Subject
Engine Software Update

Model
All Lamborghini Aventador SV MY **15** and Aventador Coupé, Roadster MY **16,** all versions, until VIN GLA04356 **US vehicles excluded**

Warning: some vehicles included in this VIN range may not be involved, so check carefully on the Lamborghini WEB Portal (at the section named VIN Info) if the cars in your workshop or in your dealer stock are involved before performing any other operation.
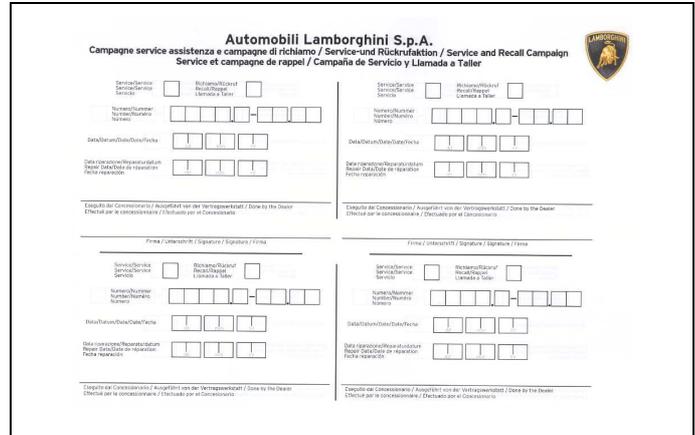
Information to the field
As a result of continuous product monitoring, Automobili Lamborghini Spa has introduced a new engine management software to enhance the vehicle start up performed combining warm engine and remarkably high room temperature.

Field solution
Update software that manage engine software.

Warranty Claim data
The warranty reimbursement request for this rework action will be managed by the following standard Warranty Claim procedures.

Campaign Code:	**L73X-A.02.15**
Campaign Des.:	**Engine SW Update**
Cost code:	**50**
Component code:	**CCA0215**
Trouble code:	**220**
Labor code:	**CC0215100**
Labor Time:	**1 h**

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

Automobili Lamborghini S.p.A.
Campagne service assistenza e campagne di richiamo / Service-und Rückrufaktion / Service and Recall Campaign
Service et campagne de rappel / Campaña de Servicio y Llamada a Taller

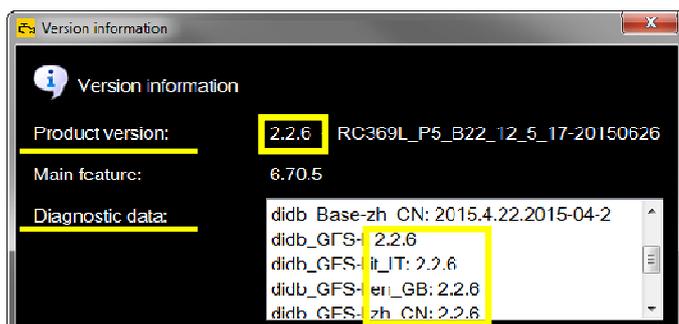Rev.01

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Workshop instructions

The instructions contained in this bulletin are based on ODIS Service diagnosis software updated to release 2.2.6 and database Lamborghini 2.2.6

Preliminary operations:

1. Make sure to be recently synchronized with Mirrorserver by checking the Last Sync date under:

   http://mirrorserver/welcome

   or under:

   http://IP_address/welcome

   if you didn't yet set up the mirrorserver IP alias

IMPORTANT
Make sure the last synchronization has been done after the 28th july 2015.
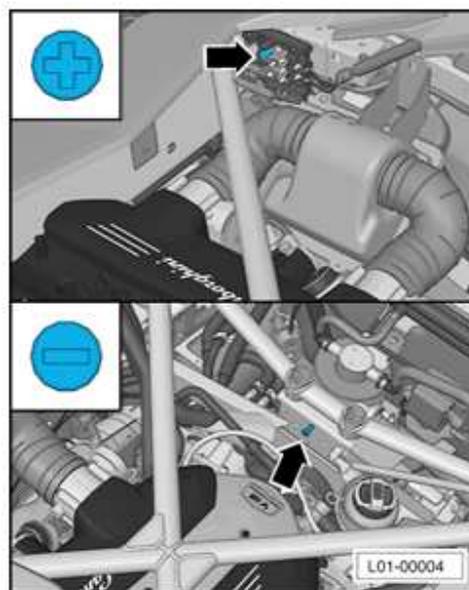
Congratulations

You have successfully installed your MirrorServer/2 NOS-Box.

