



Service Campaign

CC-17-00-29

MODEL: Karma Revero

DATE: February 2018

TITLE: Baseline BL1030 Firmware Release

Revised 02-01-18

PRIORITY: All Revero

APPLICABILITY: MY17 and MY18 Revero (See attached VIN list)

MARKET REGION: North America

PURPOSE: This document will be used as a reference guide for technicians to update a vehicle to Baseline 1030, software and hardware as needed.

Flash reprogramming allows the control module software to be updated without replacement of the control module hardware. This flash calibration update for the Revero and specific control modules is released as field update procedure as described in the respective service bulletin.

Software and firmware updates will be scheduled as part of Karma Automotive continuous improvements process.

The Karma Sync tool will allow the technician to display the current software identification and cross reference them to any that will be included in the latest updates.

Central Infotainment Unit flashing will occur over the air, TSS is required to be notified prior to this step.

REQUIREMENT: There is a component of this Baseline release which will be performed Over the Air. this will require creating a technical services support (TSS) case as soon as the vehicle arrives at the dealer. Please schedule this baseline install and begin the action early in the workday to allow sufficient time to contact and activate this over the air update through the TSS group.

NOTICE!

*The vehicle should have the High Voltage battery charged. If the State of Charge is 15% or less, when placed in Ready Mode, the vehicle generator may turn on at any time during the flash process. Therefore we recommend the state of charge is **25% or greater before beginning the flash procedure, or five (5) miles of EV range.***

NOTICE!

Have a 12V power supply available to use on every Revero during flashing of modules, there are no exceptions to this. Vehicle 12V battery voltage must be maintained greater than 12.5V while flashing the control modules.

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Note: Remove the Karma Sync Equipment. Before the CIU is updated ensure nothing is plugged into the OBD II port. This includes the WDI - remove this, otherwise the TPI will cycle on and off, this is expected behavior. However, this will interrupt the update. The Karma Sync is also not needed for this over the air (OTA) update.

STEP 1

All BL1030 Hardware installation complete



STEP 2

Contact Karma TSS so Over-the-air Update can to be sent to vehicle



STEP 3

Follow Instruction provided to update vehicle with Karma Sync



STEPS MUST BE PERFORMED IN THIS ORDER TO AVOID FIRMWARE INSTALLATION ISSUES

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Overview:

1. Perform all required action as per bulletins (VIN specific) CC-17-20-14, CC-17-60-27, CC-17-90-12, CC-17-90-13, CC-17-94-24 - **Contact TSS when complete**
2. Place the vehicle in a safe area with good cell reception, place vehicle in Ready Mode
3. TSS will contact you within the hour
4. The TSS representative will instruct you to power down the vehicle
5. An update screen will appear, you should accept and this will install the first packet of the update to the vehicle. this should take about three (3) minutes.
6. Verify the install by placing vehicle in Ready Mode, check the TPI screen in Vehicle>About the firmware level should display 17.13.10.2
7. Switch the vehicle off.
8. Contact your TSS representative again this is to confirm step one of the over-the-air firmware update
9. Follow the TSS representative's instructions
10. As before, place vehicle in Ready Mode as before in a safe location with good reception, expect to wait about an hour.
11. TSS will contact you once more and instruct you to switch the vehicle off.
12. The install screen will display, accept this. Installation should take approximately thirty (30) minutes
13. After this time place vehicle in Ready Mode, the calibration screen will appear. using the supplied stylus follow the calibration instruction here in this bulletin and the screen prompts.
14. Verify the firmware in the vehicle TPI again (17.13.27.3 should display).
15. Proceed to update Karma Sync as per this bulletin (this only need to happen once per service laptop, not for every update.)
16. Complete procedure as directed in this bulletin and by your TSS representative.

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⚠ WARNING!

DO NOT ALLOW LAPTOP TO GO INTO SLEEP OR SCREEN SAVER MODE DURING THIS PROCESS. TURN OFF SCREEN SAVER IF NECESSARY AND ENSURE THE LAPTOP STAYS AWAKE. THE LAPTOP MUST BE PLUGGED INTO A STABLE POWER SOURCE DURING THE PROCESS. IF THE VEHICLE GOES INTO SLEEP MODE WHILE AN ECU IS BEING PROGRAMMED; THE REPROGRAMMING MAY BE UNSUCCESSFUL AND MAY CAUSE DAMAGE TO THE ECU.

All Vehicles in the field will be brought up to the latest release level of Baseline 1030 or “BL1030.”

BL1030 updates provide the following:

BECM (HV Battery): Functional enhancements introduced. Diagnostics action is improved and State of Charge reporting also enhanced

Central Infotainment Unit (CIU): Enhancements to the diagnostics strategy introduced. Multiple enhancements to the Bluetooth function enabled. After phone call ending, audio system reaction and performance is also enhanced. Settings menu behavior is improved. Phone pairing has been further refined. Wireless system connectivity is improved.

ADAS- Improvements to forward collision warning (FCW) display action

12V maintenance: this function is also improved, further enhancements and refinements introduced

Firmware Over-the-Air (FOTA): Firmware over the air capabilities have been enhanced and expanded.

Navigation: Multiple functional improvements added, display action is enhanced. Pinning and Point-of-interest action is improved. Travel time estimation is also further refined.

Rear View (Reverse) View: Enhanced reverse guides behavior and display action.

Touch panel interface: Display, function, and response are enhanced. HVAC- display function improved. Displayed message logic is improved. French text display is improved. Favorites set up improved. Brightness control has been improved. FM Radio display on TPI is improved with music genre texts when available.

Instrument Panel (DIS): Improvements and enhancements for displayed text, and display enhancement during charging. Key Fob detection on the cluster messages improved reporting function. Synchronization with CIU and TPI is enhanced.

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Hybrid Control Unit (HCU): Charging functionality improved. Diagnostics enhanced. Generator function in warm conditions also improved

EVCC: Charge controller system enhancements implemented.

Solar Panel: Solar panel action enhanced

HVAC: Diagnostics enhanced. Improved HVAC response from remote preconditioning to normal action

Power Inverters:

Generator Inverter: Enhancements introduced

Traction Motor Inverters: Refinements applied for smooth power delivery

SCM: Performance enhancements for seat control introduced.

VCM-S: Enhancements to function for vehicle locking/ unlocking behavior. Interior light duration improved, for when you need to handle precious cargo in the dark.

VCM-B: Further improved diagnostics and system function

The Following page has the affected VINs for this bulletin.

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Vehicle Identification Number			
50GK41SA7HA000014	50GK41SA9JA000036	50GK41SA7JA000066	50GK41SA5JA000101
50GK41SA0HA000016	50GK41SA0JA000037	50GK41SA9JA000067	50GK41SA0JA000104
50GK41SA4HA000018	50GK41SA2JA000038	50GK41SA0JA000068	50GK41SA6JA000107
50GK41SA6HA000019	50GK41SA4JA000039	50GK41SA2JA000069	50GK41SAXJA000109
50GK41SA8HA000023	50GK41SA6JA000009	50GK41SA9JA000070	50GK41SA1JA000113
50GK41SA4HA000021	50GK41SA0JA000040	50GK41SA2JA000072	50GK41SA3JA000114
50GK41SA6HA000022	50GK41SA2JA000041	50GK41SA6JA000074	
50GK41SA2HA000020	50GK41SA4JA000042	50GK41SA8JA000075	50GK41SA0JA000023
50GK41SAXHA000024	50GK41SA6JA000043	50GK41SAXJA000076	50GK41SA6JA000026
50GK41SA3HA000012	50GK41SA7JA000004	50GK41SA1JA000077	50GK41SA8JA000044
50GK41SA4JA000011	50GK41SA0JA000006	50GK41SA3JA000078	50GK41SA2JA000069
50GK41SA6JA000012	50GK41SAXJA000045	50GK41SA5JA000079	
50GK41SA8JA000013	50GK41SA1JA000046	50GK41SA1JA000080	
50GK41SAXJA000014	50GK41SA3JA000047	50GK41SA3JA000081	
50GK41SA1JA000015	50GK41SA5JA000048	50GK41SA5JA000082	
50GK41SA3JA000016	50GK41SA7JA000049	50GK41SA7JA000083	
50GK41SA5JA000017	50GK41SA5JA000051	50GK41SA9JA000084	
50GK41SA7JA000021	50GK41SA3JA000050	50GK41SA2JA000086	
50GK41SA9JA000019	50GK41SA7JA000052	50GK41SA4JA000087	
50GK41SA5JA000020	50GK41SA0JA000054	50GK41SA8JA000089	
50GK41SA8JA000027	50GK41SA2JA000055	50GK41SA4JA000090	
50GK41SA2JA000007	50GK41SA4JA000056	50GK41SA6JA000091	
50GK41SAXJA000028	50GK41SA6JA000057	50GK41SA8JA000092	
50GK41SA1JA000029	50GK41SAXJA000059	50GK41SAXJA000093	
50GK41SA8JA000030	50GK41SA8JA000058	50GK41SA1JA000094	
50GK41SAXJA000031	50GK41SA6JA000060	50GK41SA3JA000095	
50GK41SA1JA000032	50GK41SA8JA000061	50GK41SA5JA000096	
50GK41SA3JA000033	50GK41SAXJA000062	50GK41SA7JA000097	
50GK41SA5JA000034	50GK41SA1JA000063	50GK41SA9JA000098	
50GK41SA7JA000035	50GK41SA3JA000064	50GK41SA0JA000099	
50GK41SA2JA000010	50GK41SA5JA000065	50GK41SA3JA000100	

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The target software should be as indicated in the table below.

