



Campaign code.

L73X-A.03.19.

Subject.

Pydos ECU flash and instrument cluster update.

Model.

Aventador.

Model year.

MY 17 to 19.

Special or Limited Versions.

All except Centenario

Markets.

All.

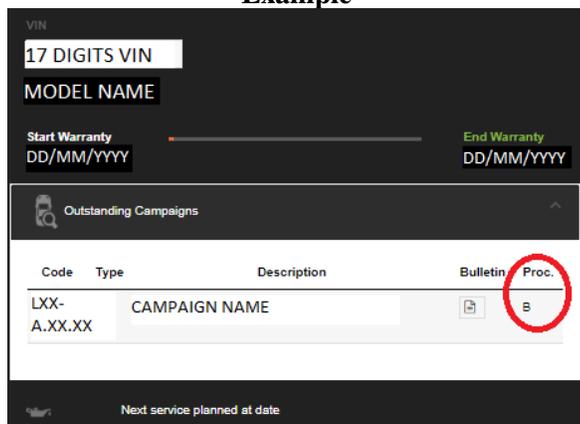
VIN Identification.

From HLA05555 to KLA08508.

Warning: before starting with the repair, log to the Warranty portal and check through VIN Info:

- The vehicle is effectively involved by these bulletin instructions; some cars may not be included even when they are in the VIN range.
- The procedure identified by a letter (e.g. A, B or C...etc. whose differences are explained below in this bulletin), taking care to order and use the parts corresponding to the assigned procedure.

Example



NOTE:

Procedure A will be available only when the instructions require to carry out a preliminary control to determine whether or not a vehicle needs to be updated.

Information to the field.

As a result of continuous product monitoring, Automobili Lamborghini S.p.A. has discovered that the Pydos system may not be accurate in detecting the car tilt level. The root cause of this problem is the wrong parameter setting and the scope of this service is to reparametrise the Pydos ECU with the aid of a specific tool. If not repaired the system could be activated also when tilt level does not require the activation. The campaign will be open until all vehicle will be updated.

Field solution

Update the Pydos ECU software and the instrument cluster software.

Spare parts.



IMPORTANT:

Do not start the service campaign in case you have not received the tool described in the “NECESSARY TOOL/MATERIAL” section.

The below spare part must be ordered and installed ONLY if the vehicle is fitted with the Pydos control unit that has the 470907721D part number and it REQUIRES to be flashed.

Order the following part number which are connected to the operation:

- Operation B & C Label installation

P/N	Description	Q
470698993	Label	1

Replaced parts management.

Store properly and tagged the parts replaced with bar code form for their identification during Area Manager visits.

Labour time.

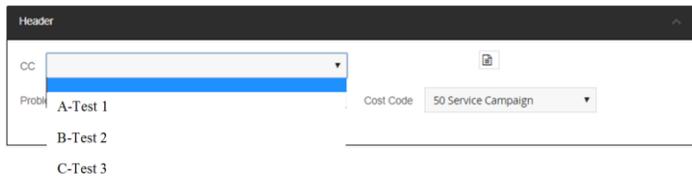
- Operation B : 3.25 hours
- Operation C : 2.5 hours
- Operation D : 1.9 hours
- Operation E : 1.2 hours

Warranty Claim instructions

To claim the reimbursement log into the warranty system management on the Lamborghini Portal and consults the manual “W.Claim “ available on the portal for the download .



Select the desired campaign and go on with the claim insertion, read carefully the windows message content and choose the option button corresponding to the operation performed .



On the base of the chosen option the reimbursement will be:

- **OPTION B:** Check Pydos part number and if 470907721D flash the ECU updating also the control unit 17 SW. *Steps to perform: I, II, III, IV, V, VI, VII and VIII.*
manpower: 3.35 hours;
spare parts: 470.698.993
- **OPTION C:** Check Pydos part number and if 470907721D flash the ECU updating also the control unit 17 SW. *Steps to perform: I, II, III, IV, V, VI, VII and VIII.*
manpower: 2.6 hours;
spare parts: 470.698.993
- **OPTION D:** Update the SW of the control unit 17
Steps to perform: I, II, III, VI, VII and VIII.
manpower: 1.9 hours;
spare parts: n/a
- **OPTION E:** Update the SW of the control unit 17
Steps to perform: I, II, III, IV, VI, VII and VIII.
manpower: 1.2 hours;
spare parts: n/a



ATTENTION!

Attach all documents produced during the vehicle visit that show evidence of the work performed such as repair order, software protocols or acquisitions...etc.; the lack of one or more of those, may deny the reimbursement.

Remember to fill all data in the section “Service and Recall Campaign” in the Warranty booklet of the vehicle as shown below.

Necessary tools/material.



NOTE:

The special tool in the below table for the Pydos control unit flashing should already been received by every Authorized Lamborghini service. In case you have not yet received it please contact the technical support.

P/N	Description	Q
61653001466	Pydos Special Tool	1

L73X-
A.03.19

To: Official After Sales Network
Subject: Pydos ECU flash and instrument cluster update
Date: 21 June 2019
Pages: 25



Rev.00

The information and procedures published below are strictly confidential and intended exclusively for authorized operators and individuals. All copyrights are the property of Automobili Lamborghini S.p.A based on copyright law. The company reserves the right to make updates and modifications. The reprinting, reproduction, forwarding to unauthorized people and/or to third parties and partial or entire translation thereof are prohibited without written authorization from Automobili Lamborghini S.p.A.

doc. nr: L/V6_M06 Rev.[05]

3/25



CONTENTS

Work instructions	5
I. Preliminary operations	5
II. Preconditions check	6
III. Save a diagnostic log	7
IV. Check of the Pydos control unit index	7
V. Flash of the Pydos control unit index "D" with the service tool 61653001466	8
VI. Software update of the control unit 17	11
VII. Configuration of the expiration date of the Pydos control unit	14
VIII. Erase fault memories:	16
APPENDIX	19
Technical data of the Service tool 616543001466	19
1. Description of the device	20
1.2 Limitation of liability	20
1.3 Safety measures	20
2. Function	21
3. Operation	21
3.1 Connect the service tool 61653001466 with the car	21
4. Update the parameters of the car	22
5. Check option	23
6. Failure description	24



Work instructions

The update procedure here described includes the following steps:

- I. Preliminary operations;
- II. Preconditions check;
- III. Save a diagnostic log;
- IV. Check of the Pydos control unit index;
- V. Flash of the Pydos control unit index “D” with the service tool 61653001466;
- VI. Software update of the control unit 17;
- VII. Configuration of the expiration date of the Pydos control unit;
- VIII. Erase fault memory

I. Preliminary operations

1. Make sure to be recently synchronized with Mirrorserver by checking the Last Sync date under: <http://mirrorserver/maintenance/diagnosis.py> or directly inserting your Btac-box IP address: [http://\[IP_address\]/maintenance/diagnosis.py](http://[IP_address]/maintenance/diagnosis.py) if you have not previously set up the mirror-server IP alias.
(e.g. <http://12.34.567.890/maintenance/diagnosis.py>)



NOTE:

Make sure the last synchronization has been done after the 19th of June 2019.

MS/2 Diagnosis

Configuration	
Base path	/var/www/desert
Provider URL	http://altair.mirrorserver2.net/deployment
Repository URL	http://altair.mirrorserver2.net/storage
Feedback URL	http://altair.mirrorserver2.net/health
Proxy	not used
Key file	/var/www/desert/certs/userkey.pem
Certificate	/var/www/desert/certs/usercert.pem
Tests	
Local file/directory permissions	OK
Disk space	OK
Provider reachable	OK (altair.mirrorserver2.net)
Repository reachable	OK (altair.mirrorserver2.net)
Feedback reachable	OK (altair.mirrorserver2.net)
Provider WebDAV access	OK (http://altair.mirrorserver2.net/deployment)
Repository WebDAV access	OK (http://altair.mirrorserver2.net/storage)
Feedback WebDAV access	OK (http://altair.mirrorserver2.net/health)
Successful package downloads	8
Failed package downloads	0
Last Sync	19/06/19 21:01:40



NOTE:

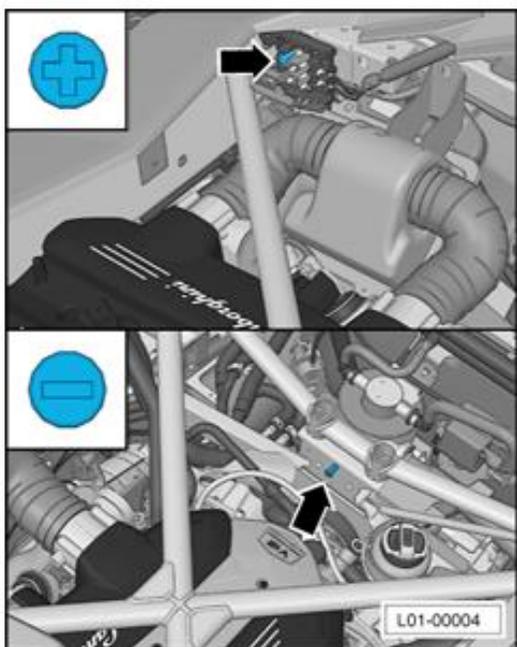
The instructions contained in this bulletin are based on ODIS Service diagnosis software updated to the release 5.1.5 (or following) and database Lamborghini 2.19.0 (please refer to BI.07.15 and be sure that ODIS Service on your laptop is updated).



