NOVA BUS

SERVICE BULLETIN

BS3626E

REFERENCE:	Nova Bus Manuals
SECTION:	16: Electrical System
RS Nº:	MQR 7621-935
EFFECTIVE IN PROD.:	L937 (2016JN)

APPLICATION DEADLINE: 2017NO04
CLAIM REFERENCE NUMBER: WB-3626

SUBJECT:	Throttle pedal sensors (TPS) cable replacement
JUSTIFICATION:	Cummins code 1242 for accelerator sensors circuit

LEVEL	DESCRIPTION	DIRECT CHARGES		TIME
		LABOUR	MATERIAL	
1	Replace the throttle pedal sensors cable.	Nova Bus	Nova Bus	2h
2	–	–	–	–

MATERIAL

QTY	PART Nº	REV.	DESCRIPTION	REPLACES PART N°
LEVEL 1				
1	N632000435	B	Cable (new wire kit)	–
3	G5007995	-	Black tie wraps	–
7	G5007996	-	Black tie wraps	–
.8m	N27548-18	-	Heat-shrink tubing	–
3	N37749	-	Dual clamp tie	–
2	N56836	-	Spacer dual swivel	–
0.05	N74787		Electrical cloth tape	–
LEVEL 2				
–	–	–	–	–

Materials will be available within 35 days. To order, please contact Prevost Parts by phone at 1-800-771-6682, by fax at 1-888-668-2555 or by email at prevostparts.commandes@volvo.com. Specify document number, quantity of parts required and shipping address.

DISPOSAL OF PARTS

REMOVED PARTS ARE:	DISCARDED *	RETAINED	* Dispose of the unused parts and the defective parts in accordance with local environmental standards in effect.
	Yes	–	

REVISION HISTORY

REV.	DATE	CHANGE DESCRIPTION	WRITTEN BY
NR	2016AU29	Initial release	Marc Rougeau

APPROVED BY: Daniel Theriault

Digitally signed by Daniel Theriault
DN: cn=Daniel Theriault, o=Nova Bus, ou, email=danielt@theriault@volvo.com, c=CA
Date: 2016.08.30 11:47:50 -04'00'

CLIENT	ORDER	ROAD NUMBER		VIN (2NVY/4RKY...)		QTY
		FROM	TO	FROM	TO	
Ames Transportation Agency - Iowa	L904	6101	6104	S92J1G9775221	S92J7G9775224	4
Austin - CMTA - Texas	L704	5051	5068	L82J7E4500471	L82J2E4500488	18
Barrie - Ontario	L878	1501	1504	L82JXF3001691	L82J6F3001719	4
BC Transit - BCT - British Columbia	L858	9447	9481	L82JXE3001401	L82J5F3001436	35
BC Transit - BCT - British Columbia	L891	—	—	L82J5F3001565	L82J2F3001569	5
Brampton - Ontario	L789	—	—	L82J4E3001216	L82J1E3001223	8
Brampton - Ontario	L816	—	—	L82J3E3001224	L82J9E3001230	7
Brampton - Ontario	L864	1501	1510	L82JXF3001500	L82J6F3001509	10
Brampton - Ontario	L865	1511	1519	L82JXF3001514	L82J9F3001522	9
Brampton - Ontario	L941	1614	1623	L82J1G3750123	L82J2G3750132	10
Brampton - Ontario	L942	1601	1613	L82J6G3750070	L82J4G3750083	13
Brantford - Ontario	L775	10131	10132	L82U1D3000999	L82U2D3001000	2
Brantford - Ontario	L928	10151	10153	L82J7F3001793	L82J0F3001795	3
Burlington - Ontario	L887	7017-15	7025-15	L82J7F3001681	L82J8F3001723	9
Chicago Transit Authority - CTA - Illinois	L773	—	—	L82JXD4500429	L82J6D4500430	2
Chicago Transit Authority - CTA - Illinois	L811	7902	7949	L82J6E4500509	L82J6E4500526	48
Chicago Transit Authority - CTA - Illinois	L837	7950	7999	L82J6E4500655	L82J1E4500708	50
Chicago Transit Authority - CTA - Illinois	L847	8000	8049	L82J1E4500773	L82JXE4500822	50
Chicago Transit Authority - CTA - Illinois	L848	8050	8099	L82JXF4500823	L82J1F4500872	50
Chicago Transit Authority - CTA - Illinois	L849	8100	8149	L82J5F4500874	L82J3F4500923	50
Chicago Transit Authority - CTA - Illinois	L850	8150	8199	L82J5F4500924	L82J6G9775013	50
Clemson Area Transit - South Carolina	L769	—	—	S92U1D4500418	S92U1D4500418	1
Cornwall Ontario	L935	—	—	L82J3F3001838	L82J5F3001839	2
CTA Options 40ft NIS	L943	8200	8324	L82JXG9775225	L82J3G9775406	125
Durham Region Transit - Ontario	L872	8551	8553	L82J0F3001523	L82J4F3001525	3
Durham Region Transit - Ontario	L888	8554	8559	L82J2F3001703	L82J1F3001708	6
Fredericton - New Brunswick	L774	8131	8131	L82U7D3000960	L82U7D3000960	1
Fredericton - New Brunswick	L812	—	—	L82J4E3001202	L82J4E3001202	1
Fredericton - New Brunswick	L836	8143	8143	L82J9E3001390	L82J9E3001390	1
Fredericton - New Brunswick	L901	8151	8151	L82J7F3001602	L82J7F3001602	1
Fredericton NIS 2016	L968	8161	8162	L82J1G3750218	L82J3G3750219	2
Grande Prairie Alberta	L834	—	—	L82J7E3001386	L82J2E3001389	4
Guelph - Ontario	L767	237	239	L82UXD3000967	L82U3D3000969	3
Guelph - Ontario	L835	240	243	L82J0E3001391	L82J6E3001394	4
Guelph - Ontario	L927	244	247	L82J1F3001756	L82J9F3001763	4
Houston - Texas	L951	1915	1915	L82J0G9775203	L82J0G9775203	1
Houston - Texas	L952	1580	1580	S92J5G9775318	S92J5G9775318	1
Kingston Ontario	L880	1502	1502	L82JXF3001786	L82JXF3001786	1
Kingston Ontario	L925	1504	1510	L82J5F3001808	L82J5F3001811	4
Lethbridge - Alberta	L868	—	—	L82J2F3001510	L82J2F3001510	1
MTD - Santa Barbara, California	L730	—	—	S92J8E4500567	S92J1E4500569	3
Niagara Falls - Ontario	L771	1396	1397	L82U9D3000958	L82U0D3000959	2
North Bay - Ontario	L895	784	785	L82J7F3001678	L82J9F3001679	2
Oakville - Ontario	L874	—	—	L82J6F3001526	L82JXF3001531	6