Record the software IDs displayed on the Karma Sync workshop tester. before you begin.

Control Module Name	Software Version ID <u>after</u> BL1030 update	Software ID as received <u>before</u> BL1030 Update (enter ID displayed on scan tool below)
Accessory Power Module	0311-01-02	
Advance Driver Assistance System (ADAS)	0381-00-38	
Battery Energy Control Module (BECM)	0156-04-49	
Engine Control Module (ECM) (Cal ID)	0121-09-01	
Central Infotainment Unit (CIU)	17.13.27.3	
Door Module Right	0431-00-22	
Door Module Left	0421-00-22	
Heat/Ventilation Air Conditioning (HVAC)	0162-02-48	
Hybrid Control Unit (HCU)	0111-0C-62	
Memory Seat Module (MSM)	0441-02-08	
Power Inverter Module for Generator	0301-06-30	
Power Inverter Module for Traction (Motor 1)	0281-06-36	
Power Inverter Module for Traction (Motor 2)	0291-06-36	
Tire Pressure Monitor System	0371-00-03	
Vehicle Control Module - Security (VCM-S)	0411-01-16	
Vehicle Control Module - Body (VCM-B)	0401-00-27	

NOTE: The CIU software version ID is found in the TPI, go to; Settings > Vehicle > About

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1. Central Infotainment Unit flashing will occur over the air, **TSS is required to be notified prior** to this step.

TSS will instruct you to place the vehicle in an suitable safe area with good cellular reception, and place Ready Mode: the update packet is downloaded to the vehicle- the download requires no other action on the technician's part, only to leave the vehicle in a secure and safe location in your work area for approximately sixty (60) minutes.

TSS representative will contact you within the hour.

2. Keep the door latched (closed position) the update will not show up on TPI until power button is powered off with door still latched. This is when you can verify the TPI for update available messaging screen. If the download completed, the vehicle will prompt to accept the update (fig. 1) Accept this and allow the vehicle to update. Note that changing the door latch state will interrupt the accessory delay and shut down the TPI. If the TPI shuts down at power off, the update available screen will not display.

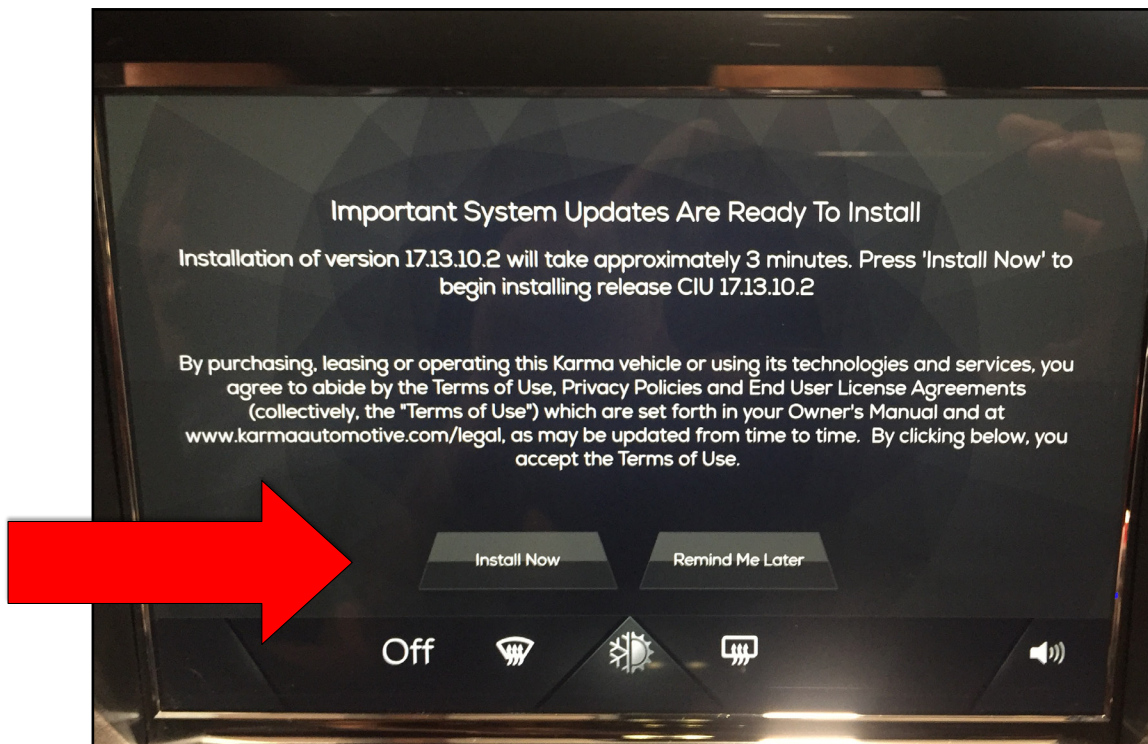


fig. 1

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Below are the screens of the TPI read out as the CIU is updating (fig.2) When this is completed updating, the screen may go blank or black or cycle on and off, normal function will resume upon cycling the mode button.



fig. 2

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There is also a second install which is also approximately sixty (30) minutes. As before leave the vehicle in Ready Mode in a safe location with good cellular reception.

Karma TSS representative will notify you when download is complete.

The second over-the-air install is for the rest of the package. Following the TSS representatives instructions you will get the screen (fig. 3) as shown below- hit install now.

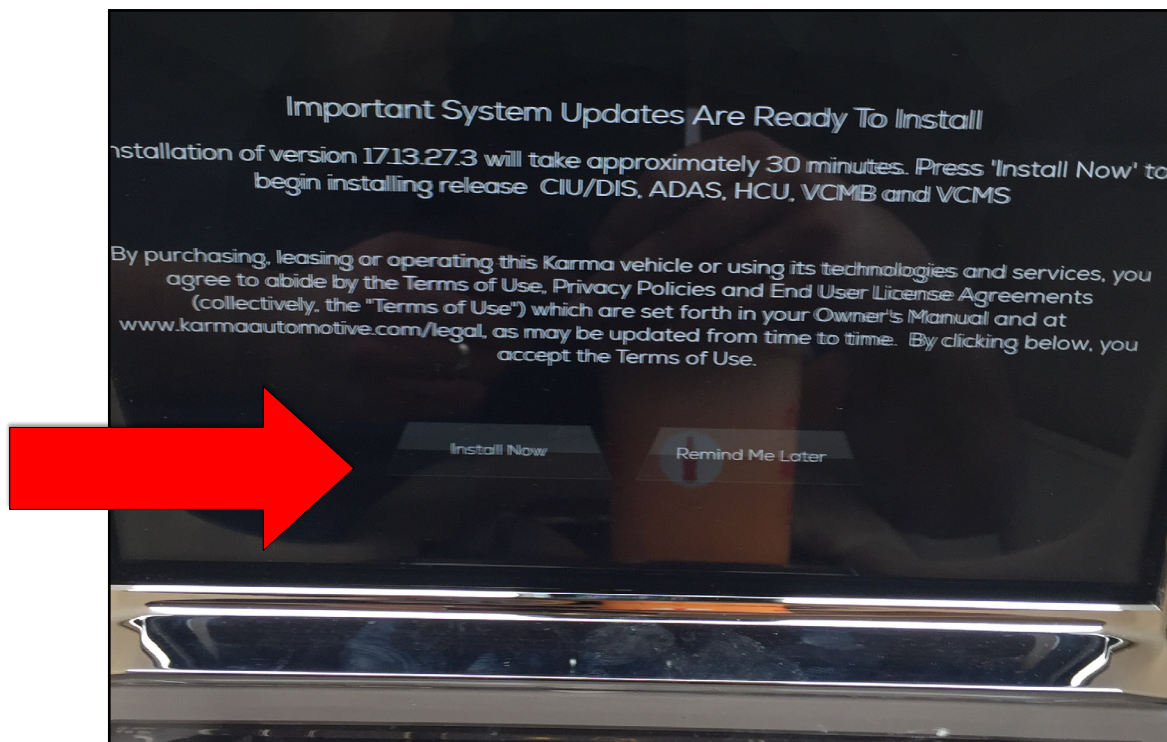


fig. 3

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3. Verify the CIU software ID in the TPI after the vehicle has been placed in ready mode. go to Setting > About, the version should be displayed above the Terms and Conditions bar (fig. 4)



fig. 4

The CIU Software ID should be as displayed- 17.13.27.3.