2. Take note of the distance and the days remaining until the next service by reading the values from the menu on the instrument panel. For additional information on how to check the maintenance intervals, please refer to the Lamborghini LUM supplied with your car.

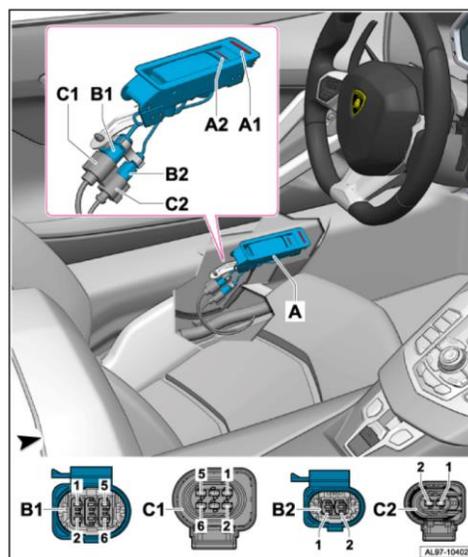


3. Please connect a suitable battery charger to the re-charge points available in the engine bonnet, as shown in the following picture.



II. Preconditions check

4. The first check to perform is to verify the status of the Pydos warning light (component A1 in the following image). If the warning light A1 is blinking it is necessary to replace the Pydos control unit, therefore order the correct control unit before to proceed in performing this service campaign.



IMPORTANT:

The Pydos control unit malfunction can be detected by the type of flashing of the warning light A1 on the passenger/driver side handles and acoustic beeps as described in the following table:

	State	LED: Driver Side	LED: Passenger Side	Internal buzzer
Diagnosis errors	Internal Emergency Supply Failure	Flashing 3	Flashing 3	OFF
	System OUT of WORK	Flashing 1	Flashing 1	ON
		Lamp Check at KL15 On	ON for 2 sec.	ON for 2 sec.
	Left inner/outer door handle switch failure	Flashing 1	OFF	OFF
	Right inner/outer door handle switch failure	OFF	Flashing 1	OFF
	Left screw failure	Flashing 2	OFF	OFF
Right screw failure		OFF	Flashing 2	OFF



The flashing modes of the LEDs are shown in the following table:

Flashing 1	Flashing 0,5 sec ON - 0,5 sec OFF (frequency = 1 Hz)
Flashing 2	Flashing 1 sec ON - 1 sec OFF (frequency = 0,5 Hz)
Flashing 3	Ciclically 4 flesh in 2 sec. than 2 sec. OFF

III. Save a diagnostic log

- Before to start any other activity save the diagnostic protocol as described in chapter: **10.00.ODIS Saving the diagnostic protocol.**



IMPORTANT:

The diagnosis protocol has to be attached to the related Warranty Claim (in order to insert the claim on the Web Portal, please refer to Warranty Claim Manual that you can find under the Portal, Warranty section).

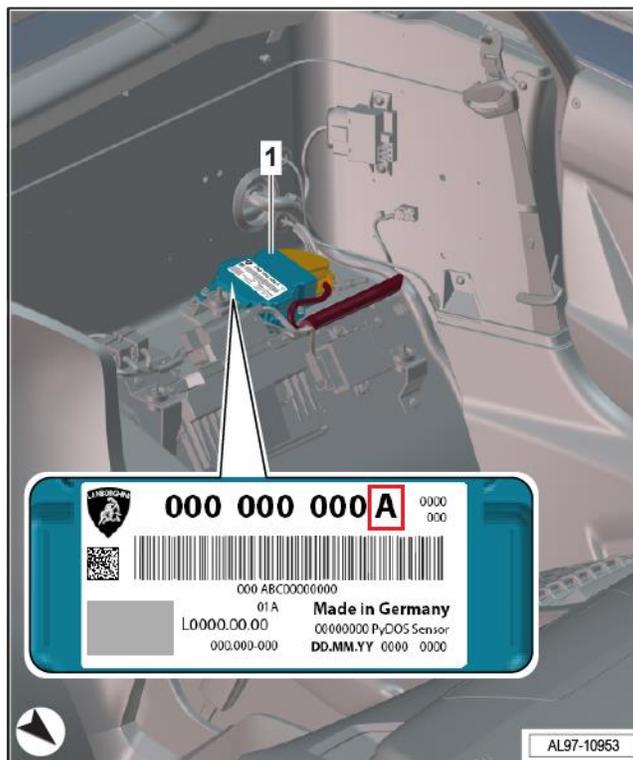
IV. Check of the Pydos control unit index

- Remove the rear bench to access the Pydos control unit.

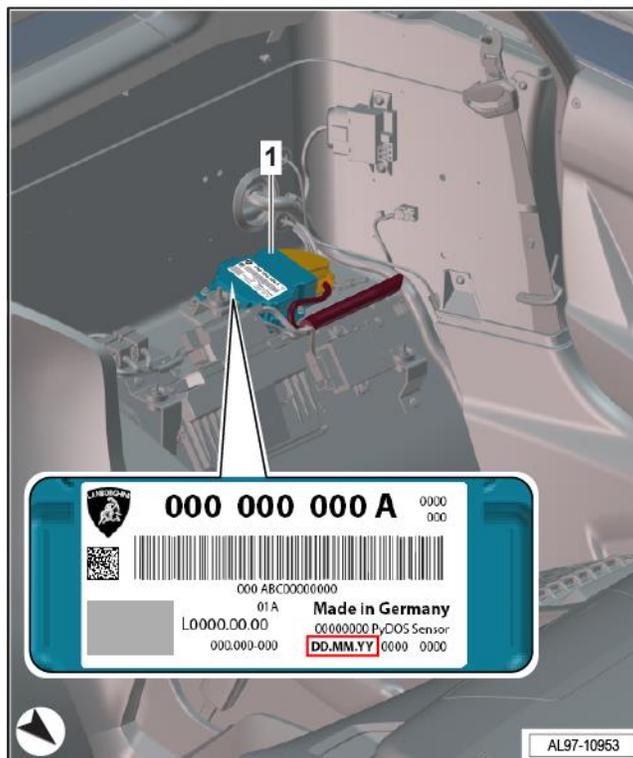
To perform these operations, follow the instructions given in the repair manual at the following path:

08 Body→68 Interior trim→Rear bench liner→Disassembly/Assembly

- Check the index of the Pydos control unit.



- Read the production data on the Pydos control unit fitted in the car and note it down.



**IMPORTANT:**

The service tool 61653001466, is intended exclusively for updating the parameters of the Pydos control unit part no. 470 907 721 D (without any rework label, refer to the following image with the gree label "02S").

9. If the Pydos control unit fitted in the car has the following part no. 470 907 721 D, perform the instructions from the step **V. Flash of the Pydos control unit index "D" with the service tool 61653001466** .
10. If the Pydos control unit fitted has an index different from "D", or if your Pydos control unit with index "D" is provided of the following label (refer to the following image with the gree label "02S"), perform the instructions from the step **VI. Software update of the control unit 17** .

**IMPORTANT:**

The green label "02S" indicates that the control unit is already updated, therefore if the Pydos control unit fitted in your car has the same label the flash procedure with the service tool 61653001466 is not needed.

V. Flash of the Pydos control unit index "D" with the service tool 61653001466

This step includes the following actions:

- Disconnect the battery and discharge the SCAP;
- Cigarette lighter disconnection (only for Aventador SVJ);
- Disconnect the wirings of the Pydos control unit;
- Connect the service tool 61653001466 to the Pydos control unit;
- Connect the battery and charge the SCAP;
- Flash procedure through the service tool 61653001466;
- Apply the label on your updated control unit to certify the update;
- Disconnect the battery and discharge the SCAP;
- Disconnect the service tool 61653001466 from the Pydos control unit;
- Connect the wirings of the Pydos control unit;
- Reassembly of the rear bench;
- Battery reconnection.