CLIENT	ORDER	ROAD NUMBER		VIN (2NVY/4RKY...)		QTY
		FROM	TO	FROM	TO	
Oakville - Ontario	L881	—	—	L82J2F3001717	L82J8F3001740	5
Oakville Merolinx NIS FY2015	L945	—	—	L82J9G3750211	L82JXG3750217	7
Peterborough - Ontario	L770	55	60	L82U0D3000993	L82UXD3000998	6
Peterborough - Ontario	L870	61	63	L82JXF3001612	L82J3F3001614	3
Peterborough - Ontario	L919	64	66	L82J6F3001767	L82JXF3001769	3
Peterborough 2016 NIS	L966	67	71	L82J2G3750230	L82JXG3750234	5
Red Deer - Alberta	L766	1104	1105	L82U7D3001025	L82U9D3001026	2
Red Deer - Alberta	L772	1106	1108	L82J2E3001120	L82J6E3001122	3
Red Deer - Alberta	L813	10008	10009	L82J2E3001361	L82J4E3001362	2
Red Deer - Alberta	L869	—	—	L82J9F3001570	L82J0F3001571	2
Red Deer - Alberta	L926			L82J2F3001796	L82J4F3001797	2
Regina - Saskatchewan	L776	663	669	L82U4D3001001	L82U5D3001007	7
Regina - Saskatchewan	L807	671	685	L82J8E3001137	L82J2E3001151	15
Regina - Saskatchewan	L892	686	691	L82J5F3001484	L82J4F3001489	6
Regina - Saskatchewan	L949	692	696	L82J3G3750205	L82J0G3750209	5
Sarnia Ontario	L873	151	152	L82J0F3001599	L82J0F3001600	2
Sarnia Ontario	L883	153	153	L82J4G3750021	L82J4G3750021	1
Saskatoon - Saskatchewan	L831	1401	1405	L82J7E3001307	L82J9E3001311	5
Saskatoon - Saskatchewan	L894	1501	1510	L82J0F3001490	L82J7F3001499	10
Saskatoon - Saskatchewan	L953	1601	1610	L82J9G3750158	L82JXG3750167	10
Sault Ste. Marie Ontario	L934	—	—	L82JXG3750038	L82JXG3750038	1
St Catherines Metrolinx NIS	L882	1601	1605	L82J6G3750225	L82J6G3750229	5
St. Catharines Ontario	L879	1501	1504	L82J4F3001587	L82J4F3001590	4
St. Catharines Ontario	L898	1560	1560	S92J4F3001663	S92J4F3001663	1
St. John - New Brunswick	L871	40585	40586	L82J8F3001592	L82JXF3001593	2
St. John - New Brunswick	L939	40687	40687	L82J0G3750078	L82J0G3750078	1
St. John's - Newfoundland	L808	1415	1419	L82J4E3001152	L82J1E3001156	5
St. John's - Newfoundland	L875	1520	1525	L82JXF3001478	L82J3F3001483	6
St. John's - Newfoundland	L930	1626	1630	L82J7F3001826	L82J9F3001830	5
Stratford - Ontario	L893	—	—	L82J9F3001584	L82J0F3001585	2
Sudbury - Ontario	L890	851	855	L82JXF3001609	L82J6F3001641	5
Thunder Bay - Ontario	L806	—	—	L82J6E3001170	L82J8E3001171	2
Thunder Bay - Ontario	L863	—	—	L82J8F3001558	L82J6F3001560	3
Thunder Bay - Ontario	L944	—	—	L82J6G3750084	L82JXG3750086	3
Timmins - Ontario	L783	—	—	L82U8D3001017	L82UXD3001018	2
Timmins - Ontario	L839	—	—	L82J8E3001395	L82J8E3001395	1
Toronto Transit Commission - TTC - Ontario	L777	9027	9152	S92J7E3001123	S92J6E3001372	126
Toronto Transit Commission - TTC - Ontario	L859	8400	8400	L82J5F3001405	L82J5F3001405	1
Toronto Transit Commission - TTC - Ontario	L860	8401	8504	L82J0F3001554	L82JXF3001805	104
Toronto Transit Commission - TTC - Ontario	L937	8510	8568	L82J9G3750001	L82J6G3750179	59
University of Alabama - Alabama	L787	—	—	L82J2E4500507	L82J4E4500508	2
University of Alabama - Alabama	L902	7030	7030	L82J2F4500993	L82J4F4500994	2
University of Alabama - Alabama	L961	7032	7033	L82J7G9775294	L82J9G9775295	2
Walt Disney World - Florida	L763	—	—	S92U0D3001019	S92U4D3001024	6

CLIENT	ORDER	ROAD NUMBER		VIN (2NVY/4RKY...)		QTY
		FROM	TO	FROM	TO	
Welland Ontario	L866			L82J9F3001648	L82J9F3001648	1
Welland Ontario	L933	—	—	L82J1G3750011	L82J1G3750011	1
Whitehorse - Yukon	L784	43	43	L82U9D3001057	L82U9D3001057	1
Windsor - Ontario	L886	570	577	L82J8F3001818	L82J5F3001825	8
Woodstock - Ontario	L778	—	—	L82U2D3001014	L82U2D3001014	1
Woodstock - Ontario	L832	—	—	L82J9E3001342	L82J9E3001342	1
Woodstock - Ontario	L923	15-16	15-16	L82J9F3001746	L82J9F3001746	1
York Regional Transit - Ontario	L896	1501	1517	L82J2F3001619	L82JXF3001741	17
York Regional Transit - Ontario	L936	1518	1518	L82J3G3750012	L82J3G3750012	1

WARNING

Follow your internal safety procedures.