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4. The Touch Panel Interface will now require calibration.

- When loading of the baseline software is complete, the Touch panel will enter a calibration screen. this must be performed. If the vehicle is asleep it will return to the calibration screen as soon as it becomes active again.

This is the supplied stylus which will be used for the screen calibration. Unscrew the cap to expose the tool tip, this flexible end is the contact point for calibration of the touch panel. The touch panel is best calibrated with the stylus tip at or about 90° to the panel surface as shown.

Press and hold stylus to the target for calibration (fig 5a,5b,5c)



fig. 5a



fig. 5b



fig. 5c

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- Continue and press the three (3) points on screen using supplied stylus- the screen below shows where all three points will be and the message displayed is enlarged for better reading- this message is present on all screens. Calibration will occur one target at a time. (fig 6a)

1 



Screen Calibration

Accurately hold down on the center of the target until the target moves.

As it moves, your touch screen will be calibrated.

2 

3 

fig.6a

- Begin with the upper left shown here in car and graphically as shown (fig.6 and 6c)

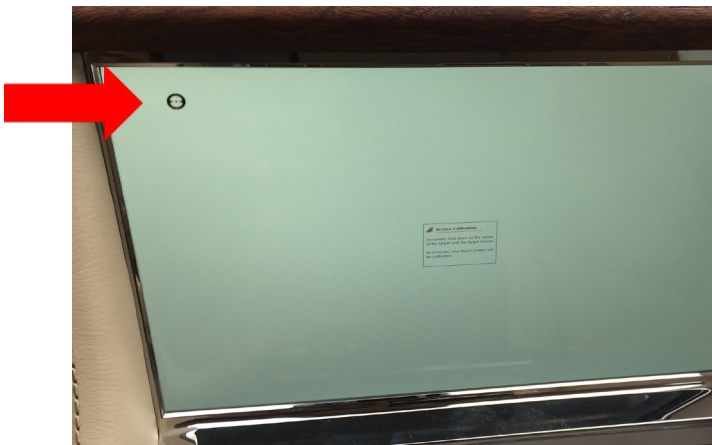


fig.6b



fig.6c

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- Proceed to the right side target shown here (fig 6d).



fig.6d

- the last target is as indicated- central and near the bottom of the TPI screen (fig 6e).

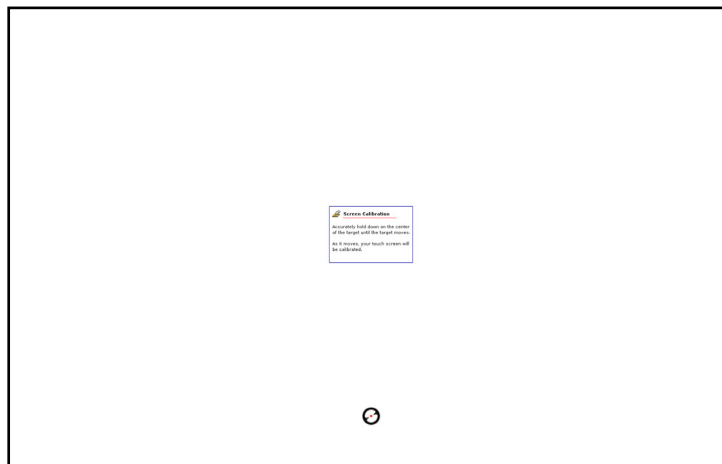


fig.6e

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- Final step, confirm the and accept the calibration.
This is also a target! maintain accuracy, as shown (fig. 6f).
It will appear smaller on the TPI than on this page.
- Reboot and finish a calibration

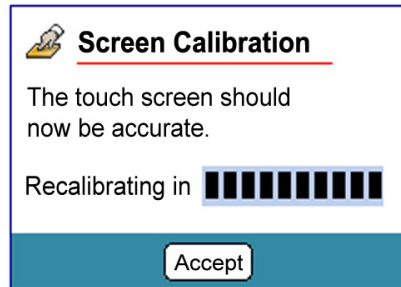


fig.6f

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NOTE: The following KarmaSync update will only occur once per service laptop, in regards to this bulletin.
It will not be repeated after this first instance.

6. Launch the Karma Sync application or close and relaunch if already open
 Upon launch of the scan tool you may be prompted to enter user credentials
 When a software update is available an update dialog box should appear with the new software package (fig.1).

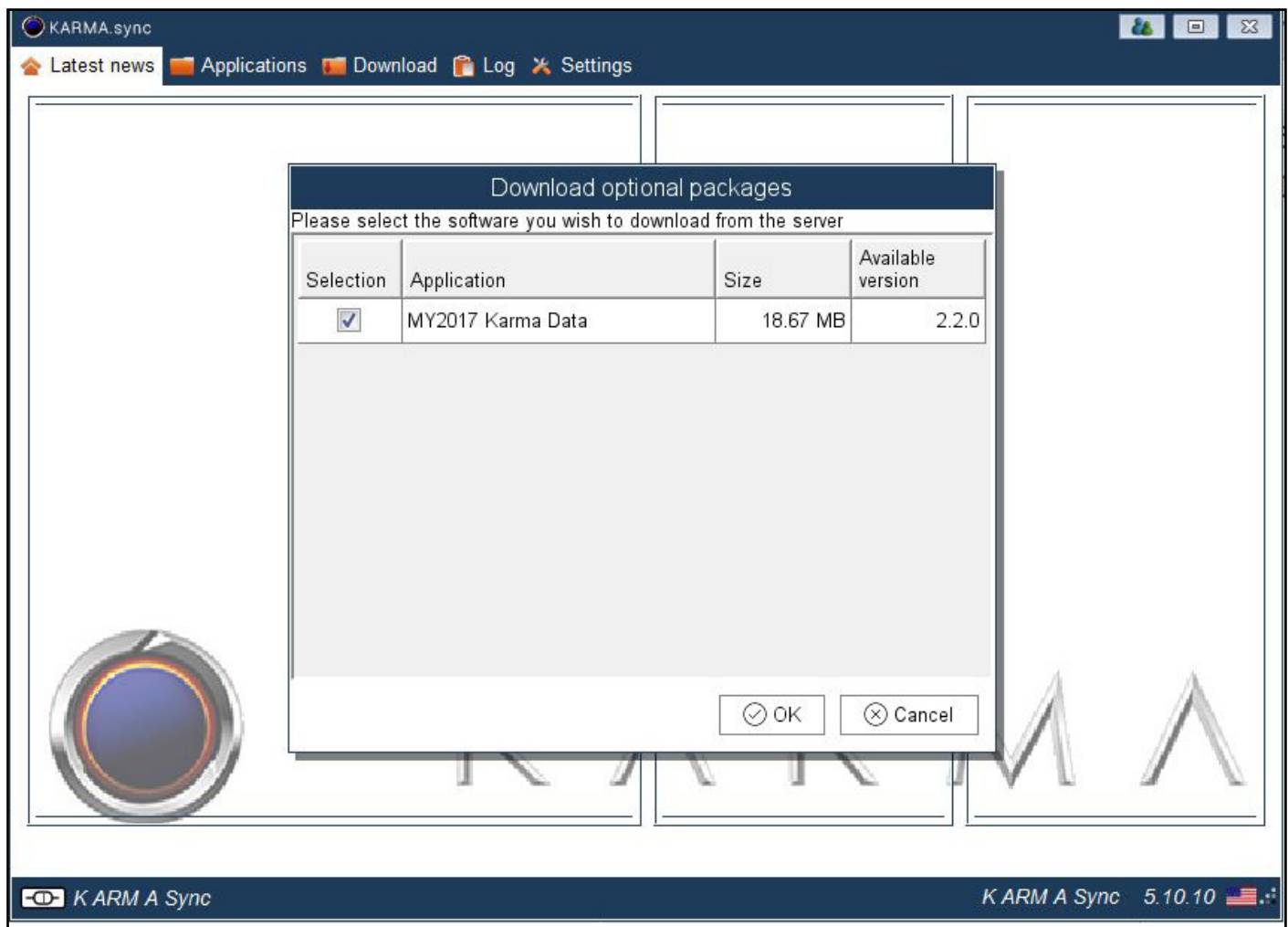


fig.7

7. Click "Ok" to install. (fig. 7)

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The package will then download (fig.7a).