Carefully follow the instructions below to flash the Pydos control unit index "D".

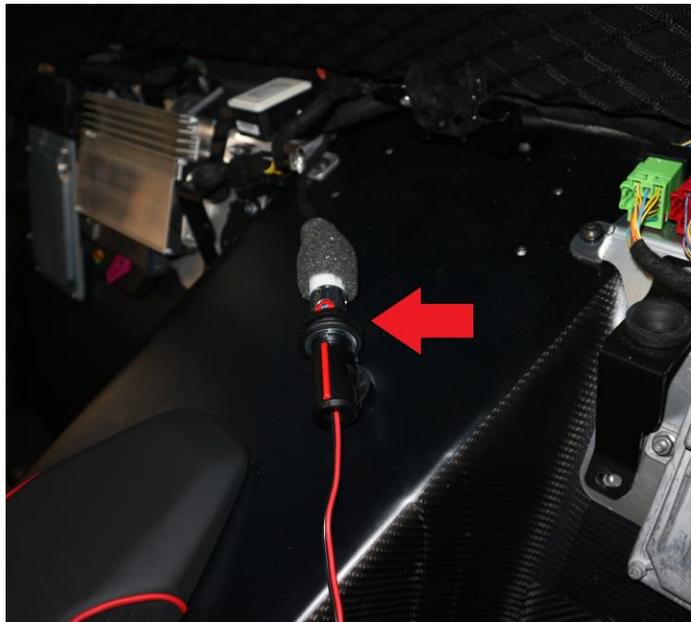
11. Disconnect the battery and discharge the SCAP.

To perform these operations, follow the instructions given in the repair manual at the following path:

09 Electrical system → 15 Battery → 58Ah/340A battery → Removal/reinstallation



12. The service tool 61653001466 requires a 12V_{DC} power supply, if the car inside is provided with it, connect to it, otherwise provide an alternative 12V_{DC} power supply.



13. Disconnect the wirings of the Pydos control unit.



14. Connect the service tool 61653001466 to the Pydos control unit.



IMPORTANT:

Make sure that the pins are correctly connected and close the green lid and the red button.



15. Connect the battery and charge the SCAP.

To perform these operations, follow the instructions given in the repair manual at the following path:

09 Electrical system → 15 Battery → 58Ah/340A battery → Removal/reinstallation



NOTE:

Since during the procedure the battery must be disconnected and reconnected again, it is sufficient to perform the individual operations for connecting the 58 Ah / 340 A battery and connecting and recharging the supercapacitor, without performing the other final operations indicated in the manual.



16. Flash the Pydos control unit through the service tool 61653001466.

For an appropriate use of the service tool 61653001466, refer to the instruction manual attached in the "Appendix" section of this document. Then perform the following operations in sequence:

- **Check of the control unit:** To perform this action please refer to the instructions in: **Appendix → 5. Check option**
- **Flash of the control unit:** To perform this action please refer to the instructions in: **Appendix → 4. Update the parameters of the car**
- **Final check of the control unit:** To perform this action please refer to the instructions in: **Appendix → 5. Check option**



NOTE:

The correctness of the check and update procedure with the service tool can be detected by the type of flashing of the warning lights on the service tool 61653001466, as described in the appendix.

17. Apply the label on your control unit to certify the update.



18. Disconnect the battery and discharge the SCAP.

To perform these operations, follow the instructions given in the repair manual at the following path:

09 Electrical system → 15 Battery → 58Ah/340A battery → Removal/reinstallation



NOTE:

Since during the procedure the battery must be disconnected and reconnected again, it is sufficient to perform the individual operations for disconnecting the 58 Ah / 340 A battery and disconnecting and discharging the supercapacitor, without performing the other final operations indicated in the manual.

19. Disconnect the service tool 61653001466 from the Pydos.



20. Connect the wirings of the Pydos control unit.

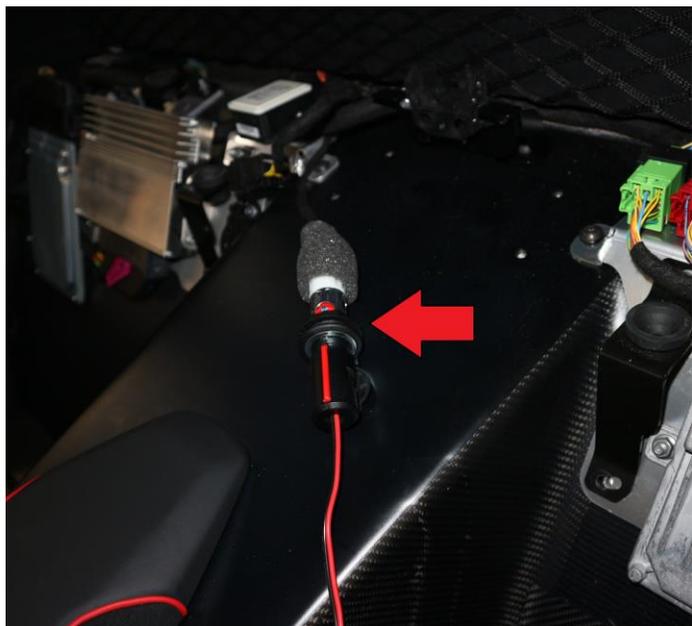


IMPORTANT:

Make sure that the pins are correctly connected and close the green lid and the red button.



21. Disconnect the power supply from the service tool 61653001466.



22. Reassembly the rear bench.

To perform these operations, follow the instructions given in the repair manual at the following path:

08 Body→68 Interior trim→Rear bench liner→Disassembly/Assembly

23. Connect the battery and charge the SCAP.

To perform these operations, follow the instructions given in the repair manual at the following path:

09 Electrical system→15 Battery→58Ah/340A battery→Removal/reinstallation

VI. Software update of the control unit 17

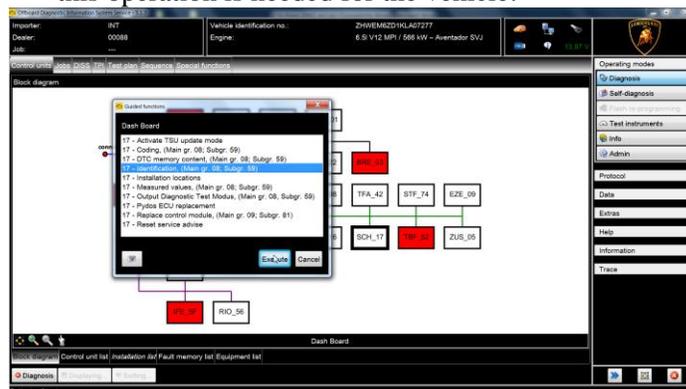
To correctly update the control unit refer to the procedure in the workshop manual regarding "Implementation of an SVM code".



IMPORTANT:

Improper use of this function can cause damage to the ECUs.

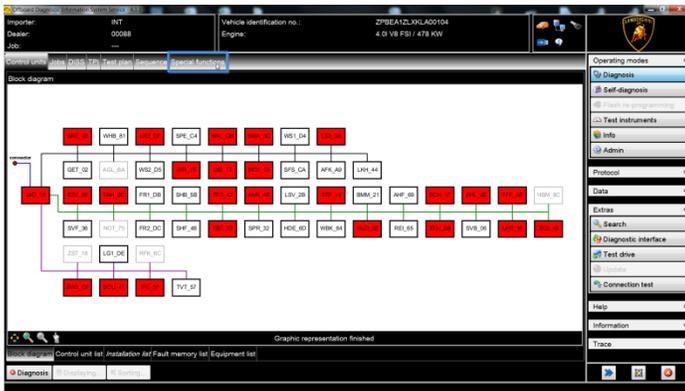
24. Select the function "17 - Identification" from the "Guided functions" of the control unit 17 to check if this operation is needed for the vehicle.



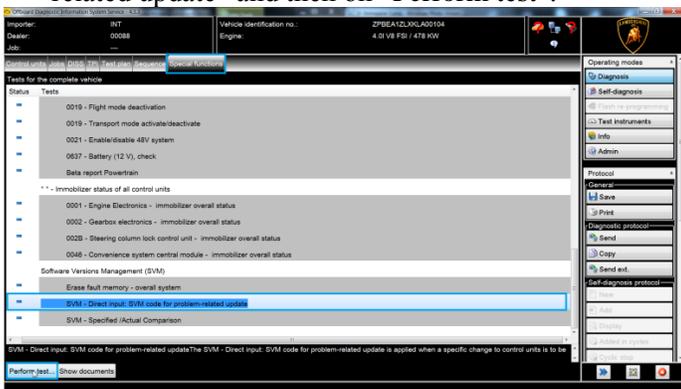
IMPORTANT:

The software update procedure is needed only if the software version installed on the control unit 17 of the vehicle is less than "0022" for Aventador S and less than "0013" for Aventador SVJ.