PROCEDURE

1.1. Replacement wire kit N632000435 (see Figure 1).

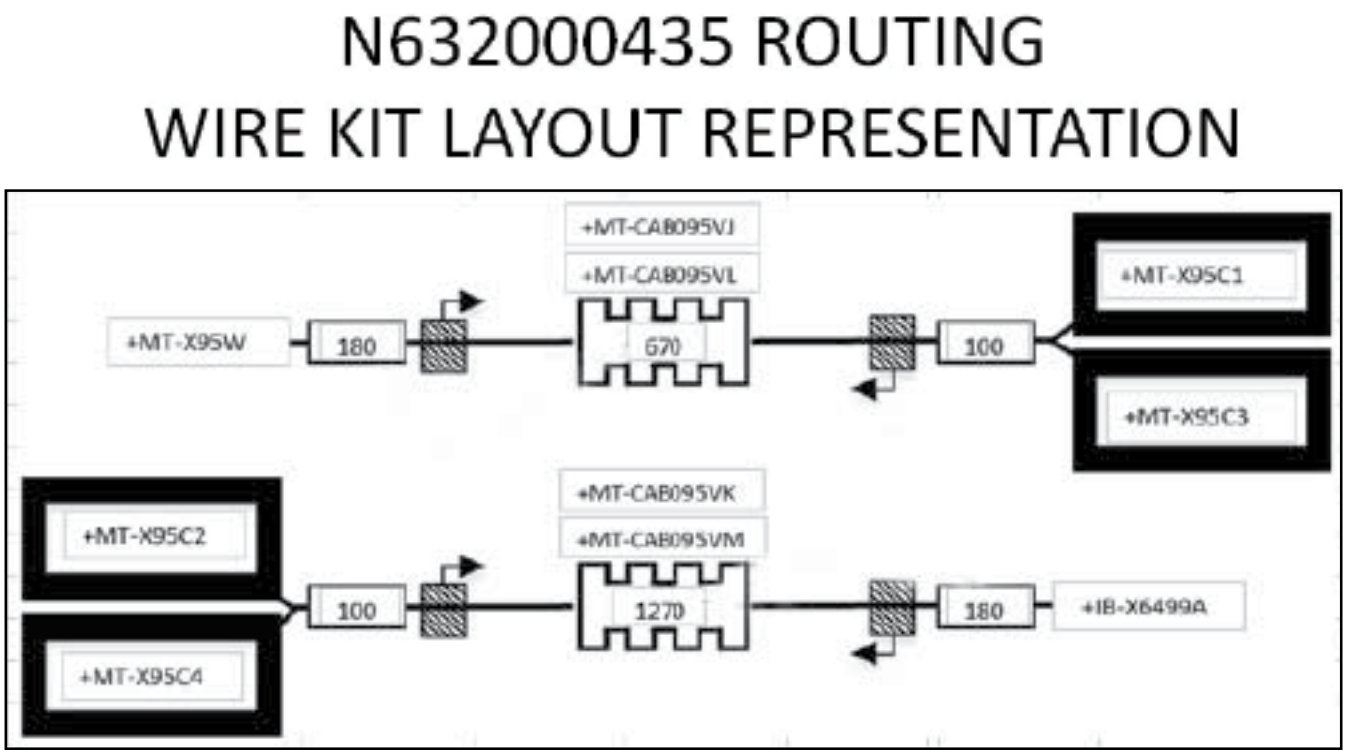


Figure 1 - Replacement Wire Kit

1.2. Open the battery compartment access door (see Figure 2).

1.3. Ensure that the vehicle's power supply has been deactivated by turning off the battery cut-off switch.

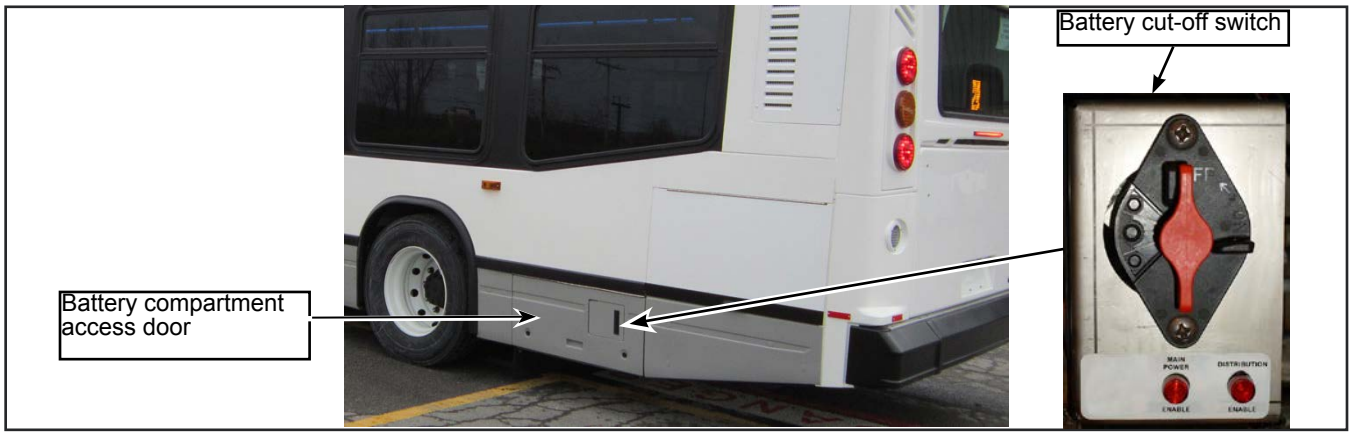


Figure 2 - Battery Compartment Access Door

1.4. Open the rear engine door to remove the engine control box. Disconnect both connectors on the rear of the engine control box and remove the four screws that hold the engine control box in place (see Figure 3).