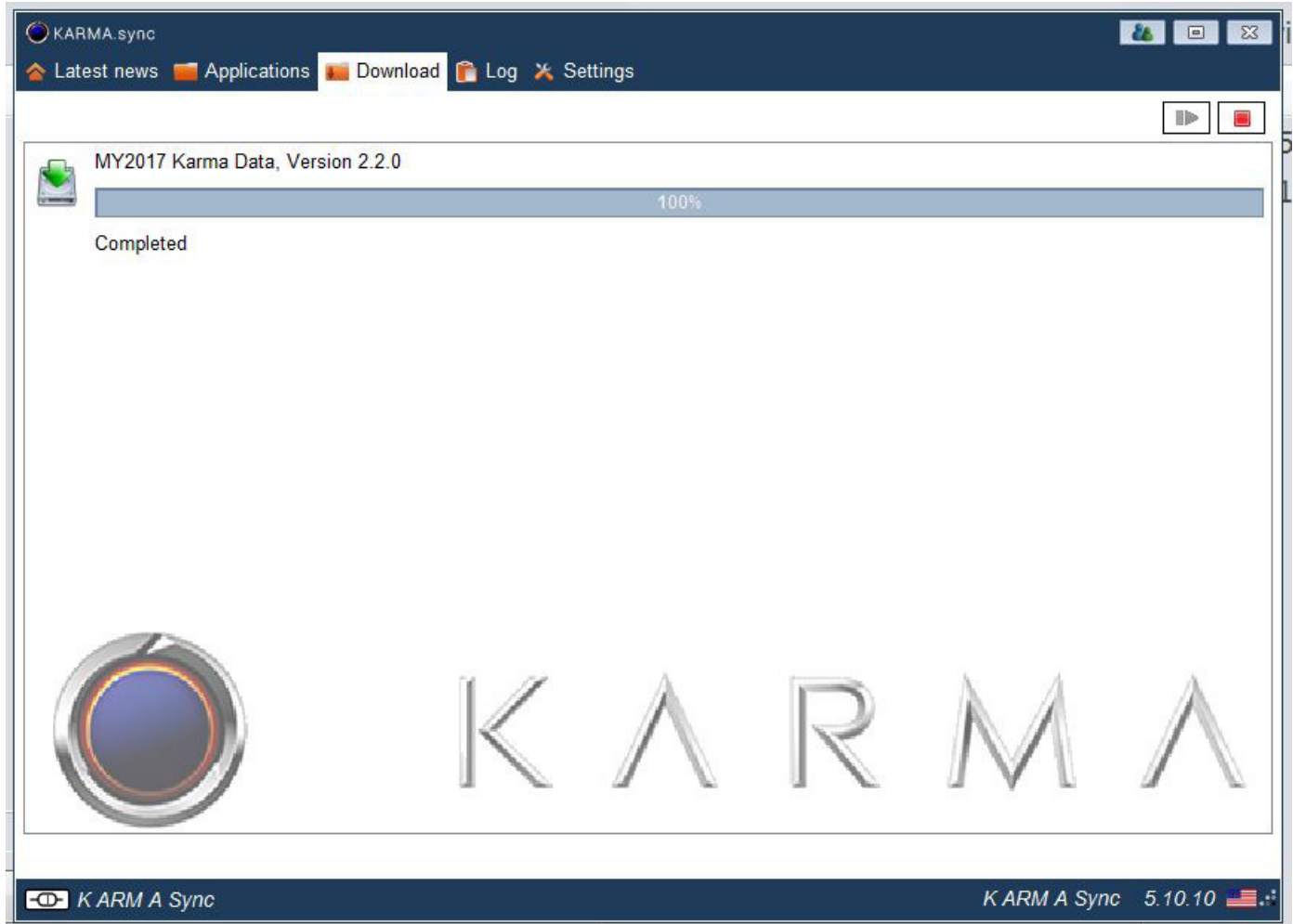


fig.7a

- When download is complete, follow the on screen prompt, to allow the Software to update on the next restart .
Doing this restart is a complete closing of Karma SYNC and relaunching as the to restart the program.

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Restart Scan Tool: The dialog box should open automatically-

If the dialog box does not open automatically to download the new software proceed to add software as shown The tool bar will have a Karma Sync icon, hover over it (fig.8a), right-click, proceed to “add software” as in (fig. 8b). Once complete proceed with the remainder of this bulletin.

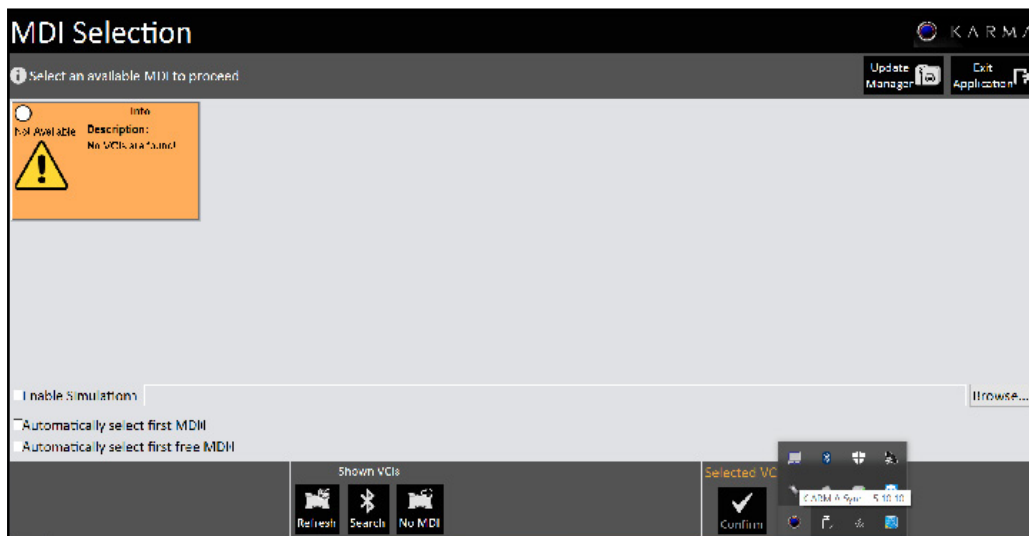


fig.8a

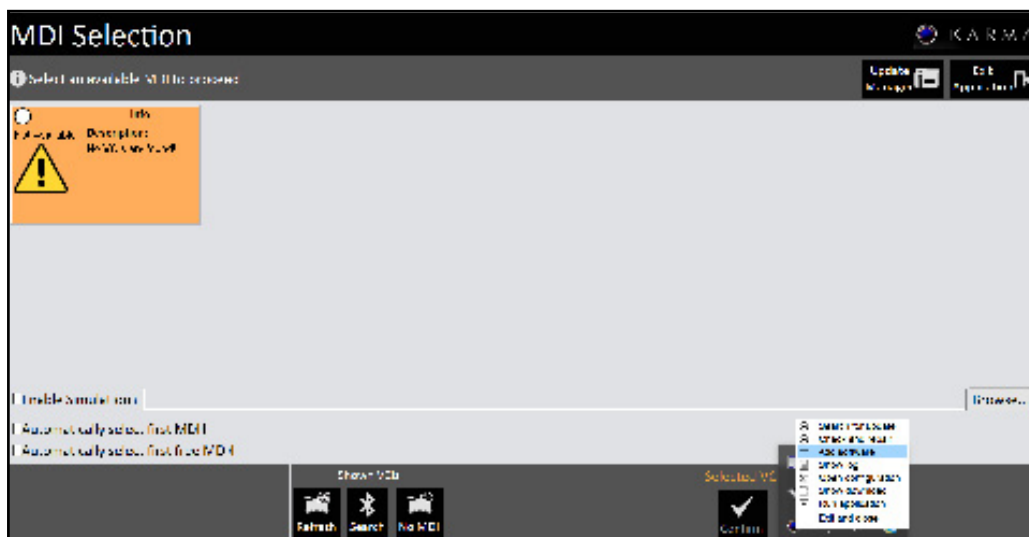


fig.8b

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- Open the Karma Sync application again.
The "Confirm Deliverable Update - K1-18-1030.RC" box should appear, click "Yes" (fig.9a)

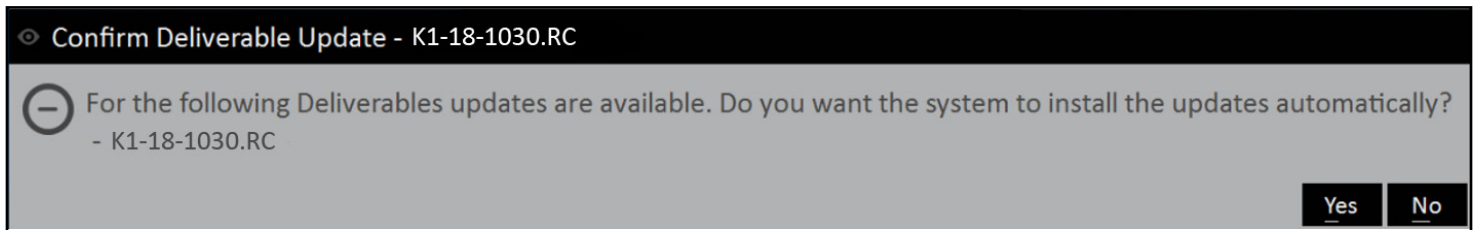


fig.9a

A progress screen will pop up after (fig.9b)