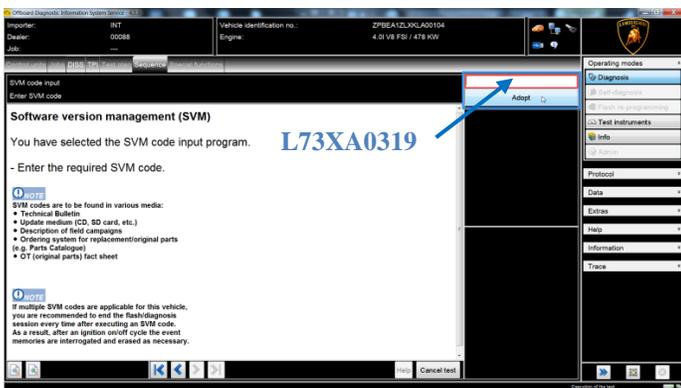
25. To start the procedure to execute an SVM code, select the "Special functions" tab in ODIS Service.



26. Click on “SVM - Direct input: SVM for problem-related update” and then on “Perform test”.

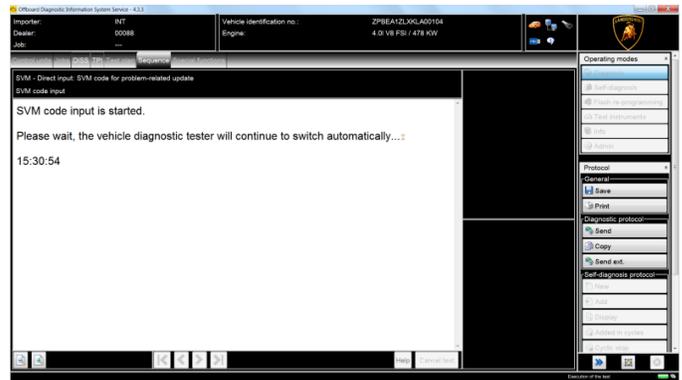


27. Enter the campaign code “L73XA0319” in the appropriate space at the top right and click “Adopt”.



28. The SVM code entered is again displayed in the dialog box. If the entered code is correct, click on “Yes”, otherwise click on “No” to cancel the SVM procedure.

29. Wait for data to be acquired from all the control units. This operation requires few minutes.



30. To run the SVM function and access the Lamborghini servers, you must have a valid GeKo account. Ensure that the laptop is correctly connected to internet. Enter your GeKo username in the "User name" field and the PIN 1324 + the 6-digit code currently displayed on the GeKo token in the "Password" field.



Click “Adopt” to confirm.

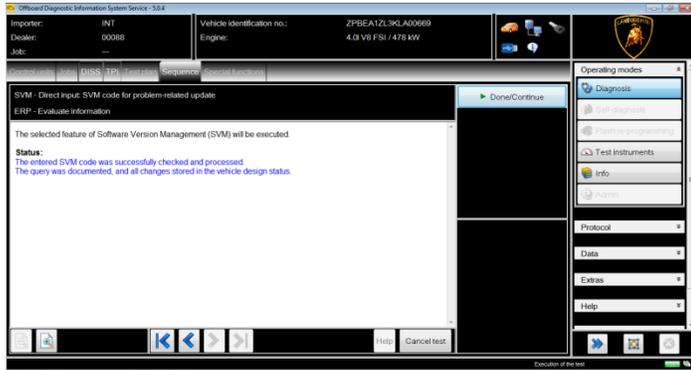
31. The SVM function will automatically continue with identification of the control units of the vehicle.

32. It might be necessary to perform one or more of the following operations in the SVM procedure:

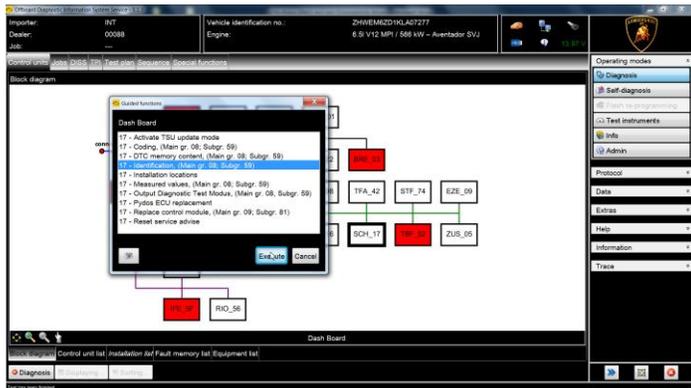
- Coding;
- Parameterization;
- Calibration.

To perform these actions, it is necessary to click on “Done/Continue” where requested following the instructions directly provided on the ODIS dialog screens.

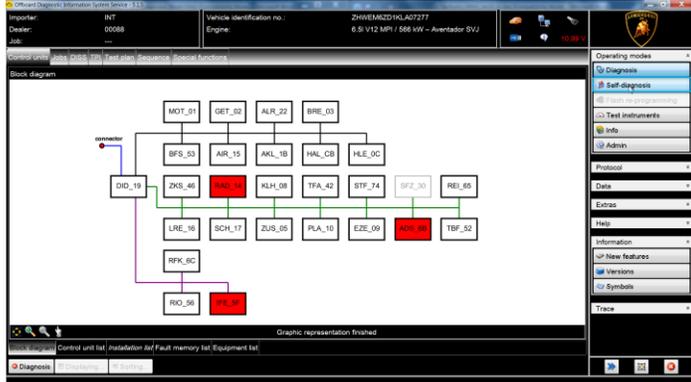
33. Click “Done/Continue” until the control unit 17 updating procedure is completed.



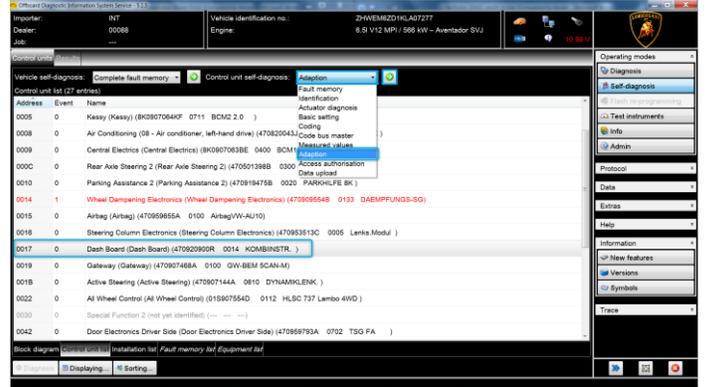
- 34. At the end of the function, switch the ignition OFF for few seconds, to allow the reset of the vehicle's on-board network.
- 35. Switch the ignition ON.
- 36. Select the function "17 - Identification" from the "Guided functions" of control unit 17 and click "Execute".



- 37. At the end of the update procedure it is necessary to set the maintenance intervals previously annotated. Select "Self-diagnosis" from the "Operating modes".



- 38. Select the dashboard control unit, ECU 17 and from the drop-down menu select "Adaption", then click on the green arrow to start the function.



- 39. Enter "52" in the text box at the top right and click on "Select Channel" to select the channel to set the remaining kilometers to the next service.



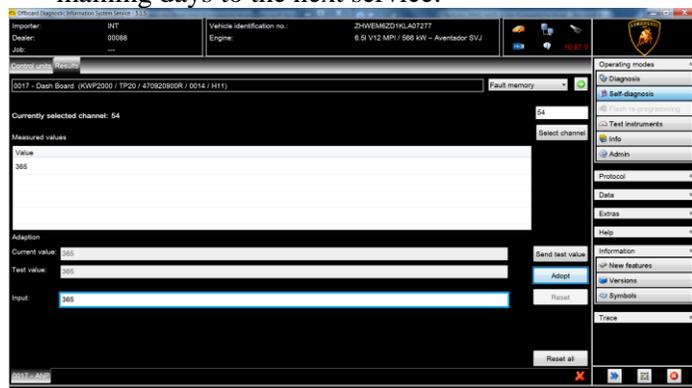
- 40. Enter in the "Input" box the km read from the instrument cluster and previously annotated. The next service must be entered in "km" and divided by 100 (E.g. if the initial value was 2500km, enter the value 25, i.e. 2500/100). Click on the "Apply" button to set the entered value.