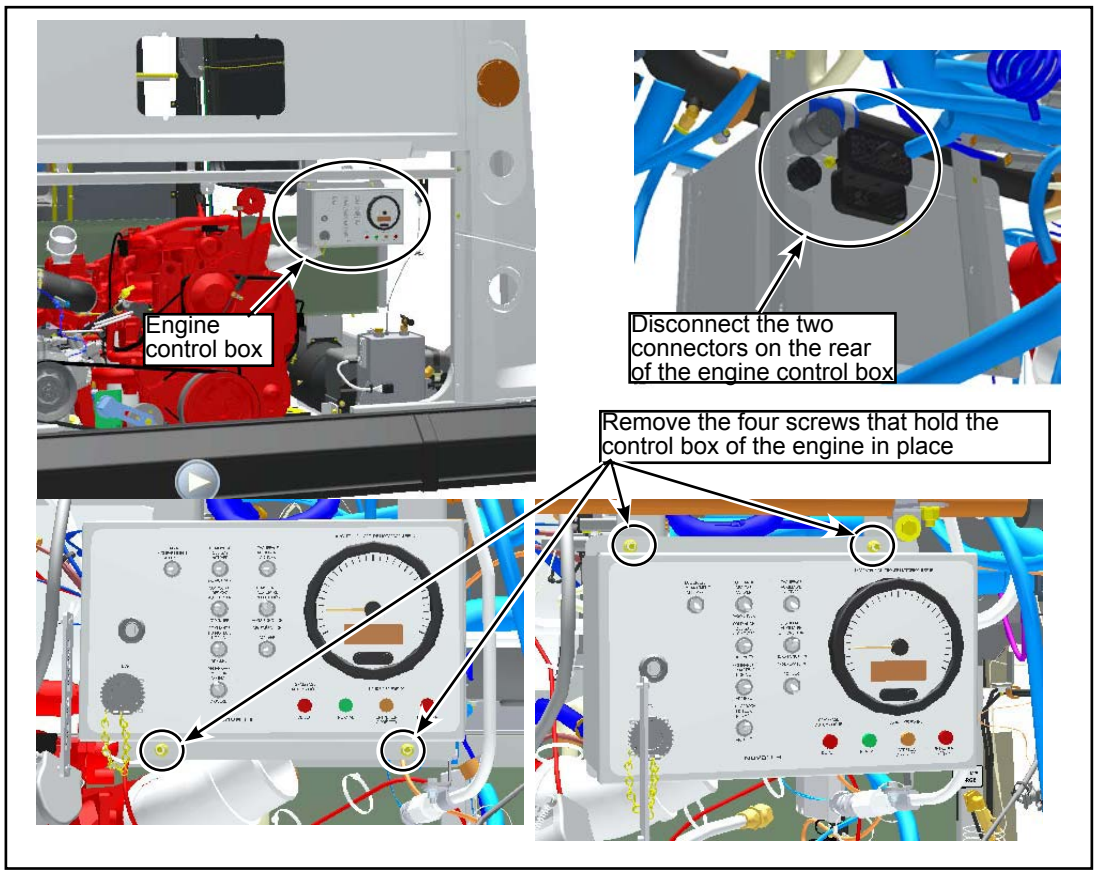


Figure 3 - Remove Engine Control Box

1.5. Remove the left engine control box support bracket for easier access to the engine harness. Remove the two screws that secure the strain relief for the engine harness and disconnect the ECM (see Figure 4).

