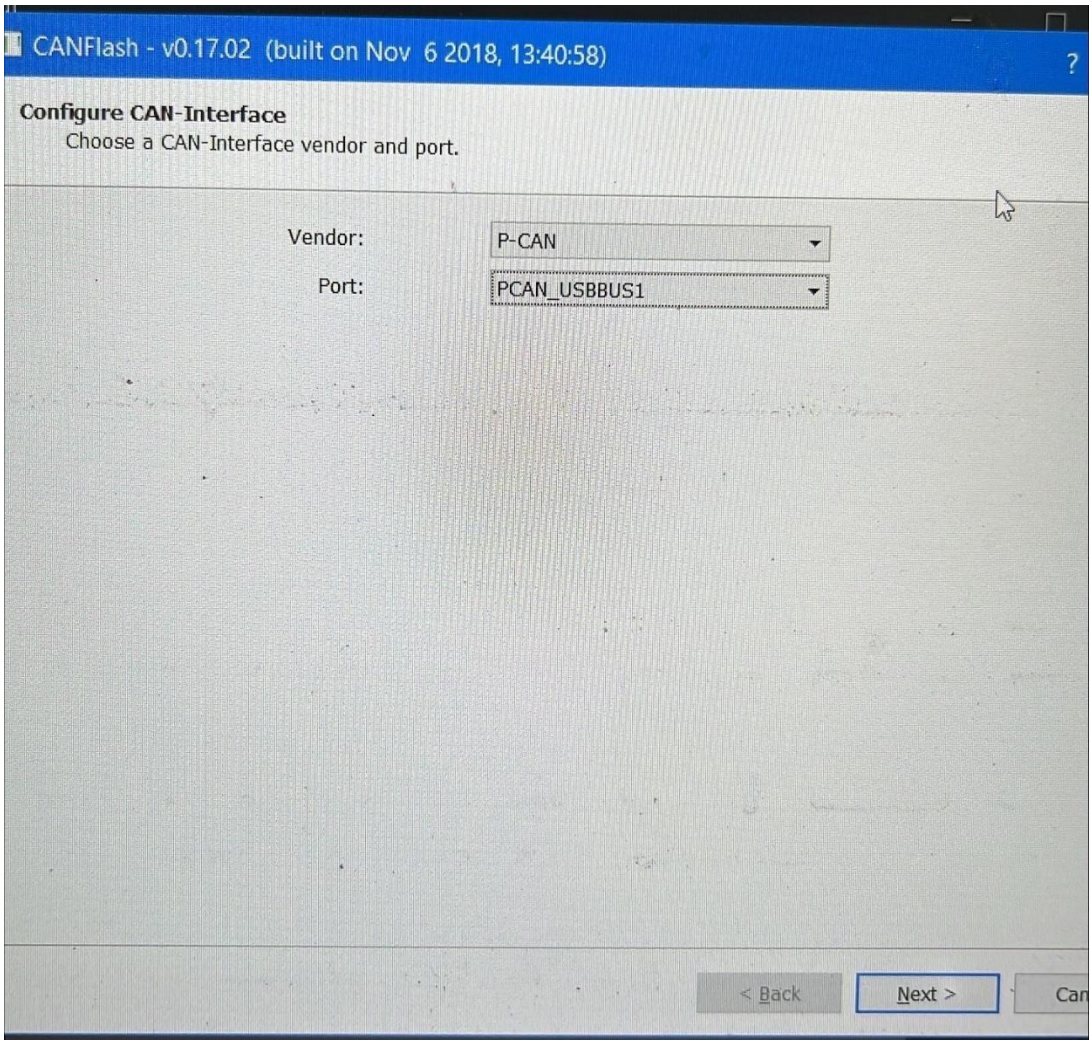

Figure 4: CANFlash PCAN setting

30. Click **Load zip file**. Select zip file CUV2_ASM_NFL_60ftZF_Mot1_X6a06026030 (see figure 5 below). Click **Next** when complete.

☞ **NOTE: DO NOT UNZIP THE FILES. CANFlash will handle all the required processes.**

☞ **NOTE: Each inverter has a separate file. Do not mix and match unknown programs. If you are uncertain which program is required by a specific vehicle, ask your New Flyer representative for assistance.**

