

REFERENCE:	Nova Bus Manuals
SECTION:	18: Articulation system
RS N°:	MQR 7621-1505
EFFECTIVE IN PROD.:	LB29
TC RECALL N°:	2018-594
NHTSA RECALL N°:	18V829

APPLICATION DEADLINE: NA
CLAIM REFERENCE NUMBER: SR-4422

SUBJECT:	Hübner articulation
JUSTIFICATION:	Due to a new fault code added to the engine ECU, the articulation software needs to be updated in order to avoid an articulation instability.

LEVEL	DESCRIPTION	DIRECT CHARGES		TIME
		LABOUR	MATERIAL	
1	Reprogram the articulation control unit (ACU).	Nova Bus	Nova Bus	30 min
2	–	–	–	–

MATERIAL

QTY	PART N°	REV.	SOFTWARE UPDATE	REPLACES PART N°
LEVEL 1				
1	N68707	C	ACU_34_44_NOV_TO3_0490.hex	–
1	N71606	B	ACU_34_44_NOV_TO3_0786.hex	–
1	N78337	E	ACU_34_44_NOV_TO3_07D9.hex	–
1	N78346	C	ACU_34_44_NOV_TO3_048E.hex	–
1	N82498	A	ACU_34_44_NOV_TO3_055B.hex	–
1	N78948	C	ACU_34_44_NOV_TO3_0773.hex	–
LEVEL 2				
–	–	–	–	–

Contact your Nova Bus customer support manager to get the applicable software version, see next pages.

DISPOSAL OF PARTS

REMOVED PARTS ARE:	DISCARDED	RETAINED
	–	–

REVISION HISTORY

REV.	DATE	CHANGE DESCRIPTION	WRITTEN BY
NR	2018DE19	Initial release.	André Pelletier
R1	2019JA29	Part number replaced for Figure 2.	André Pelletier
R2	2019MR21	Software number replaced (on the French version only).	André Pelletier
R3	2019AL03	Client list modified to add L743, L741 and LA65. See page 2 and 3.	André Pelletier

APPROVED BY:

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Symbol	Meaning
Empty Field	No changes, the procedure applies
+	Contract added, the procedure applies
-	Contract removed, the procedure does not apply

SYMBOL	CLIENT	ORDER	ROAD NUMBER		VIN (2NVY/4RKY...)		QTY	ACU SOFTWARE	PART N°
			FROM	TO	FROM	TO			
	Ames Transportation Agency - Iowa	L904	6101	6104	S92J1G9775221	S92J7G9775224	4	ACU_34_44_NOV_TO3_055B.hex	N82498
	Austin - CMTA - Texas	LA17	5101	5107	S92J2H9775763	S92J3H9775769	7	ACU_34_44_NOV_TO3_055B.hex	N82498
	Clemson Area Transit - South Carolina	L769	—	—	S92U1D4500418	S92U1D4500418	1	ACU_34_44_NOV_TO3_0786.hex	N71606
	CT Transit - Connecticut	L815	1426	1429	S92L0E4500709	S92L0E4500712	4	ACU_34_44_NOV_TO3_07D9.hex	N78337
	CT Transit - Connecticut	L814	1462	1473	S92LXE4500717	S92L4E4500728	12	ACU_34_44_NOV_TO3_07D9.hex	N78337
	Duke University - North Carolina	LA39	—	—	S92LXH9775995	S92LXH9775995	1	ACU_34_44_NOV_TO3_07D9.hex	N78337
	Houston - Texas	L952	1580	1580	S92J5G9775318	S92J5G9775318	1	ACU_34_44_NOV_TO3_048E.hex	N78346
	Houston - Texas	L982	1581	1582	S92J5G9775514	S92J7G9775515	2	ACU_34_44_NOV_TO3_048E.hex	N78346
	Houston - Texas	L982	1583	1583	S92J9G9775516	S92J9G9775516	1	ACU_34_44_NOV_TO3_048E.hex	N78346
	Houston - Texas	L982	1584	1586	S92J2G9775518	S92J4G9775522	3	ACU_34_44_NOV_TO3_048E.hex	N78346
	Houston - Texas	L982	1587	1587	S92J8G9775524	S92J8G9775524	1	ACU_34_44_NOV_TO3_048E.hex	N78346
	Houston - Texas	L982	1588	1599	S92J1G9775526	S92J5G9775545	12	ACU_34_44_NOV_TO3_048E.hex	N78346
	LYNX - Florida	L785	—	—	S92L6E4500505	S92L8E4500506	2	ACU_34_44_NOV_TO3_07D9.hex	N78337
+	Mississauga Ontario	LA65	1770	1774	S92J6G3750420	S92J2H9776315	30	ACU_34_44_NOV_TO3_048E.hex	N78346
	MTD - Santa Barbara, California	L730	—	—	S92J8E4500567	S92J1E4500569	3	ACU_34_44_NOV_TO3_048E.hex	N78346
	New York City Transit - New York	L958	5439	5442	S92J9G9775533	S92J9G9775631	4	ACU_34_44_NOV_TO3_0773.hex	N78948
	New York City Transit - New York	L959	5443	5443	S92J0H9776118	S92J0H9776118	1	ACU_34_44_NOV_TO3_0773.hex	N78948
	New York City Transit - New York	LB59	5444	5484	S92J7H9776195	S92J6H9776379	41	ACU_34_44_NOV_TO3_0773.hex	N78948
	New York City Transit - New York	LA23	5485	5530	S92J5J9776380	S92J6J9776517	46	ACU_34_44_NOV_TO3_0773.hex	N78948