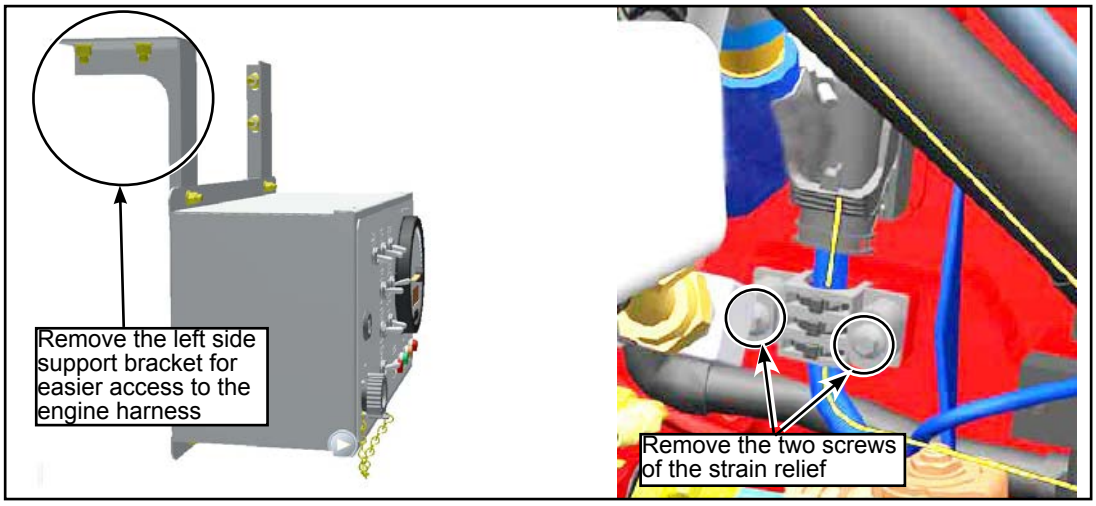
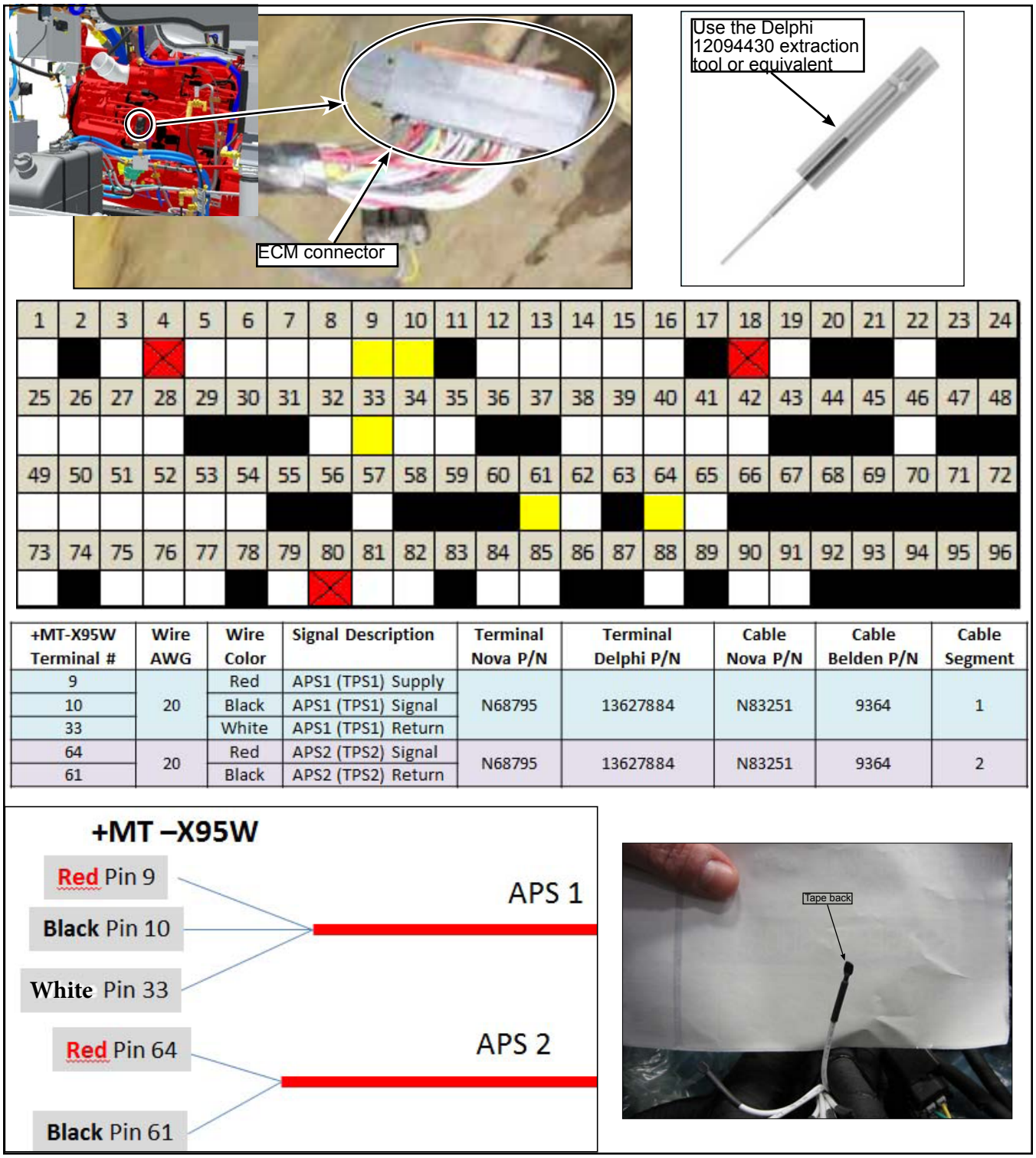


Figure 4 - Remove the Support Bracket and Strain Relief

1.6. Raise the bus, open the ECM connector back shell, remove the red lock and extract the terminals and wires from the ECM connector for the APS1 and APS2. Tape back using N27548-18 on all wires that were cut or disconnected. For APS1 use positions 9, 10 and 33. For APS2 use positions 61 and 64. Install the five new wires of the wire kit. Reassemble the connector and lower the vehicle (see Figure 5).



+MT-X95W Terminal #	Wire AWG	Wire Color	Signal Description	Terminal Nova P/N	Terminal Delphi P/N	Cable Nova P/N	Cable Belden P/N	Cable Segment
9	20	Red	APS1 (TPS1) Supply	N68795	13627884	N83251	9364	1
10		Black	APS1 (TPS1) Signal					
33		White	APS1 (TPS1) Return					
64	20	Red	APS2 (TPS2) Signal	N68795	13627884	N83251	9364	2
61		Black	APS2 (TPS2) Return					

Figure 5 - Extract Wires and Reconnect with New Wires of the Wire Kit

1.7. Reconnect the connector, secure the strain relief and zip-tie the wire kit with three tie-wraps (G5007995), route the wire kit from connector +MT-X95W as shown below (see Figure 6).