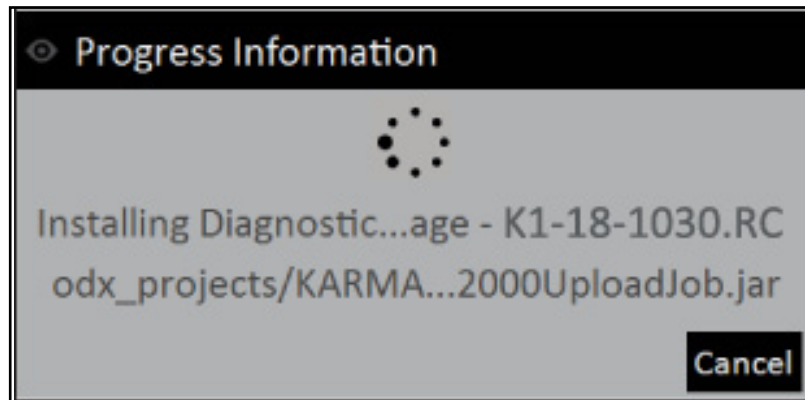


fig.9b

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9. Verify the package installed by clicking on update manager (fig.10)

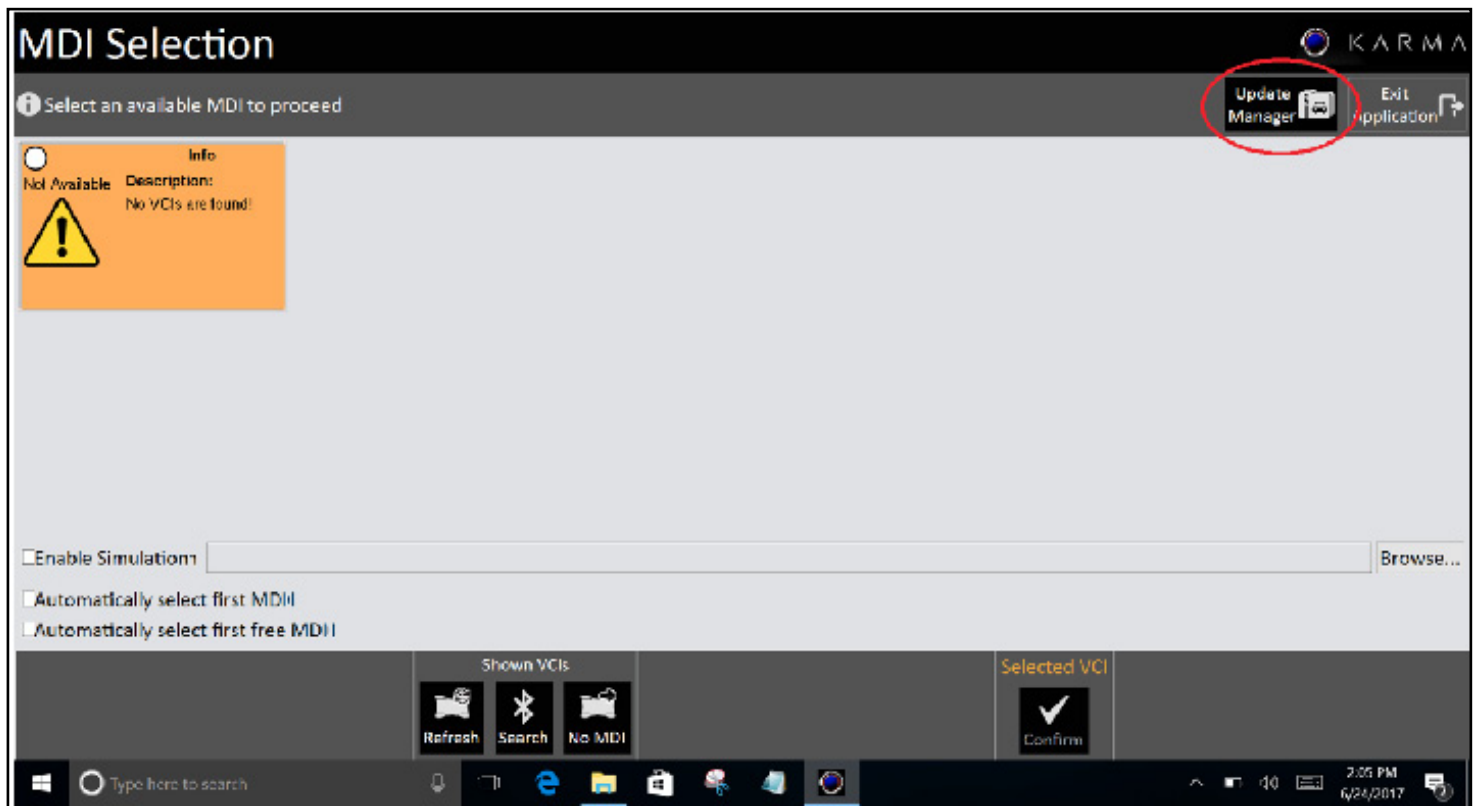


fig.10

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10. Verify the package is installed successfully by verifying that “K1-18-1030” is displayed in the Update Manager (fig.11)

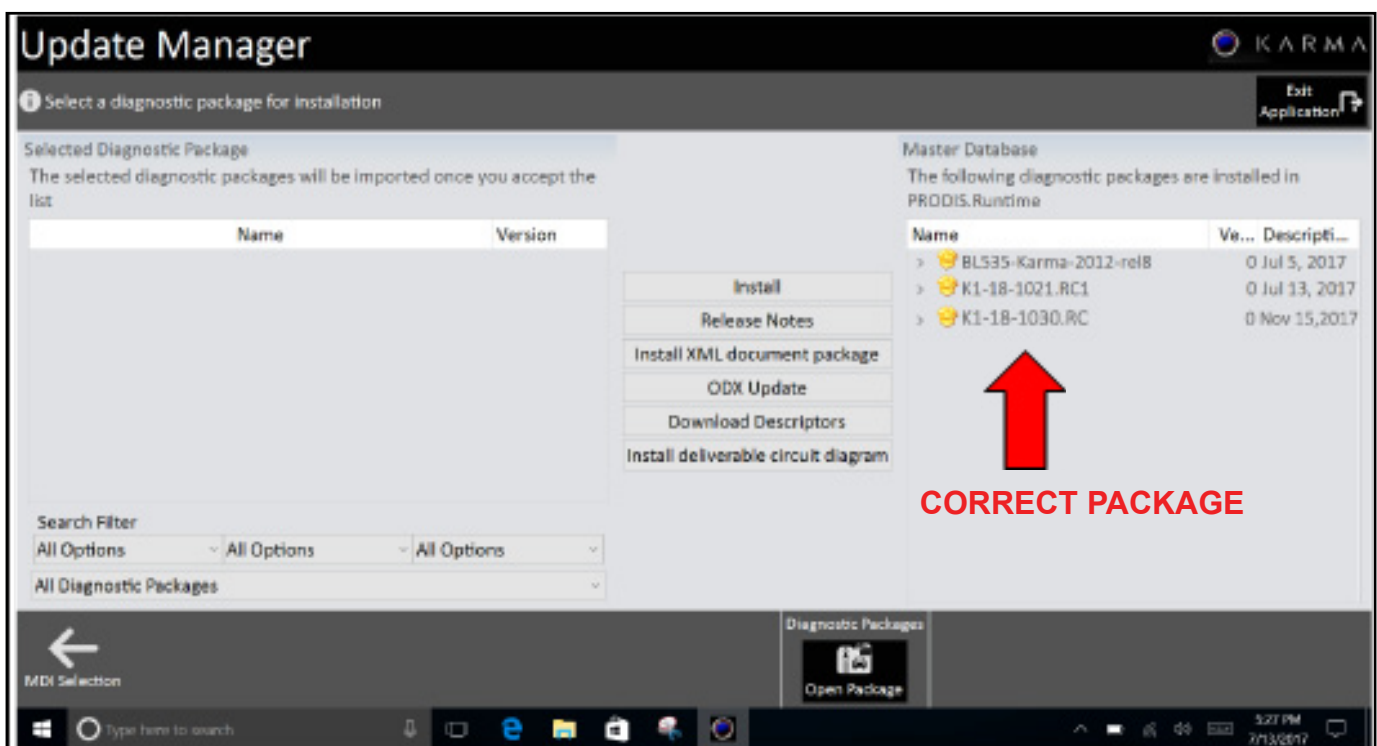


fig.11

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14. Again Follow the prompts and ensure that a suitable 12V power supply is connected to the vehicle. and click continue as per (fig. 12a).