Symbol	Meaning
Empty Field	No changes, the procedure applies
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SYMBOL	CLIENT	ORDER	ROAD NUMBER		VIN (2NVY/4RKY...)		QTY	ACU SOFTWARE	PART N°
			FROM	TO	FROM	TO			
	Niagara Falls Ontario - Metrolinx	LA98	1809	1810	S92J7J3751003	S92J9J3751004	2	ACU_34_44_NOV_TO3_055B.hex	N82498
	SEPTA - Pennsylvania	L749	7302	7354	S92Y7D4500409	S92L2E4500470	53	ACU_34_44_NOV_TO3_07D9.hex	N78337
+	SEPTA - Pennsylvania	L741	7355	7355	S92L4E4500504	S92L4E4500504	1	ACU_34.44.NOV.TO3.07EA.hex	N76398
	SEPTA - Pennsylvania	L742	7371	7414	S92L6E4500729	S92L7E4500772	44	ACU_34_44_NOV_TO3_07D9.hex	N78337
+	SEPTA - Pennsylvania	L743	7356	7370	S92L1E4500489	S92L2E4500503	15	ACU_34.44.NOV.TO3.07EA.hex	N76398
	SEPTA - Pennsylvania	L745	7415	7415	S92L0F4500873	S92L0F4500873	1	ACU_34_44_NOV_TO3_07D9.hex	N78337
	SEPTA - Pennsylvania	L746	7416	7454	S92L7F4500952	S92L8F4501012	39	ACU_34_44_NOV_TO3_07D9.hex	N78337
	SEPTA - Pennsylvania	L861	7300	7484	S92L5G9775188	S92L8G9775220	32	ACU_34_44_NOV_TO3_07D9.hex	N78337
	St. Catharines Ontario - Metrolinx	L898	1560	1560	S92J4F3001663	S92J4F3001663	1	ACU_34_44_NOV_TO3_055B.hex	N82498
	St. Catharines Ontario - Metrolinx	LB06	1860	1862	S92J1J3751000	S92J5J3751002	3	ACU_34_44_NOV_TO3_048E.hex	N78346
	Toronto Transit Commission - TTC - Ontario	L777	9027	9152	S92J7E3001123	S92J6E3001372	126	ACU_34_44_NOV_TO3_048E.hex	N78346
	Walt Disney World - Florida	L763	—	—	S92U0D3001019	S92U4D3001024	6	ACU_34_44_NOV_TO3_0490.hex	N68707
	York Regional Transit - Ontario	L964	1770	1774	S92J6G3750420	S92J3G3750424	5	ACU_34_44_NOV_TO3_055B.hex	N82498

**WARNING**

Follow your internal safety procedures.

PROCEDURE

- 1.1. Open the RF9 panel door located at the rear interior ceiling of the vehicle.
- 1.2. Locate the Hübner Articulation Control Unit (ACU). See Figure 1.