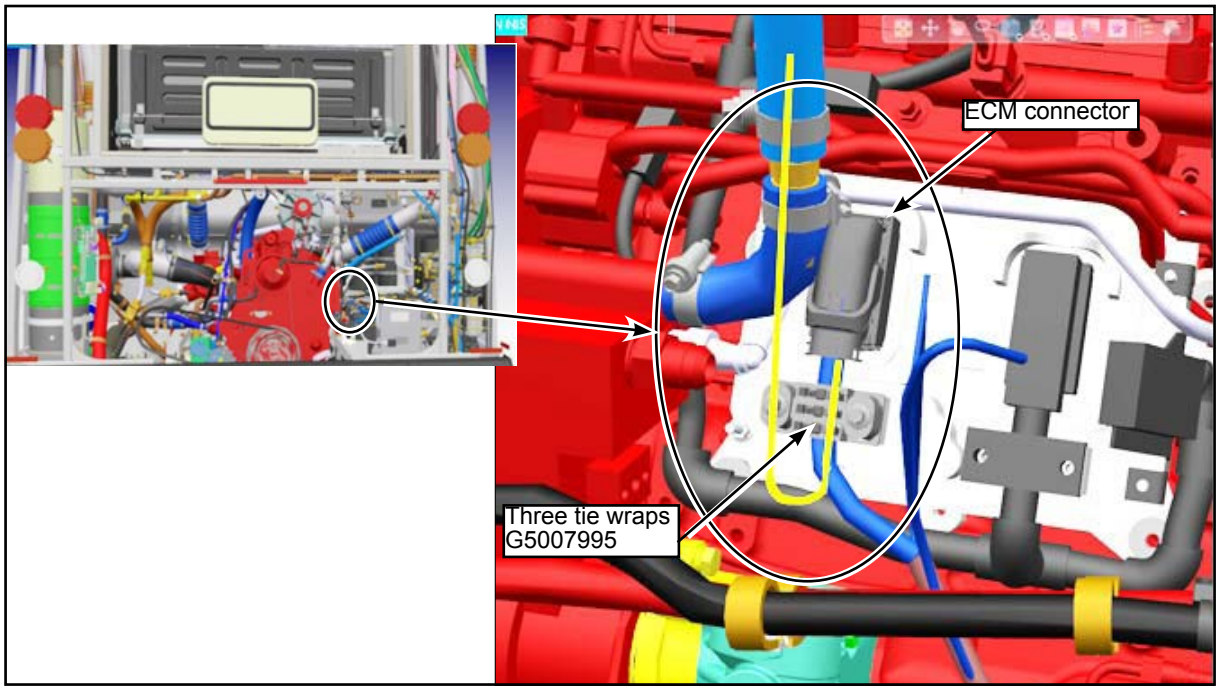


Figure 6 - Reconnect, Secure and Tie-wrap the Wire Kit

1.8. Continue routing up along the blue hose, use a dual clamp tie wrap N37749 as shown below (see Figure 7).

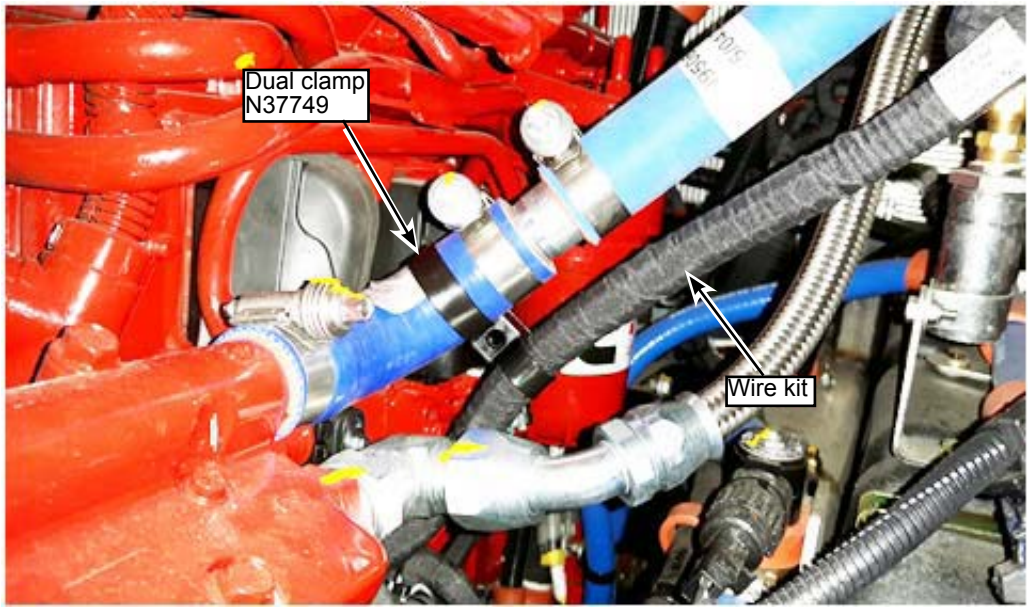


Figure 7 - Routing of Wire Kit

1.9. Continue routing the wire kit along the blue hose with dual clamp N37749. Note the position of the service disconnect. The excess length of the wire kit will need to be attached later with tie wraps (see Figure 8).