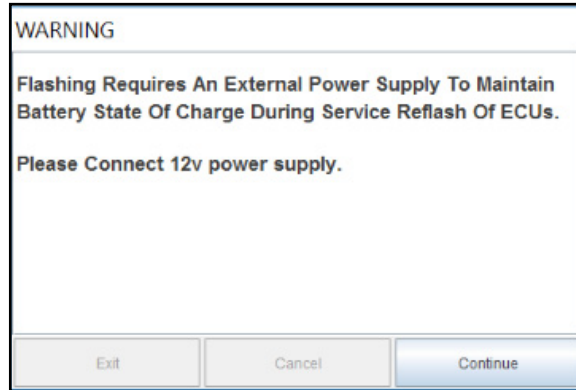


fig.12a

Below is an example of a suitable and recommended power supply (fig.12b)



fig.12b

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19. Return to the vehicle diagnosis menu and select full vehicle update as in (fig.13a) and select K1-18-1030.RC as shown below (fig.13b).

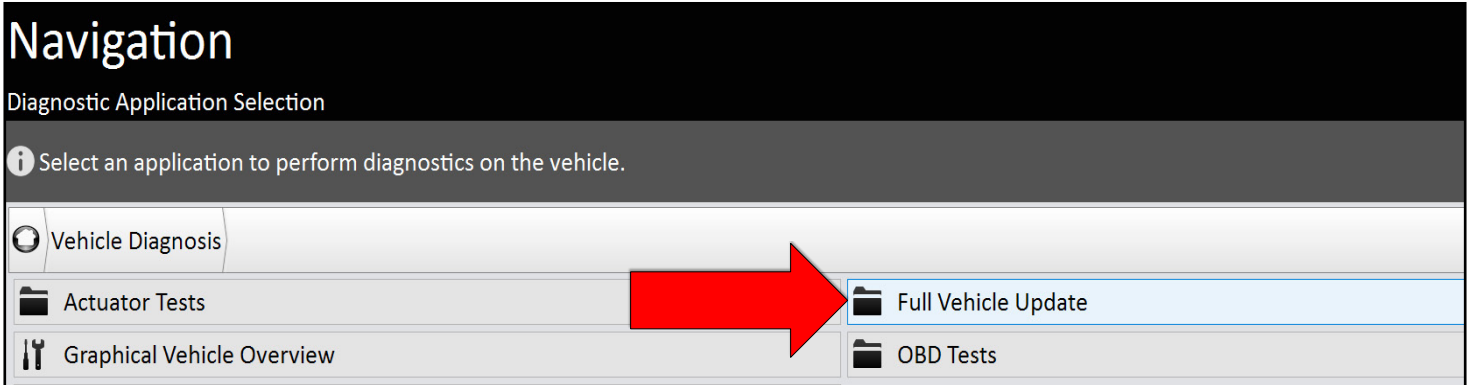


fig.13a

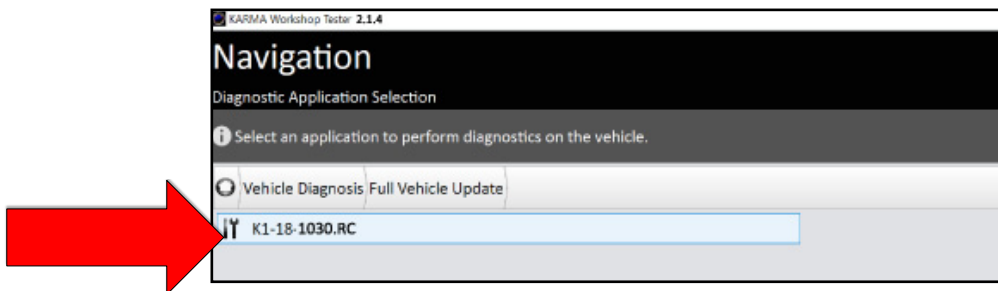


fig.13b

20. Follow the prompts and make sure that a suitable 12V power supply is connected to the vehicle. Click continue (fig.14)

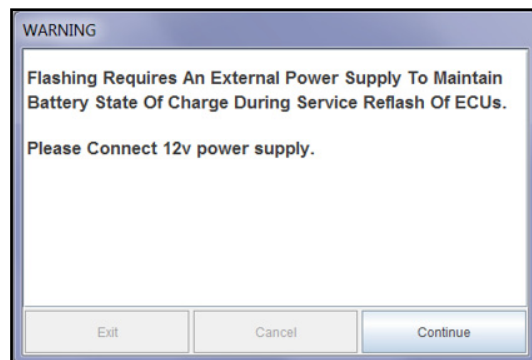


fig.14

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21. The flash information will be populated, as before (fig.15)
 - If a pop up opens stating the "OBCM failed to communicate;" disregard this message
 Proceed to click "next" and follow the prompts.

Action	ECU	Current Software	Target Software
<input checked="" type="checkbox"/>	Power Inverter Module for Traction (Motor 1)	0281-06-36	0281-06-36
<input checked="" type="checkbox"/>	On Board Charge Module	ECU No RESP	0321-00-07
<input checked="" type="checkbox"/>	Power Inverter Module for Generator	0301-06-30	0301-06-30
<input checked="" type="checkbox"/>	Power Inverter Module for Traction (Motor 2)	0291-06-36	0291-06-36
<input checked="" type="checkbox"/>	Accessory Power Module	0311-01-02	0311-01-02
<input checked="" type="checkbox"/>	Advanced Driver Assistance System	0381-00-38	0381-00-38
<input checked="" type="checkbox"/>	Engine Control Module	0121-09-01	0121-09-01
<input checked="" type="checkbox"/>	Vehicle Control Module Security	0411-01-16	0411-01-16
<input checked="" type="checkbox"/>	Vehicle Control Module Body	0401-00-27	0401-00-27
<input checked="" type="checkbox"/>	Battery Energy Control Module	0156-04-49	0156-04-49
<input checked="" type="checkbox"/>	Tire Pressure Monitor System	0371-00-03	0371-00-03
<input checked="" type="checkbox"/>	Hybrid Control Unit	0111-0C-62	0111-0C-62
<input checked="" type="checkbox"/>	Heat/Ventilation Air Conditioning	0162-02-48	0162-02-48
<input checked="" type="checkbox"/>	Memory Seat Module	0441-02-08	0441-02-08
<input checked="" type="checkbox"/>	Door Module Right	0431-00-22	0431-00-22
<input checked="" type="checkbox"/>	Door Module Left	0421-00-22	0421-00-22

fig.15

22. Click **START UPDATE**. The modules which will update are displayed, the module order will will reorganize and ADAS will move to the top of the list once programming starts (fig.16a).

ECU	Progress	Status
Power Inverter Module for Traction (Motor 1)		
Power Inverter Module for Traction (Motor 2)		
Battery Energy Control Module		
Heat/Ventilation Air Conditioning		
Memory Seat Module		
Door Module Right		
Door Module Left		

fig.16a

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As instructed place vehicle in Ready Mode (fig.16b)

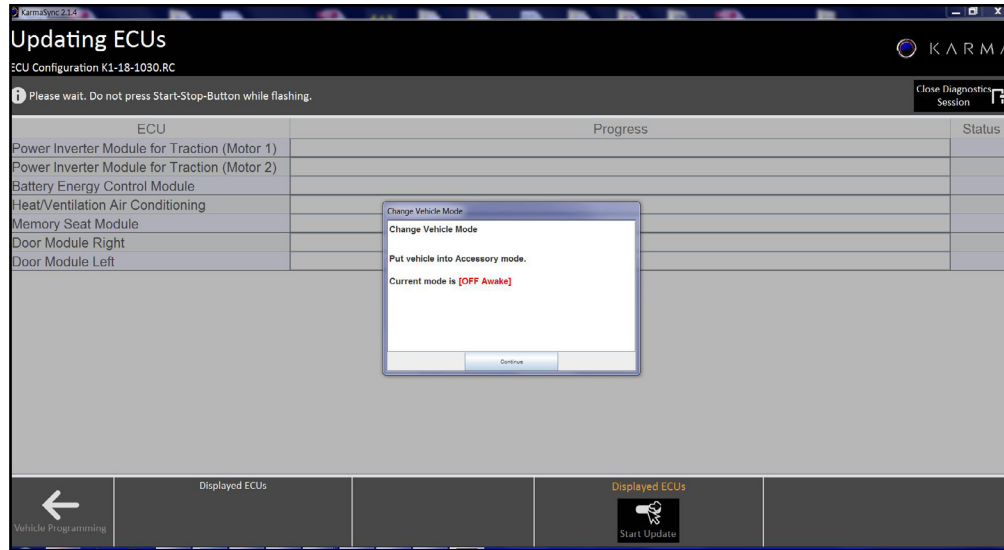


fig.16b

23. Follow the prompts and place the vehicle into accessory mode (fig.17). It is normal for the vehicle to appear to be 'stuck on' during this step of the programming. Follow the prompts and do as directed (fig 17a,17b,17c).