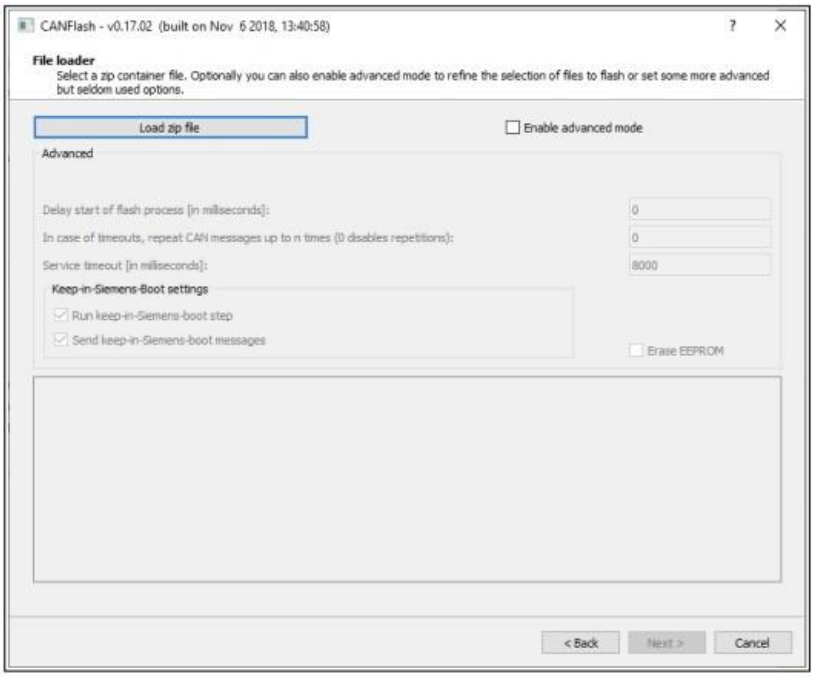

Figure 5: Load zip file in CANFlash

31. Click the **Enable advanced mode** button. Change the **Delay start of flash process** box to 30000. Change the **repeat CAN messages** box to 5 (see figure 6 below). Click Next when complete.