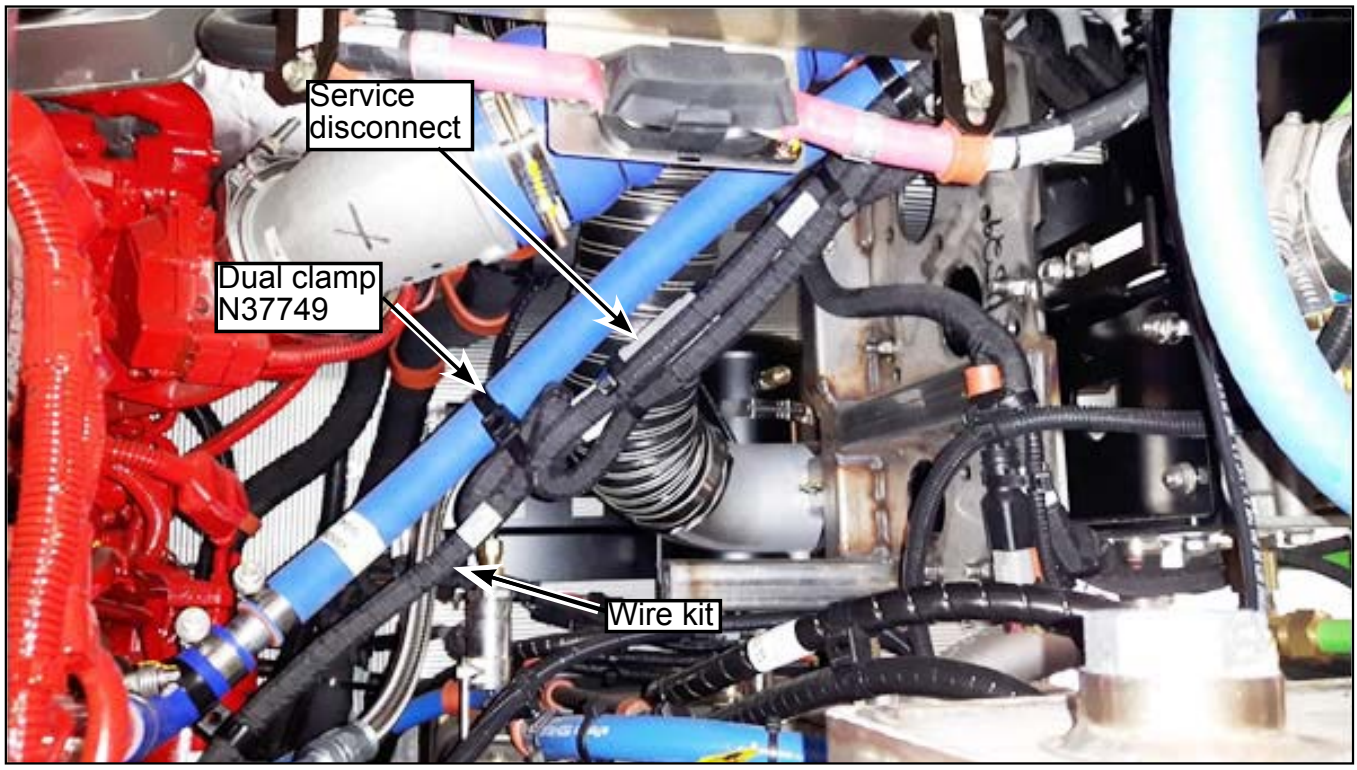
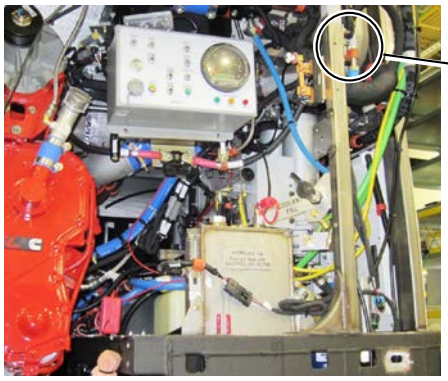
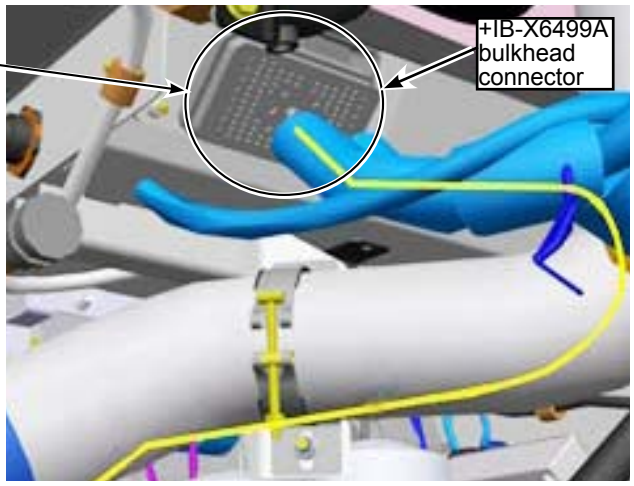
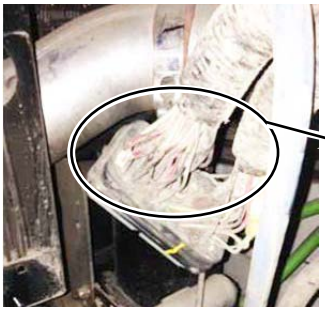


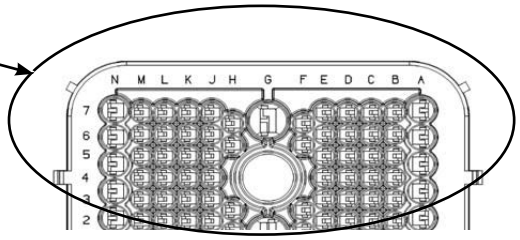
Figure 8 - Routing of Wire Kit

1.10. Continue along the blue air line and then along the CAC pipe until turning towards the +IB-X6499A bulkhead connector. Remove the +IB-X6499A connector and extract the seven required terminals for the APS1 and APS2. Tape back using N27548-18 on all wires that were cut or disconnected. For APS1 use positions 88, 89, 90 and 91. For APS2 use positions 84, 85 and 86. Install the seven wires from the wire kit. Reassemble the connector (see Figure 9).







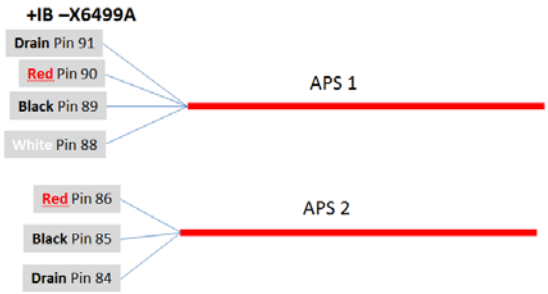


Use Delphi 12094429 extraction tool or equivalent

Optional crimping tool and spare parts

Delphi Part Number	Description
59996	Crimping Tool
45773	Terminal
89678	Seal
29213	Wedge Lock (2 pieces required per connector)