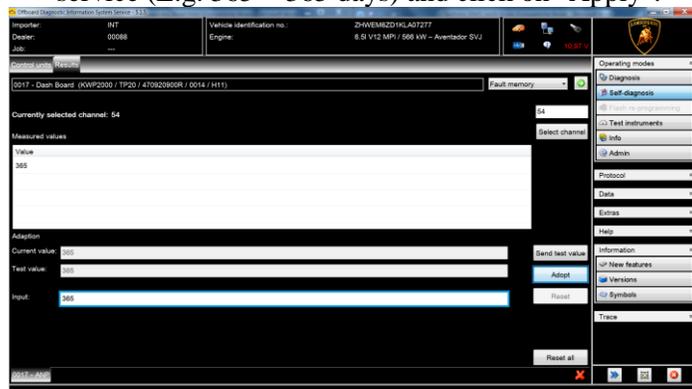
**NOTE:**

If previously the value read was expressed in miles before proceed please convert the value into kilometres. The next service must be entered in km. Clicking the "Adopt" button it is possible to check if the value updates correctly, both from the instrument cluster and from the "Value" field of the Odis Service dialogue screen.

41. Enter "54" in the text box at the top right and click on "Select Channel" to select the channel to set the remaining days to the next service.



42. In the "Input" box, enter the days read from the instrument cluster and previously annotated. To the next service (E.g. 365 = 365 days) and click on "Apply".

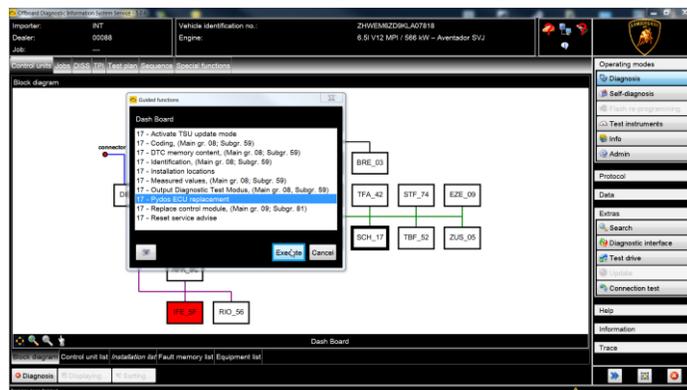
**NOTE:**

After clicking the "Adopt" button it is possible to check if the value updates correctly, both from the instrument cluster and from the "Value" field of the Odis Service dialogue screen.

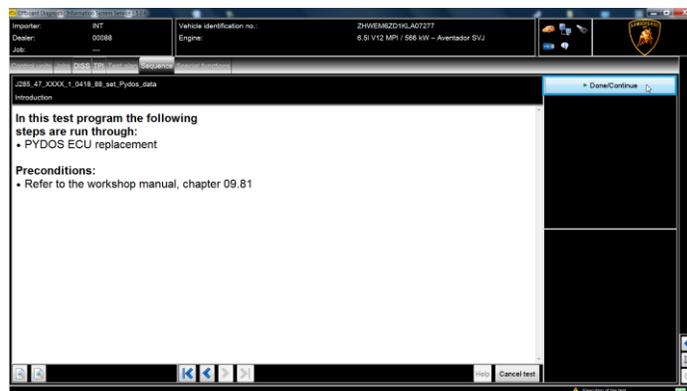
VII. Configuration of the expiration date of the Pydos control unit

The configuration of the expiration date of the Pydos control unit is necessary for all the vehicles involved in this campaign.

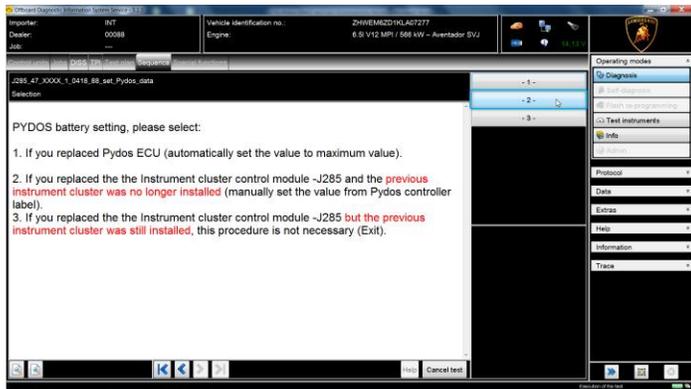
43. From the guided function of the control unit 17 select the function "17 - Pydos ECU replacement" and click "Execute".



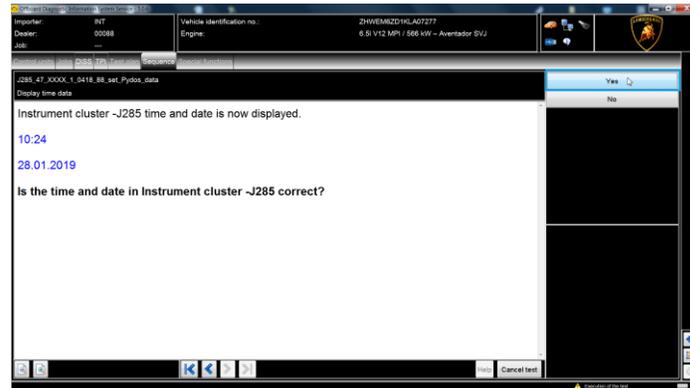
44. Click the "Done/Continue" button to continue.



45. Click the button -2- and perform the manual operation.

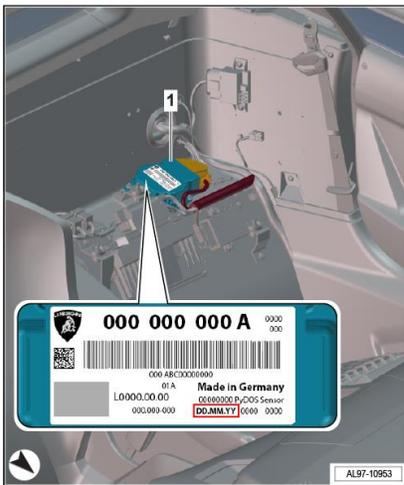


47. Check the date and time of the instrument cluster. Click on "Yes" if the date and time of the instrument cluster are correct, otherwise click "No" and set the correct values as described in the car's use and maintenance manual.

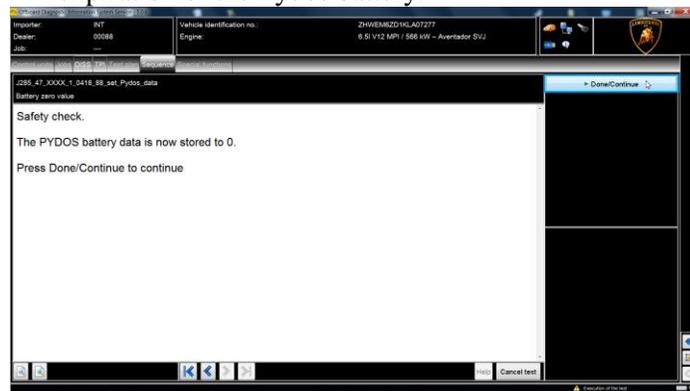


NOTE:

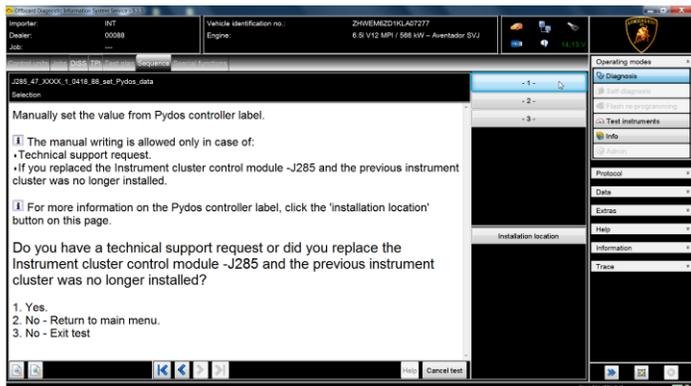
The expiry of the Pydos battery must be set according to the production year of the Pydos control unit fitted in the car and previously annotated. Refer to the following image to identify the position of the production data label.