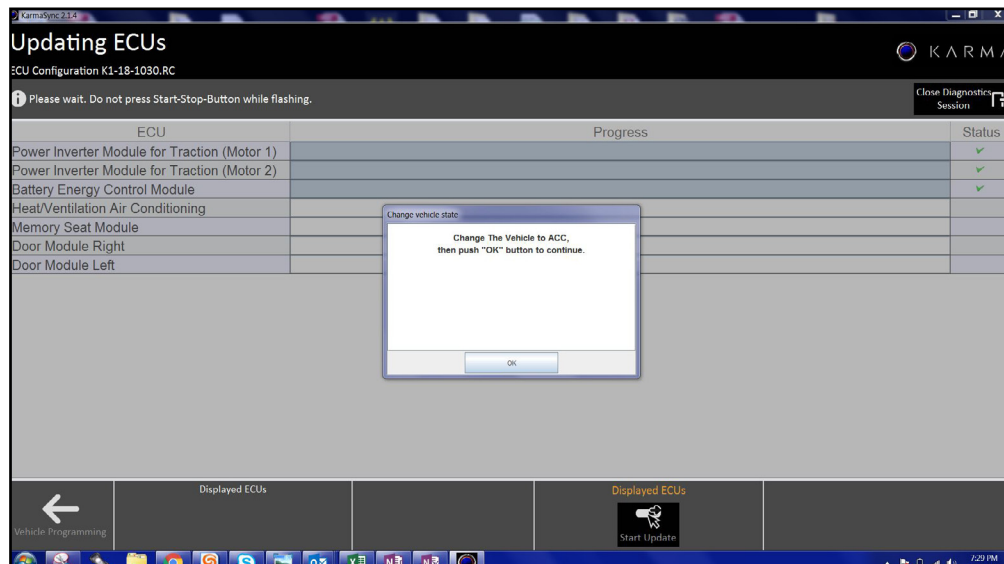


fig.17a

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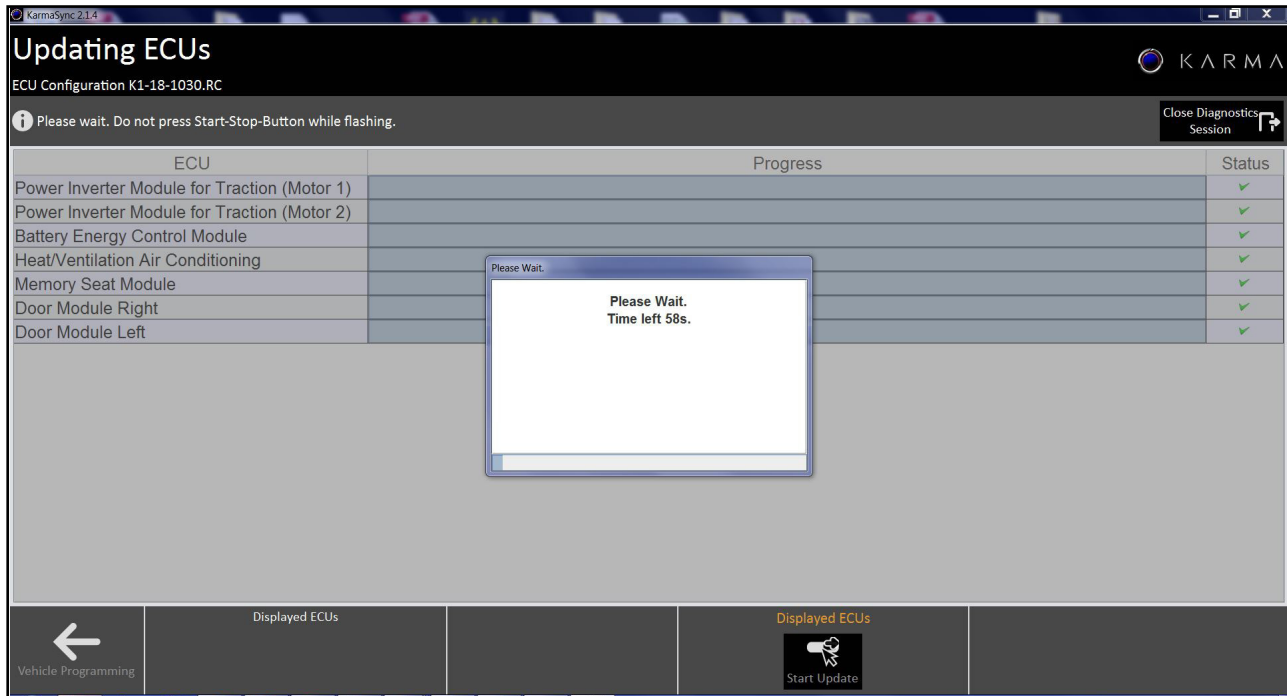


fig.17b

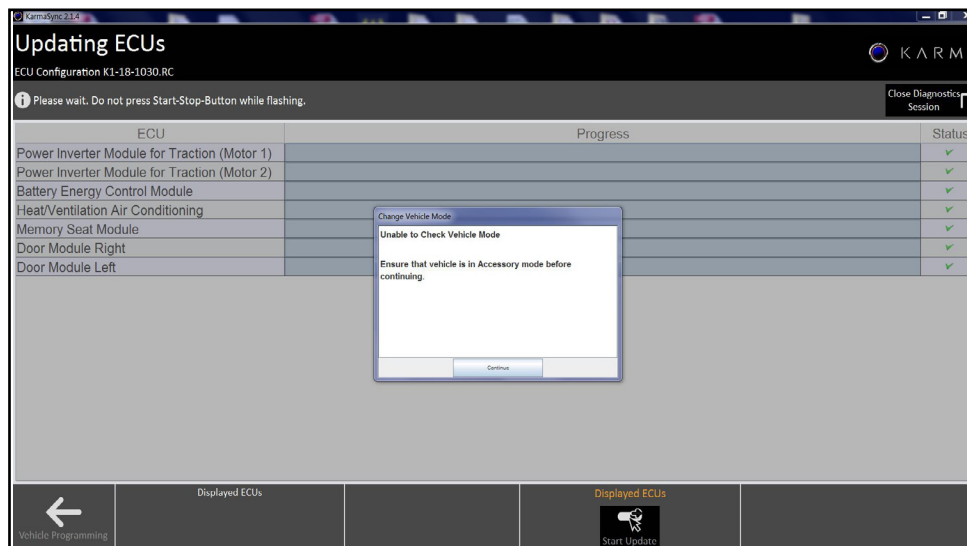


fig.17c

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When complete the green checks should appear.(fig 18)

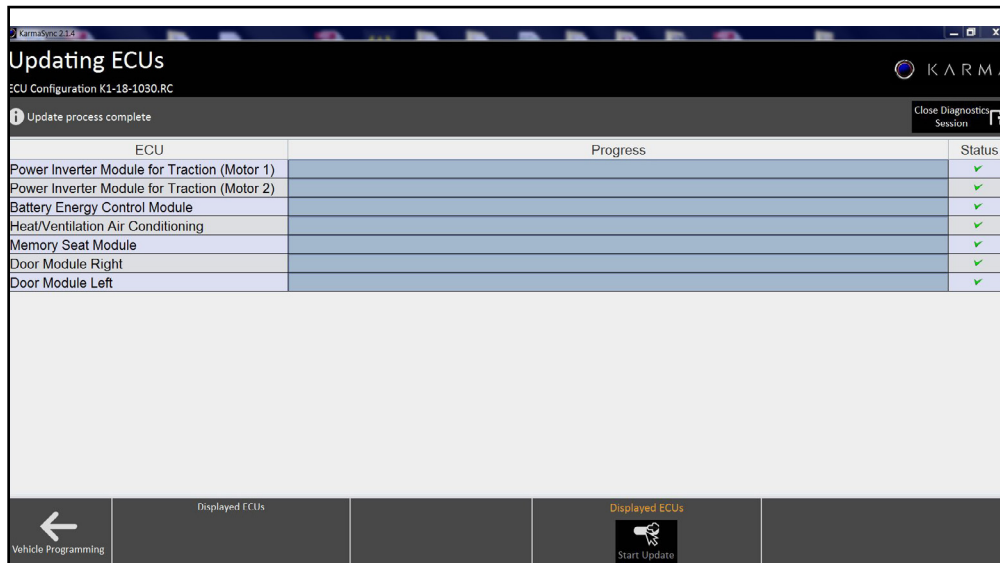


fig.18

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To repeat, the OBCM will not update this is expected in this bulletin at this stepw

⚠ NOTICE! ⚠

If any other modules fail to update during this procedure, select that module again and update.

If any module continues to fail to accept the update, please contact TSS for further instruction on how to proceed.

The flash information will be populated, as before (fig.19) - If a pop up opens stating the “OBCM failed to communicate;” disregard this message. Select the modules requiring the update and proceed to click “next” and follow the prompts again if needed.

The screenshot shows the 'Vehicle Programming' interface for 'ECU Configuration K1-18-1030.RC'. It features a table with columns for Action, ECU, Current Software, and Target Software. A 'Close Diagnostics Session' button is visible in the top right. At the bottom, there are navigation buttons for 'Vehicle Overview', 'Deselect', 'Deselect All', 'Add', 'Add All', and 'Next'.