+IB-X6499A Terminal #	Wire AWG	Wire Color	Signal Description	Terminal Nova P/N	Terminal Deutsch P/N	Cable Nova P/N	Cable Belden P/N	Cable Segment
91	18	Drain	APS1 (TPS1) Shield	G5900714	0462-201-16141	N28291	9365	1
90		Red	APS1 (TPS1) Supply					
89		Black	APS1 (TPS1) Signal					
88		White	APS1 (TPS1) Return					
84	18	Drain	APS2 (TPS2) Shield	G5900714	0462-201-16141	N28291	9365	2
86		Red	APS2 (TPS2) Signal					
85		Black	APS2 (TPS2) Return					



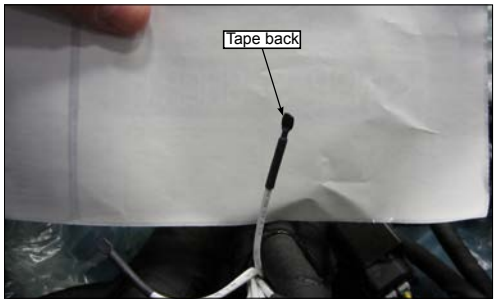


Figure 9 - Connecting Wire Kit

1.11. Attach the wire kit to harness 64 with a tie wrap G5007996 (see Figure 10).

Figure 10 - Attach Wire Kit

1.12. Attach the wire kit to the CAC pipe with four tie wraps G5007996 and two swivels N56836 (see Figure 11).

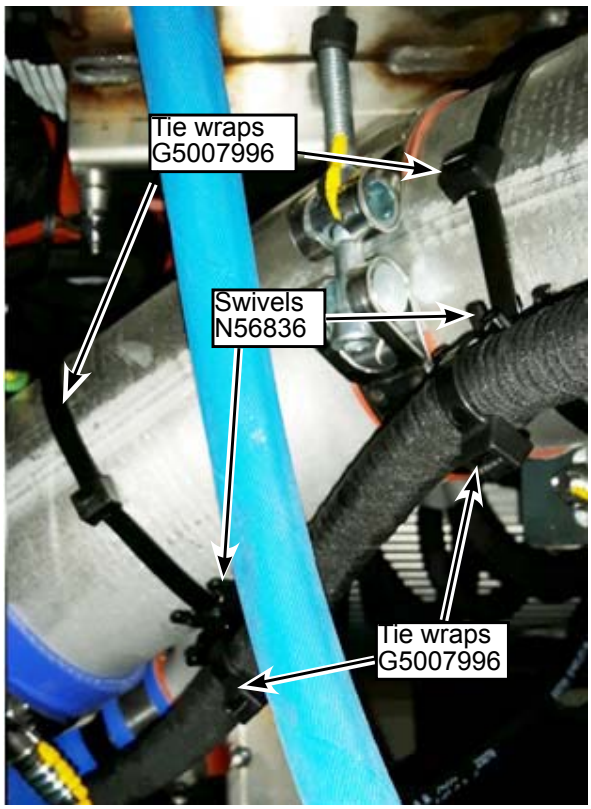


Figure 11 - Attach Wire Kit to the CAC Pipe

1.13. Continue along the blue air line, install a dual clamp N37749 and connect the service connectors. Secure the excess length of the wire kit onto the existing wire kit with two tie wraps G5007996 (see Figure 12).

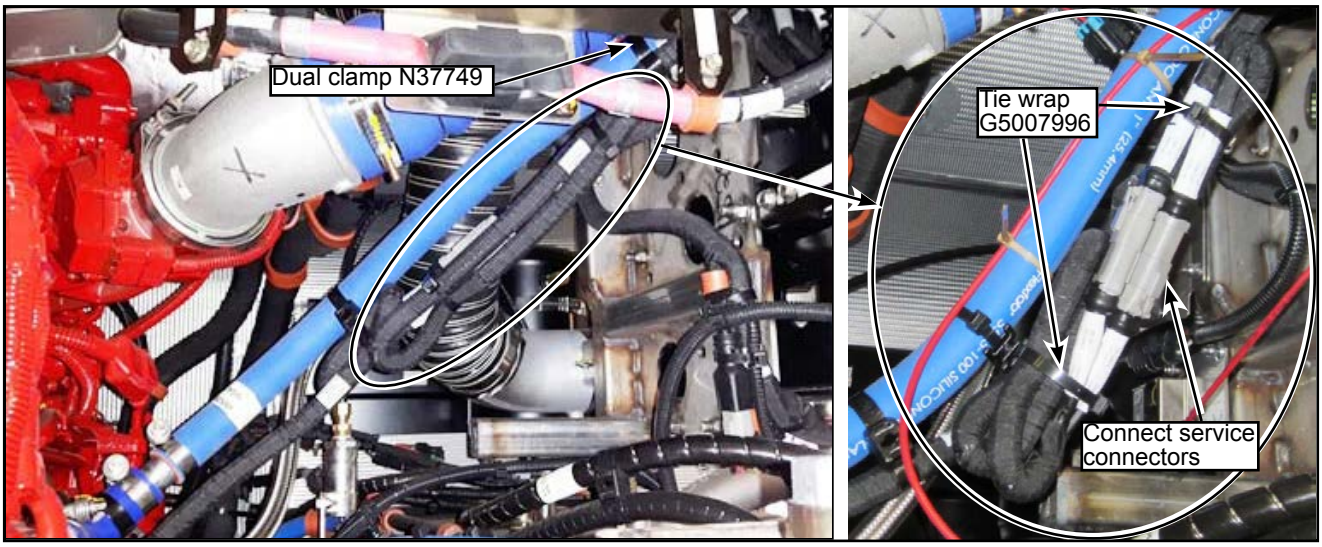


Figure 12 - Secure the Excess Length of the Wire Kit

1.14. Activate vehicle's power supply.
1.15. Close battery compartment access door.
1.16. Make sure that the engine starts properly.
1.17. Make sure that no active fault code is present.
1.18. Make sure that the accelerator pedal operates properly.
1.19. Stop the engine.

❖