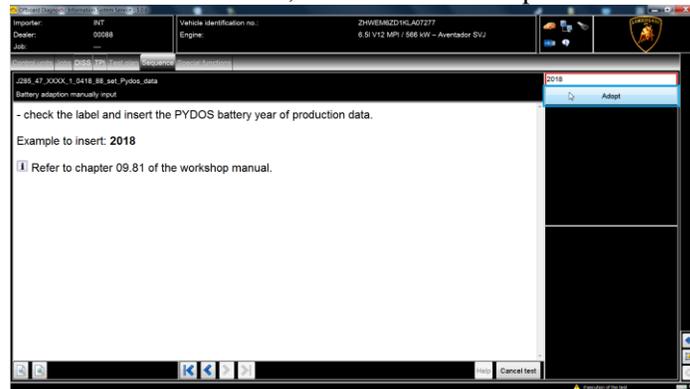
48. Click the "Done/Continue" button to initialize the expiration of the Pydos battery.



46. Click on "-1-" (Yes) and proceed with the manual procedure.



49. Check the production date indicated on the label of the Pydos control unit and insert it in the appropriate field on the ODIS screen, then click on "Adopt".

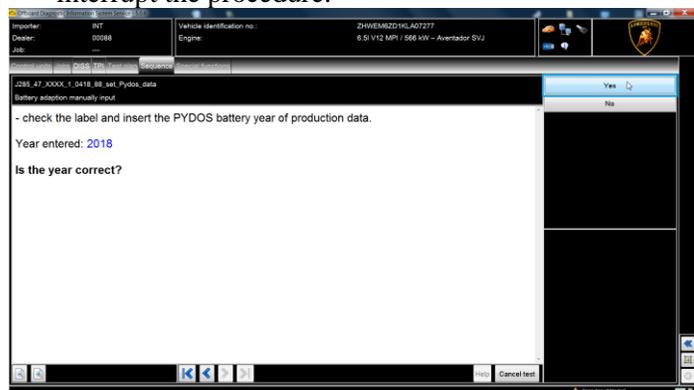




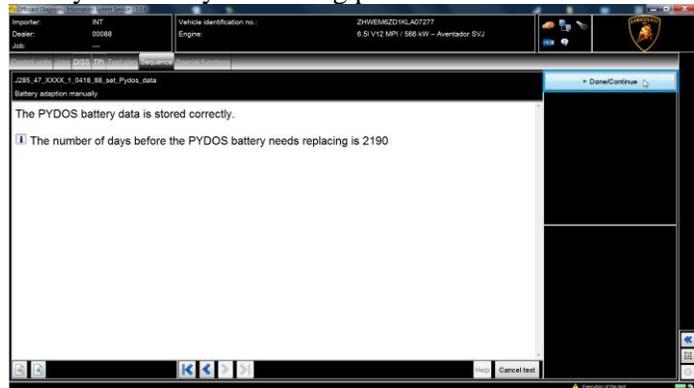
NOTE:

The format of the date to be inserted is the one shown in the example, and require to input only the year, e.g. "2018".

50. Click on "Yes" if the inserted date is correct, "No" to interrupt the procedure.



51. The number of days for the Pydos battery validity is displayed. Click "Done/Continue" to complete the Pydos battery life setting procedure.



VIII. Erase fault memories:

52. Once the previous steps has been completed, go back to the tab "Special Functions" and select "Erase fault memory – overall system" to clear all the faults stored. The complete guide in order to erase all fault memories is available in the workshop manual, chapter 10.00.B: *Deleting the data in the fault memory of control units.*

/* Diagnosis protocol saving */

At the end of the procedure, save the diagnostic protocol as described in chapter 10.00.ODIS Saving the diagnostic protocol.

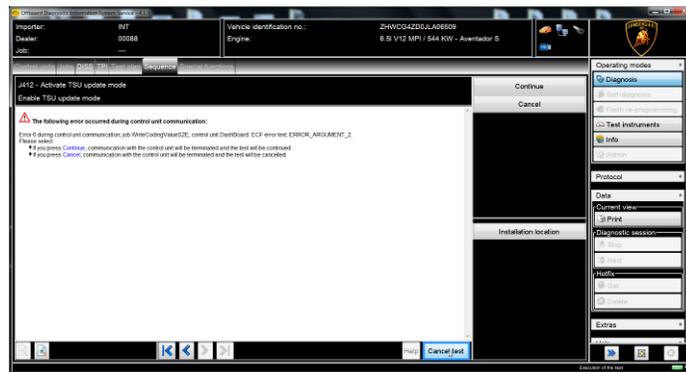


IMPORTANT:

The diagnosis protocol has to be attached to the related Warranty Claim (in order to insert the claim on the Web Portal, please refer to Warranty Claim Manual you can find under the Portal, Warranty section).

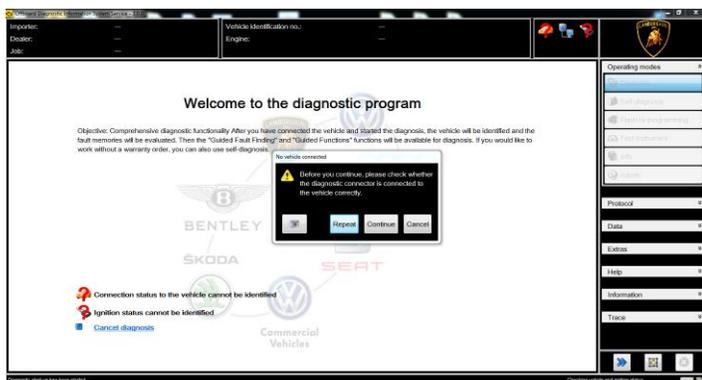
/* Trouble shooting */

i. If the following error page is shown, you shall abort the procedure clicking on "Cancel Test" and contact the Technical Support.



ii. If the error message regarding the VAS5054 interface and the two icons for status of on board connection and key ON are shown as in the picture below:

- Click "Cancel";
- Repeat the VAS5054 HW interface installation following the procedure (*) "VCI Manager v2.0", by entering in the menu "Extras" on the right side and clicking on "Diagnostic interface".



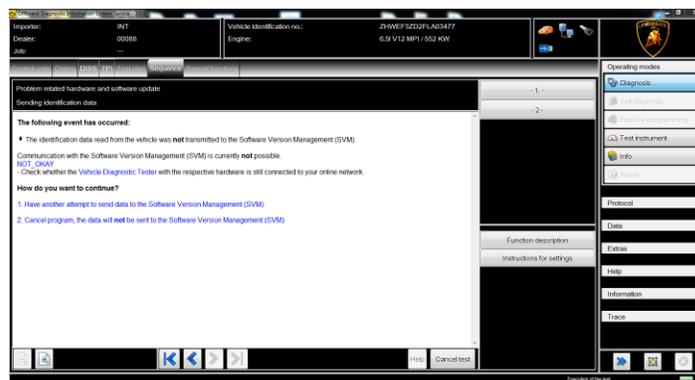
iii. If one of the connection error screens is shown as in the pictures below:

- it is not possible to establish a connection with the central server. Please check carefully that the diagnosis laptop is properly connected to the internet network and retry clicking “Yes” or “Done/Continue”.



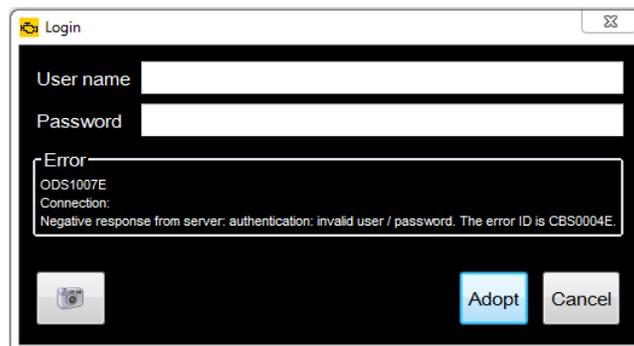
iv. If the loss of connection happens during the target/actual comparison during SVM procedure:

- It is not possible to connect to central server, check the working connection of internet and retry by clicking “1”.



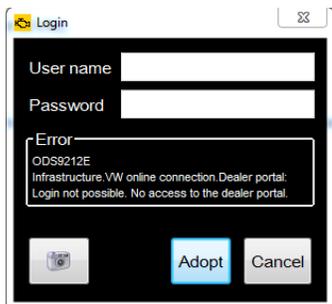
v. If the incorrect identification message is shown as in the picture below (error code: ODS1007E):

- be sure that your Geko account is valid;
- be sure that the label “Geko” is written on the token that you are using for the authentication;
- be sure the Password inserted is correct;
- click on Cancel and perform the application test (see document “ODIS_Checking_ConnectionServer_SVM_2.0” (*)).



vi. If the infrastructure error message is shown as in the picture below (error code: ODS9212E):

- be sure that your Geko account is valid
- be sure that the label “Geko” is written on the token that you are using for the authentication
- verify in ODIS settings you have “Internet” instead of “CPN” (see document “ODIS_Initial_Setup_2.0” (*))
- click on Cancel and perform the application test (see document “ODIS_Checking_ConnectionServer_SVM_2.0” (*))



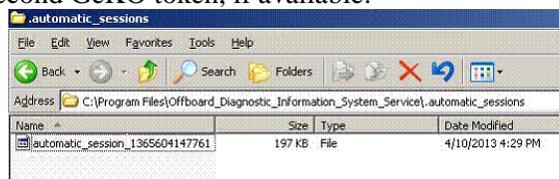
If the same error is present during the application test, try the following procedure:

- quit ODIS;
- Enter the folder C:\Program Files (x86)\Offboard_Diagnostic_Information_System_Service\automatic_sessions on your diagnosis laptop;
- delete the only file present in that folder.
- re-Start ODIS Service under following conditions:
 1. Network connection available;
 2. ODIS connection set on “Internet”;
- Retry the application test and the SVM with your GeKO Token.