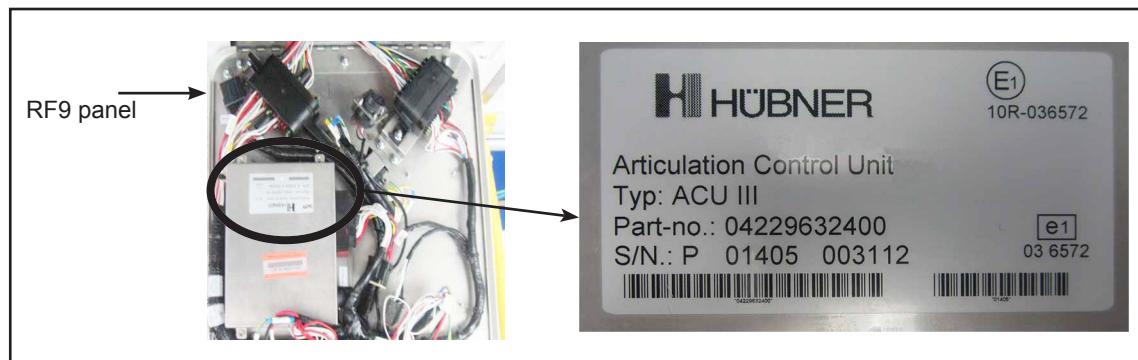


Figure 1 - Location of the Hübner Articulation Control Unit (ACU) in the RF9 Panel

- 1.3. You will have to use the **HÜBNER SERVICE INTERFACE** to connect your computer to the vehicle's ACU. See Figure 2.



Figure 2 - Hübner Service Interface (Part N° N71662)

**NOTE**

The **HÜBNER SERVICE INTERFACE** is not supplied for this campaign.

1.4. Locate the ACU's 9-pin connector. See Figure 3.



Figure 3 - ACU 9-pin Connector Location in the RF9 Panel

- 1.5. Connect the Hübner service interface to the ACU's 9-pin connector in the RF9 panel. See Figures 2 and 3.
- 1.6. Connect the Hübner service interface USB plug to your computer.
- 1.7. Set the vehicle's master control switch to the RUN position. The interface's red light will come on to indicate it is powered.
- 1.8. Identify the file corresponding to the vehicle you have to update. See client list on page 2 of this document. Save the file in your computer.
- 1.9. Start the Hübner software by clicking the icon. See Figure 4.

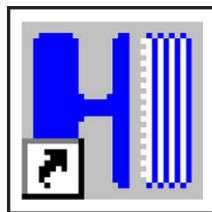


Figure 4 - Hübner Software Icon

1.10. Click on the **CONNECT** button. See Figure 5. The interface's green light will come on to indicate it is connected.