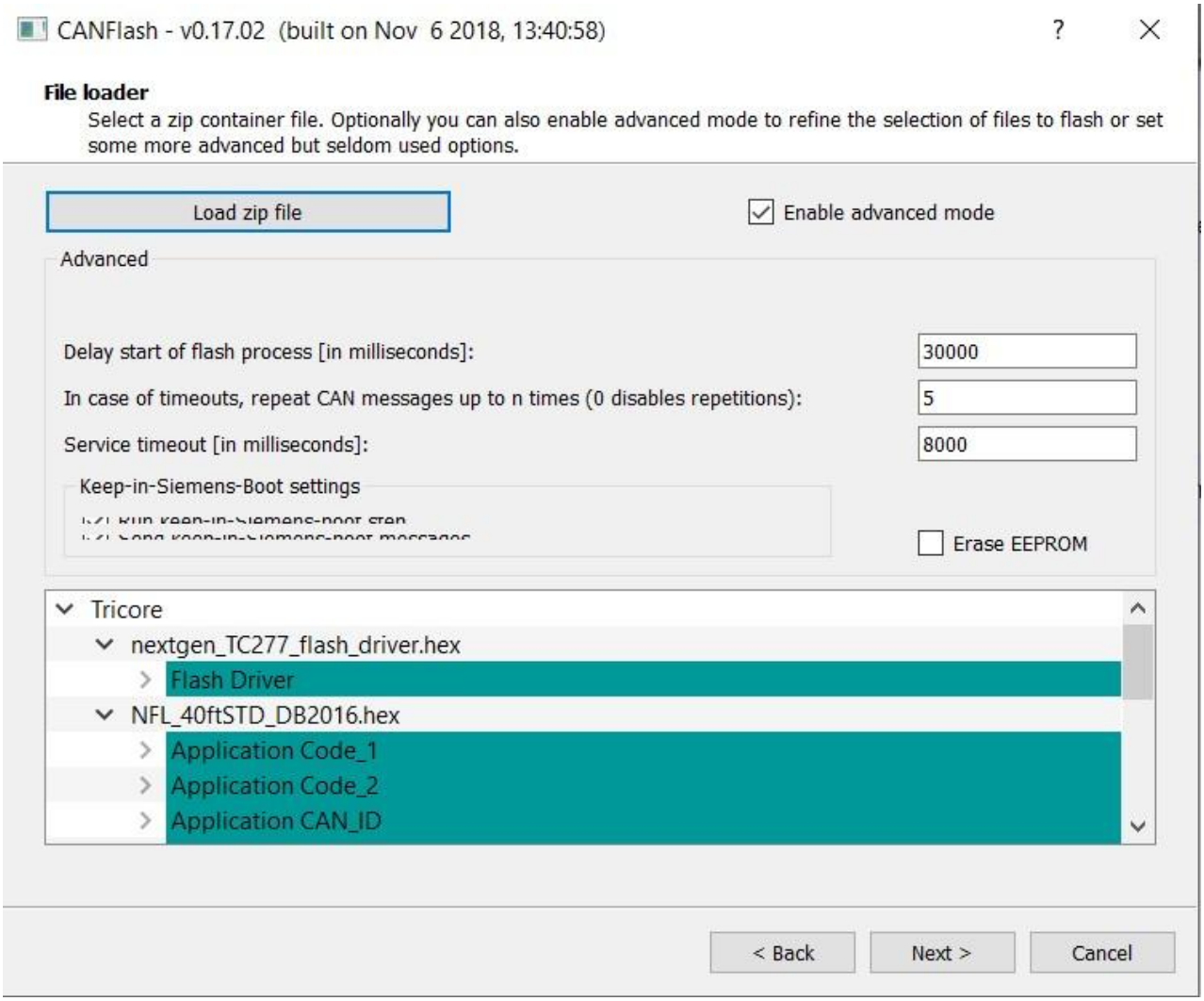

Figure 6: Advanced settings for CANFlash

32. Connect alligator clip end of 53EP87PA wire to 12 V bus bar 12VBATCD when CANFlash says **Switch IGN on**!
33. The flashing process will start automatically. When the process is complete, CANFlash will show 100% and a message saying **All tasks finished** will appear. Take a screenshot of the Flashing Finished! box, ensuring the progress bar is at 100%. Pressing **Finish** will close CANFlash.
34. Wait for 1 minute after **All tasks finished** is displayed, then disconnect the alligator clip end of wire 53EP87PA from 12VBATCD.
35. Repeat steps 28-34. Load zip file CUV2_ASM_NFL_60ftZF_Mot2_X6b06126033 during step 29.
36. Open supplied CANFlash program on laptop

37. Once CANFlash is open, select **P-CAN** under the Vendor drop-down menu. Select **PCAN_USBBUS1** under the Port drop-down menu (see figure 4 above). It's important to ensure the physical connection to the laptop matches the same port as dictated by the CANFlash setup. Click **Next** when complete.
38. Click **Load zip file**. Select zip file CUV2_IPM_NFL_60ftDB2016_X6c06026032 (see figure 5 above). Click **Next** when complete.

☞ **NOTE: DO NOT UNZIP THE FILES. CANFlash will handle all the required processes.**

☞ **NOTE: Each inverter has a separate file. Do not mix and match unknown programs. If you are uncertain which program is required by a specific vehicle, ask your New Flyer representative for assistance.**

39. Click the **Enable advanced mode** button. Change the **Delay start of flash process** box to 30000. Change the **repeat CAN messages** box to 5 (see figure 6 above). Click Next when complete.
40. Connect alligator clip end of 54EP87N wire to 12 V bus bar 12VBATED when CANFlash says **Switch IGN on**!
41. The flashing process will start automatically. When the process is complete, CANFlash will show 100% and a message saying **All tasks finished** will appear. Take a screenshot of the Flashing Finished! box, ensuring the progress bar is at 100%. Pressing **Finish** will close CANFlash.
42. Wait for 1 minute after **All tasks finished** is displayed, then disconnect the alligator clip end of wire 54EP87N from 12VBATED.
43. Turn hazard switch to off position.
44. Disconnect PN 711447, PCAN and laptop.
45. Reconnect Transtech CAN connector disconnected in step 23.
46. Turn the main battery disconnect switch to the "OFF" position.
47. Disconnect terminal end of jumper from wire 53EP87PA.
48. Disconnect node 10 black J4 connector and re-insert wire 53EP87PA into socket 8 (J4-8). Reconnect J4 connector once complete.
49. Disconnect alligator clip end of centre axle inverter rack jumpers from 12VBATCD.
50. Remove centre axle jumpers from centre axle inverter rack fuse block slots F1EP and F2EP and reinstall fuses removed in step 19.
51. Disconnect terminal end of jumper from wire 54EP87N.
52. Disconnect node 19 black J4 connector and re-insert wire 54EP87N into socket 7 (J4-7). Reconnect J4 connector once complete.
53. Disconnect alligator clip end of LV fuse box jumpers from 12VBATFB.
54. Disconnect terminal end of LV fuse box jumpers from F50EP socket. Re-install fuses F50EP removed in step 3.
55. Remove all tools and debris from work area.

56. Turn the main battery disconnect switch to the “ON” position.
57. Turn the MRS to Day Run. Check IP cluster for Stop System indicators.
58. If Stop System indicator is present, check wiring reconnected during steps 44-51.
59. If no Stop System indicator is present, place bus in EV mode. Ensure vehicle can move forward and backwards under driver command, not just creepage torque.
60. If bus cannot move check wiring reconnected during steps 44-51.
61. Once bus can move normally and no Stop System indicators are present apply interlocks and parking brake, place bus in neutral, then turn MRS OFF.

LABOUR ESTIMATE				
	Operation	Number of Technician(s)	Hours	Labor Time T X HR
1	Re-wire traction inverter supply voltages and program traction inverters	1	1	1

PARTS REQUIRED					
Item	Part Number	Description	Qty. per Coach	Units	Notes
1			1	EA	

SPECIAL TOOLS REQUIRED					
Item	Part Number	Description	Qty.	Units	Notes
1	711447	SIEMENS PCAN INTERFACE CABLE	1	EA	Per SR