IMPORTANT REMARK:

In the case an error is still present, retry the procedure with a second GeKO token, if available.



vii. In the case the flash container is not detected (see figure):

- Make sure to be recently synchronized with Mirrorserver by checking the last date of Sync under:
<http://mirrorserver/maintenance/diagnosis.py>
 or under
[http://\[IP_address\]/maintenance/diagnosis.py](http://[IP_address]/maintenance/diagnosis.py)
- if you don't have previously defined the “mirrorserver” IP address alias.
- Make sure to be correctly connected with Mirrorserver.

MS/2 Diagnosis

Configuration	
Base path	/var/www/desert
Provider URL	https://altair.mirrorserver2.net/deployment
Repository URL	https://altair.mirrorserver2.net/storage
Feedback URL	https://altair.mirrorserver2.net/health
Proxy	not used
Key file	/var/www/desert/certs/userkey.pem
Certificate	/var/www/desert/certs/usercert.pem
Tests	
Local file/directory permissions	OK
Disk space	OK
Provider reachable	OK (altair.mirrorserver2.net)
Repository reachable	OK (altair.mirrorserver2.net)
Feedback reachable	OK (altair.mirrorserver2.net)
Provider WebDAV access	OK (https://altair.mirrorserver2.net/deployment)
Repository WebDAV access	OK (https://altair.mirrorserver2.net/storage)
Feedback WebDAV access	OK (https://altair.mirrorserver2.net/health)
Successful package downloads	8
Failed package downloads	0
Last Sync	19/06/19 21.01:40



NOTE:

ODIS technical documentation can be retrieved on the Lamborghini web portal, under ODIS section.



IMPORTANT REMARK:

The documents to be mandatory attached to the claim are:

- Job order done;
- Diagnosis Protocol saved.

Failure to follow the procedures may lead to the rejection of the request.

Your Area Manager is at full disposal for further information.

Best regards

Customer Service



APPENDIX



Technical data of the Service tool 616543001466

Supply	12 V _{DC} ± 10%
Power consumption	Max. 4 A
Input consumption	Max. 50 W (short time)
Dimensions (B/H/T)	90 mm x 36 mm x 108 mm
Weight	328 g
Storage temperature	-20°C until 80°C
Working temperature	5°C until 40°C
Safety type	IP40
Serial interface	RS232C 19200 Baud (8N1)



1. Description of the device

This appendix contains all the information according to Section 3 of The Equipment Safety Act "Requirements and regulations for introducing a product onto the market" (in conjunction with The Machinery Directive 2006/42/EG in its latest, valid edition). It is intended for people who are employed on/with the machine, system, device (in the following mentioned as **MSD**) as described here.

This operating manual is part of the user's information for introducing an MSD onto the market and must be retained safely and be made accessible to the owner and operator of the equipment.

The operating manual must accompany the equipment when it is relocated.

1.2 Limitation of liability

Great care was taken when compiling these operating instructions. However, Löhnert Elektronik GmbH is unable to accept any liability for any errors contained in these operating instructions, or for the consequences of any such errors. Similarly, no liability will be accepted for any damage caused directly or indirectly as a result of improper use of the system or of use in a manner other than that intended.

1.2.1 Warranty

The warranty for this product is contingent on the contractually specified conditions.

If a declaration of conformity was issued it will be void if the operator has carried out modifications on the equipment.

1.2.2 Intended use

The service tool 61653001466 is intended for updating the parameters of the Pydos control unit, part no. 470 907 721 D, produced by Löhnert Elektronik GmbH. The parameters to be changed are the quiet condition limits of the control unit.



NOTE:

Any other use or use going beyond this is not permissible and thus does not constitute intended use. For damage caused by unintended use the manufacturer cannot be held responsible. The risks involved in such use are the sole responsibility of the operator. Intended use also includes

following the operating instructions and the safety measures.

1.2.3 Prohibited use also intends

Prohibited use also intends:

- Unauthorized additions to or modifications of the tool;
- Improper use of accessories, apparatus and peripherals, etc.;
- Using operating material which has not been accepted by the manufacturer.

1.2.4 Copyright protection

These instructions are copyright-protected and only intended for use by Automobili Lamborghini S.p.A. and their authorized dealers.

Transmission of the instructions to third parties, reproduction of any kind and form – including in part – as well as utilisation and/or reporting of the contents are not permitted without written permission of the manufacturer, except for internal purposes.

In case of violations, we will claim compensation for damages. The right to make additional claims is retained.



NOTE:

The contents, information, texts, diagrams, images and other representations are copyright-protected and are subject to industrial property rights. Any infringement is punishable under the law.

1.3 Safety measures



IMPORTANT:

The health and safety of employees can only be ensured if the safety measures described are observed during every phase of the system's life (construction, transport, installation, etc.).

Protective equipment must not be bypassed, removed or disabled.

The Service Tool shall only be used by persons who have been assigned to the task by their superior, have been instructed how to do it, and who are familiar with its operation.

The information given in the operating instructions must be observed in all phases of operation. Please read the appropriate chapters in the manual carefully before beginning to work.

Operators and users alike are responsible for ensuring that the operating instructions are readily at hand when using the service tool 61653001466. In case of doubt, refer to the instructions for the correct operating procedure.

The operator is obliged to operate the service tool 61653001466 only in a perfect condition. Before use, the operator must check the condition of the tool and, if necessary, organize the replacement of the tool.

1.3.1 Residual risk

When observing the safety measures there will be no residual risk provided that the service tool 61653001466 is applied in accordance with its intended use.

2. Function

The service tool 61653001466 is intended for updating the parameters of the Pydos control unit part no. 470 907 721 D without any rework label, produced by the company Löhnert Elektronik GmbH. The parameters to be updated are the quiet condition limits of the control unit.



NOTE:

The service tool 61653001466 must only be applied on control units with the part no. 470 907 721 D.

3. Operation

Before disconnecting the Pydos for the flashing operation please check if the Pydos control unit is correctly working.



NOTE:

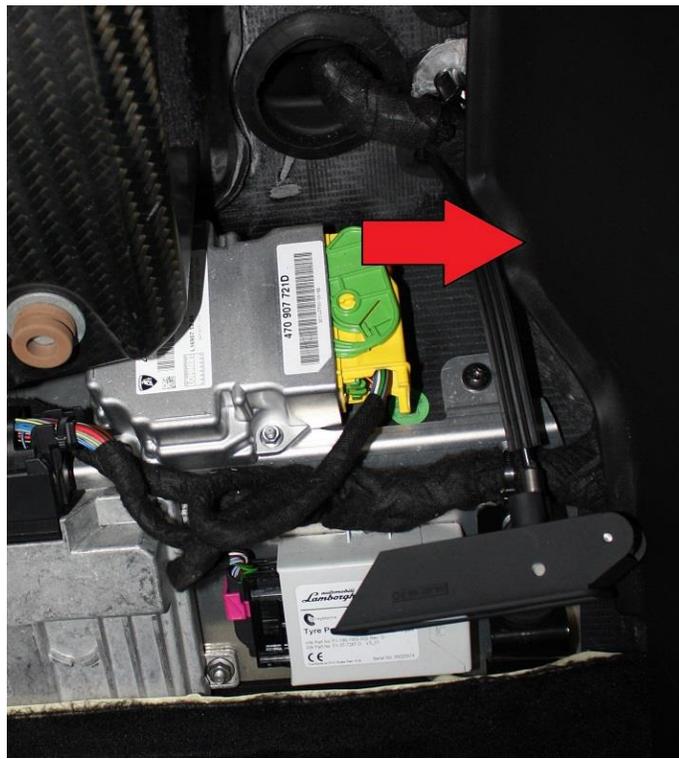
*Refer to the table mentioned in the chapter II. **Preconditions check**, to decript the meaning of the flashing of the Pydos warning light.*

3.1 Connect the service tool 61653001466 with the car

3.1.1 Switch off ignition of the car

Wait for a time > 60 sec before disconnecting the Pydos control unit.