Figure 5 - Hübner Software Top Menu

1.11. A pop-up window will appear to identify the already installed ACU software. See Figure 6. Click OK.

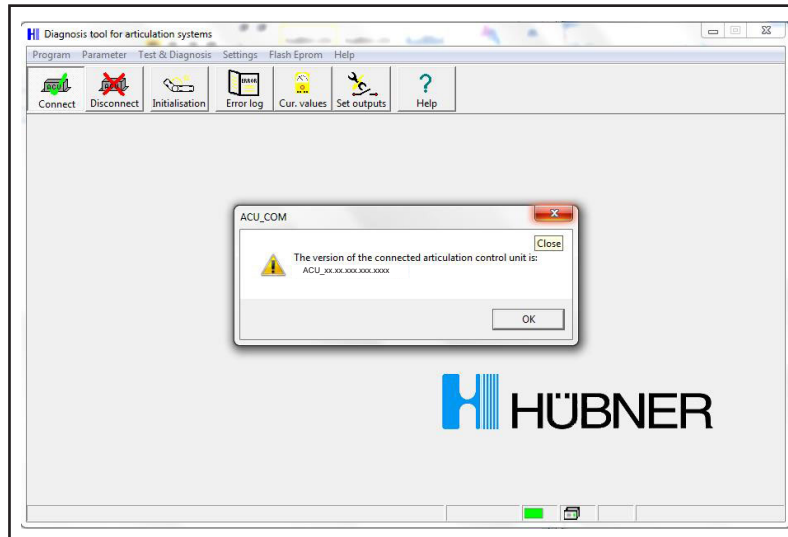


Figure 6 - Typical Window Identifying the Already Installed ACU Software

1.12. Select **FLASH EPROM** (1) from the Hübner software top menu. See Figure 7.

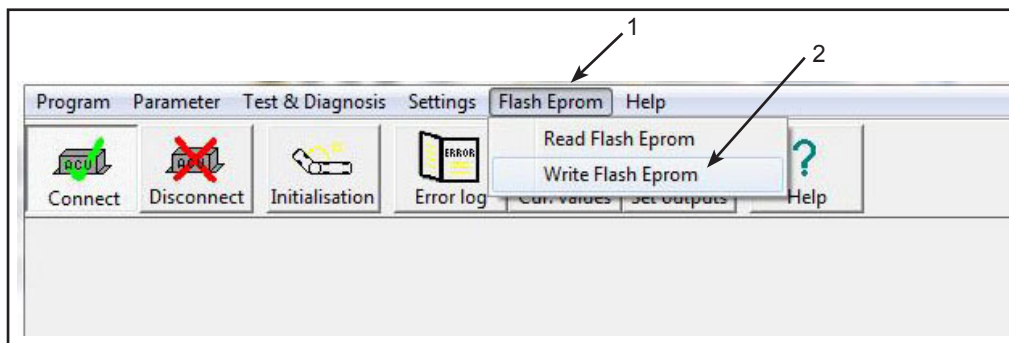


Figure 7 - Hübner Software Top Menu

1.13. Click on **WRITE FLASH EPROM** (2) in the sub-menu. See Figure 7.



NOTE

If you can't access **WRITE FLASH EPROM** (2), (see Figure 7), contact your Nova Bus customer support manager.

1.14. In the open window, choose the updated file you downloaded for your vehicle at step 1.8.

- 1.15. A progress window will appear. See Figure 8.

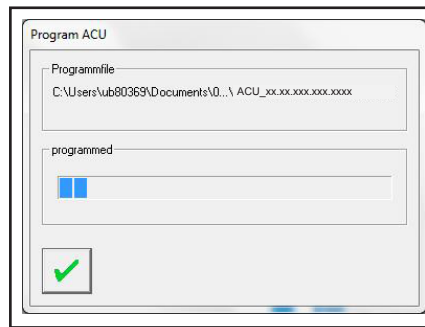


Figure 8 - Typical Progress Window

- 1.16. When the upload is finished, a pop-up window will appear to confirm that the unit is now programmed and the ACU that should be restarted. See Figure 9. Click OK.

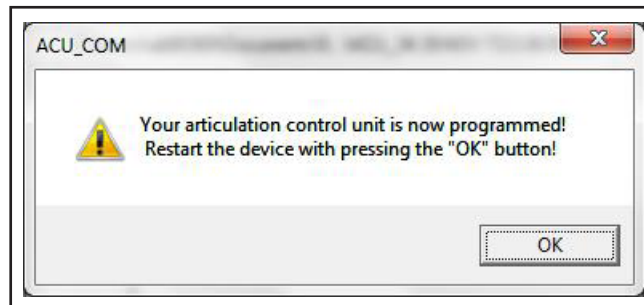


Figure 9 - Upload Completed and ACU Restart Window

- 1.17. A second pop-up window will appear to confirm the ACU software version. See Figure 10. Compare the version in the pop-up with the one you uploaded. If the two versions are identical, click OK. If not, redo the procedure from step 1.8.



Figure 10 - Typical Software Version Window

1.18. A third pop-up window will appear, asking whether to keep the initialisation values. See Figure 11. Click **YES**.

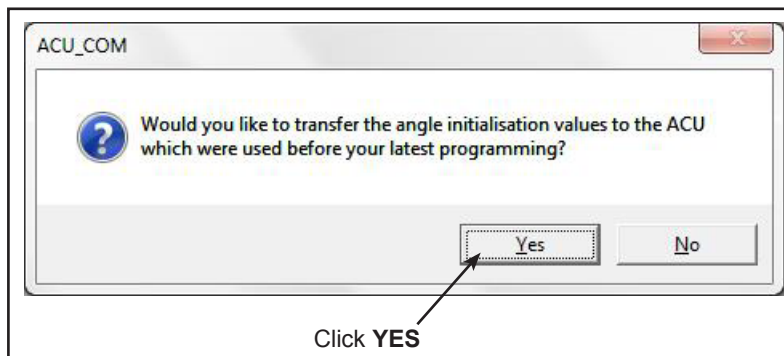


Figure 11 - Initialisation Values Pop-Up Window

1.19. Click on the **DISCONNECT** button from the Hübner software top menu. See Figure 12.



Figure 12 - Hübner Software Top Menu

- 1.20. Set the vehicle's master control switch to the **STOP** position.
- 1.21. Disconnect the Hübner service interface USB cable from your computer.
- 1.22. Disconnect the 9-pin connector from the RF9 panel plug.
- 1.23. Close the RF9 panel door.
- 1.24. The vehicle may be returned to service. ❖