Action	ECU	Current Software	Target Software
<input type="checkbox"/>	Power Inverter Module for Traction (Motor 1)	0281-06-34	0281-06-36
<input type="checkbox"/>	On Board Charge Module	ECU No RESP	0321-00-07
<input checked="" type="checkbox"/>	Power Inverter Module for Generator	0301-06-30	0301-06-30
<input type="checkbox"/>	Power Inverter Module for Traction (Motor 2)	0291-06-34	0291-06-36
<input checked="" type="checkbox"/>	Accessory Power Module	0311-01-02	0311-01-02
<input checked="" type="checkbox"/>	Advanced Driver Assistance System	0381-00-38	0381-00-38
<input checked="" type="checkbox"/>	Engine Control Module	0121-09-01	0121-09-01
<input checked="" type="checkbox"/>	Vehicle Control Module Security	0411-01-16	0411-01-16
<input checked="" type="checkbox"/>	Vehicle Control Module Body	0401-00-27	0401-00-27
<input type="checkbox"/>	Battery Energy Control Module	0156-04-39	0156-04-49
<input checked="" type="checkbox"/>	Tire Pressure Monitor System	0371-00-03	0371-00-03
<input checked="" type="checkbox"/>	Hybrid Control Unit	0111-0C-62	0111-0C-62
<input type="checkbox"/>	Heat/Ventilation Air Conditioning	0162-02-42	0162-02-48
<input type="checkbox"/>	Memory Seat Module	0441-02-07	0441-02-08
<input type="checkbox"/>	Door Module Right	0431-00-21	0431-00-22
<input type="checkbox"/>	Door Module Left	0421-00-21	0421-00-22

fig.19

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24. The update is complete with Karma Sync. Any codes need to be cleared in READY state. Ignore the pop-up of cycling state to ACCESSORY in Karma SYNC. Proceed to clear any DTC's present in the system. (fig.20a, 20b, 20c)

-If nothing is able to clear allow the vehicle to sleep for 10 minutes and make another attempt.

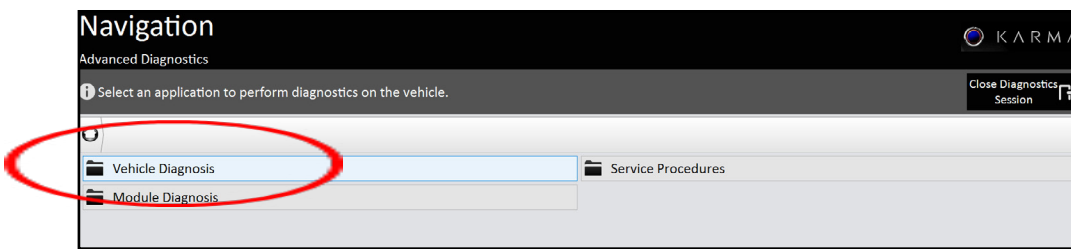


fig.20a

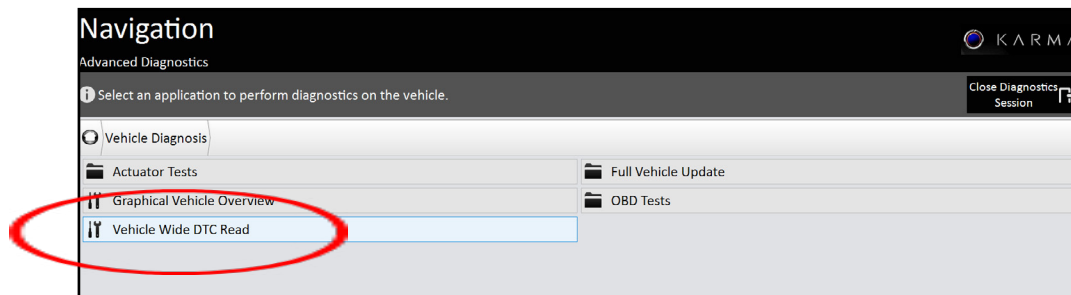


fig.20b

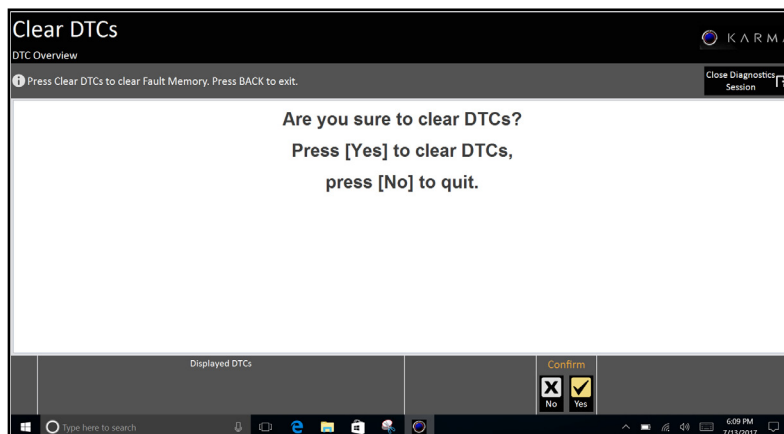


fig.20c

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25. - Verify upper hose clamp torque be checked on ALL vehicles as described in bulletin: TB-18-20-01 Radiator Hose Clamp Inspection

- If no leaks, verify the operation of the HVAC system, test on full heat max, and A/C full, check for any air or needed coolant

- After all BL1030 hardware and software are complete the vehicle MUST be driven in sport mode, with heat on MAX until fully warmed up, then coolant topped up after the test drive if needed. Ensure no air pockets and verify no DTC's are present after the updates.

Perform 12V reset

Allow the vehicle to fully go to sleep:

1. Open the fuse box under the hood (PDC) and remove fuse 10 (fig.21a, SPBC - solar panel boost controller)
2. Disconnect the main 12V ground disconnect (fig.21b)
3. Reconnect in reverse
4. Reconnect 12 volt main connector
5. Reinstall Fuse #10 for solar roof (SPBC)
6. Calibrate all windows
7. Calibrate the Parking Brake
8. Clear all DTC's
9. Verify all settings are correct: (Clock Time, Dimming and Light Levels, Seat Position, etc.)

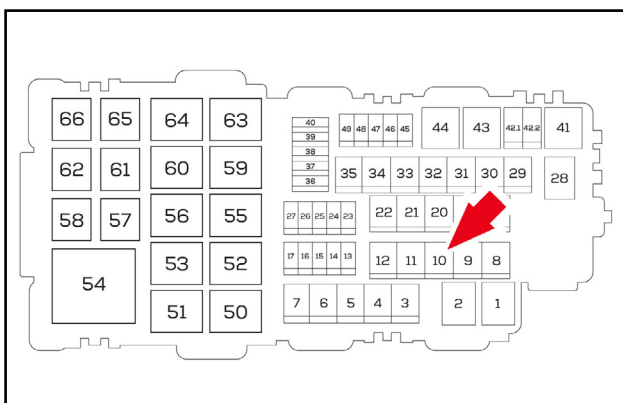


fig.21a

NOTE: Do not install the solar fuse before connecting the main 12V ground as this will cause under voltage to the control units and may cause new concerns.

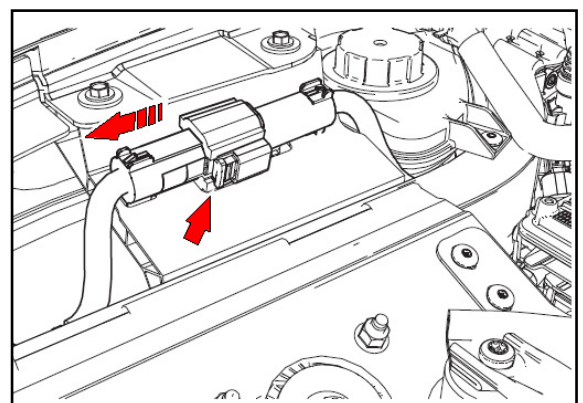


fig.21b

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Service Campaign

CC-17-00-29

MODEL: Karma Revero

DATE: February 2018

TITLE: Baseline BL1030 Firmware Release

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PARTS REQUIRED:

PART NUMBER	DESCRIPTION
N/A	N/A

SHOP SUPPLIES:

DESCRIPTION
N/A

SPECIAL TOOLS:

PART NUMBER	DESCRIPTION
N/A, Supplied to dealer.	Calibration Stylus (2 pack with extra tips)

CAUSAL PART:

PART NUMBER	DESCRIPTION
C161113201001	Engine Control Module

LABOR CODES:

CODE	DESCRIPTION	TIME	DEFECT CODE
00-99-24-37	BL1030 Software Install	1.5	00-99-20-98

SUBLET:

CODE	DESCRIPTION	AMOUNT
N/A		

WARRANTY DISPOSITION: This repair is covered under the New Vehicle Limited Warranty, in effect for five (5) years from the in-service date with no mileage limitation.

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