3.1.2 Disconnect the Pydos control unit



3.1.3 Connect the cable of the service tool 61653001466 with the Pydos control unit

Make sure that the pins are correctly connected and close the green lid and the red button.

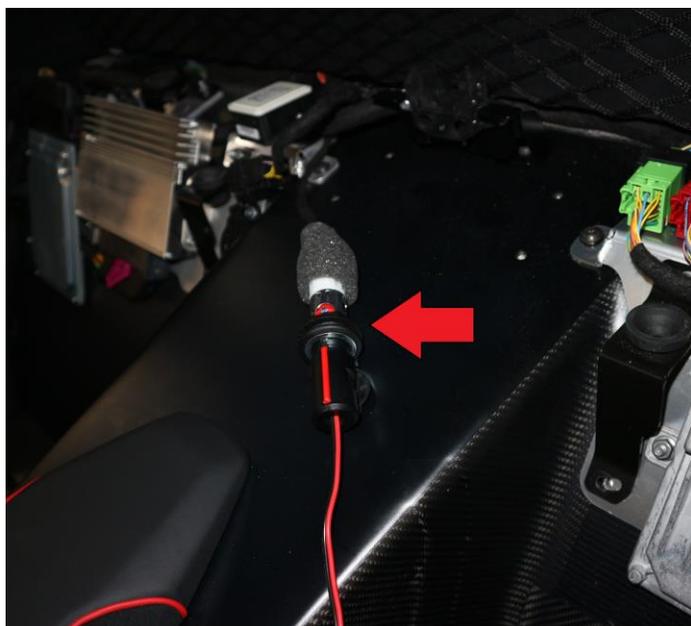


Here follows two conditions NOT CORRECT to avoid.





3.1.4 Connect the power cable with the cigarette lighter of the car



4. Update the parameters of the car

Turn the ignition ON (“Key on”). The “Power” LED of the service tool is on, if not – see description of failures (**6. Failure** description).



4.1 Press Start button

To start the update procedure press the “Start” button, the car parameters (quiet condition limits) are updated.



This operation takes up to 105 s. During this time the “Flash” LED flashes yellow.



NOTE:

The Pydos-LED of the service tool flashes twice for about 1sec each during the flash operation.

After this “flashing” operation, the “OK” or “Error” LEDs of the service tool give the feedback of the updating procedure.

- **4.1.1 The green “OK” LED on the service tool is permanently ON**

If the green “OK” LED is permanently ON, the updating procedure was successful.





NOTE:

At the end of the flashing process the Pydos LED must be off.

• **4.1.2 The red “Error” LED is ON**

If the red “Error” LED is permanently ON or blinkin, the updating procedure was failed, refer to the following table for the failure cause.



Status of the red Error LED	Failure
Blinking	Invalid CONTROL UNIT
Permanently on	Parameters could not be updated. Please see description of failure

4.2.3 Flashing procedure was successful

Having successfully completed step 3.3.2 (green LED is on) the Pydos control unit is automatically switched off. Only then proceed with step 3.3.4.

Otherwise there will be an entry in the failure memory of the control unit.

4.2.4 Apply the label “Updated to 02S“ to the Pydos control unit

Apply the label only if the Pydos flashing procedure ended with a positive feedback.



5. Check option

If you press the “Check” button the service tool tests if this control unit contains the correct parameters.



This operation is optional and takes up to 95 s. During this check operation the OK-LED and the Error-LED are flashing alternately.

Having completed the Check the LEDs give the following feedback:

• **5.1.1 The green OK-LED is permanently on**

The Pydos control unit already contains the new parameters.



Apply the label “Updated to 02S” to the Pydos control unit – see 4.2.4 *Apply the label “Updated to 02S” to the Pydos control unit*

• 5.1.2 *The red “Error” LED is ON*



Status of the red Error LED	Failure
Blinking	Invalid control unit
Permanently on	Refer to the description of failure chapter

5.2 *Disconnect the service tool 61653001466 from the car*

It is fundamental that you follow the steps in the correct order to avoid damages to the Pydos control unit.

- Check that the Pydos LED of the service tool 61653001466 is off;
- Switch off ignition of the car;
- Disconnect the power cable of the service tool 61653001466 from cigarette lighter of the car;
- Check that the green “Power” LED on the service tool is off;
- Disconnect the cable of the service tool from the Pydos control unit;
- Connect the Pydos control unit correctly with the cable harness of the car;
- Switch on the ignition of the car (“Key ON”);
- The Pydos control unit is updated and fully functional.

6. Failure description

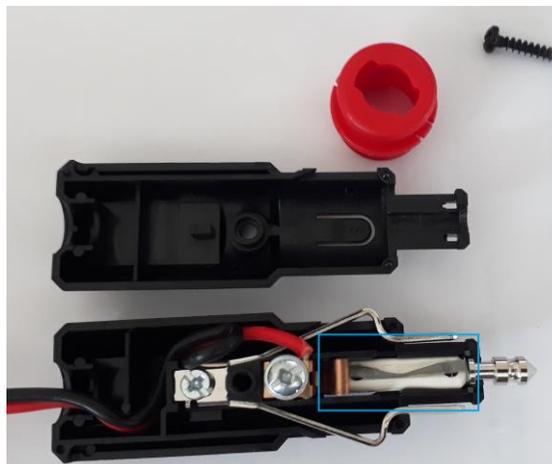
6.1 *The green “Power” LED is not on*

You connected the service tool with the cigarette lighter of the car and the green “Power” LED on the power supply side is not on. Please check:

- Ignition of the car is on “Key ON”;
- Power cable is correctly connected to the cigarette lighter
- Service Tool is correctly connected to the Pydos control unit: Please check the correct latching of the connector and make sure that the green lid and the red button are correctly closed.

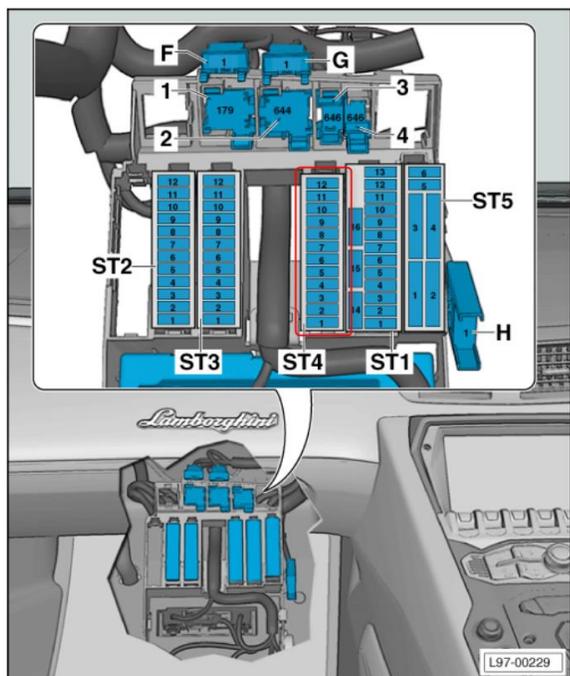
6.2 *Safety fuse (8A) inside the connector of the power cable*

Check if the safety fuse (8A) inside the connector of the power cable to the cigarette lighter is defect and must be replaced.



6.3 *Safety fuse for the 12V socket*

If you are using the 12V socket of the car and the service tool doesn’t work, check if the safety fuse inside the cigarette lighter of the car is defect and must be replaced.



Check the fuse of your specific model year on the fuse carrier ST4.

6.4 Red Error LED is blinking

If the red “Error” LED is blinking having pressed the “Check” or “Flashing” button it has the following cause:

6.4.1 The Pydos control unit type is not correct

It is a Pydos control unit 470 907 721 B or C.

Please proceed as follows:

- Please stop using the service tool.
- Disconnect the service tool from the power supply.
- Disconnect the service tool from the control unit.
- Connect the control unit with the harness of the car.
- Check if the control unit is functionable – see 3.1.

6.5 Red Error LED is permanently on

If the red Error-LED is permanently on having completed the Check- or Flashing operation it may have the following causes:

6.5.1 The parameters are not updated (only valid for Check operation)

Press the “Start” button to start the flashing operation.

6.5.2 The parameters could not be updated.

Check the connector of the service tool to the Pydos control unit and restart flashing.

If flashing is still not working please contact the Lamborghini technical support.