Testing the connection to the configured Provider Server. Please wait a moment, this takes some time ...

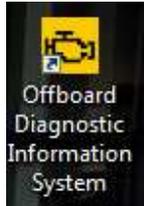| Configuration	
Base path	/var/www/desert
Provider URL	https://altair.mirrorserver2.net/deployment
Repository URL	https://altair.mirrorserver2.net/storage
Feedback URL	https://altair.mirrorserver2.net/health
Proxy	http://10.48.187.43:8080/
Key file	/var/www/desert/certs/userkey.pem
Certificate	/var/www/desert/certs/usercert.pem
Tests	
Provider WebDAV access	OK (/deployment/)
Repository WebDAV access	OK (/storage/)
Feedback WebDAV access	OK (/health/)
Successful package downloads	5
Failed package downloads	0
Last Sync	28-07-15 at 22-55-33

Update procedure:

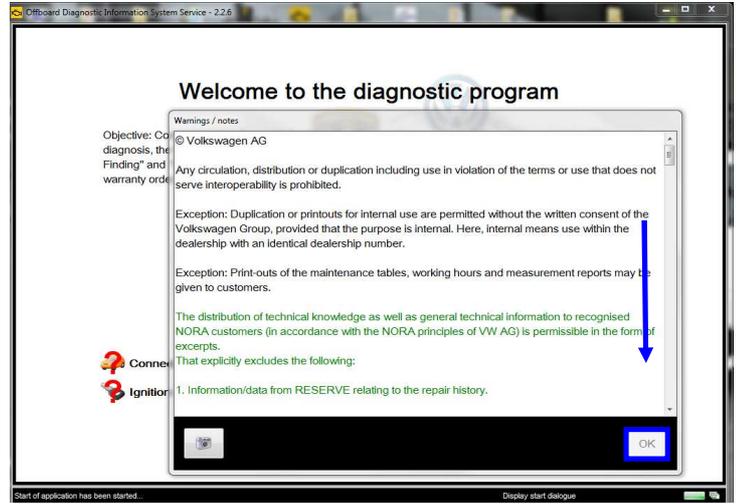2. Please connect a battery charger to the recharge points available in the engine bonnet, as shown in picture.

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3. Please connect the VAS5054 interface to the vehicle's OBD plug and to the diagnostic laptop.

Turn the ignition ON

L01-00003
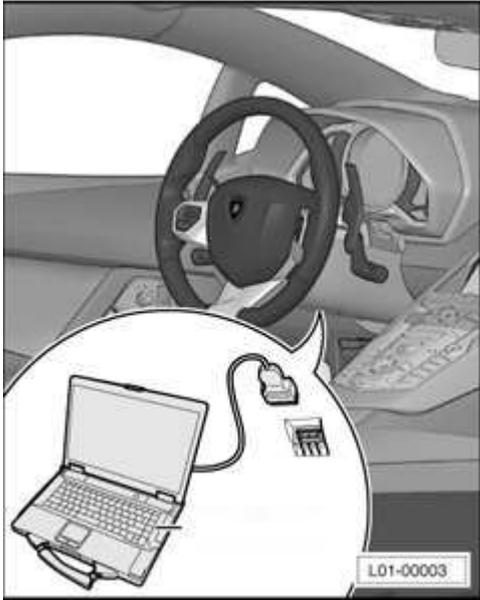
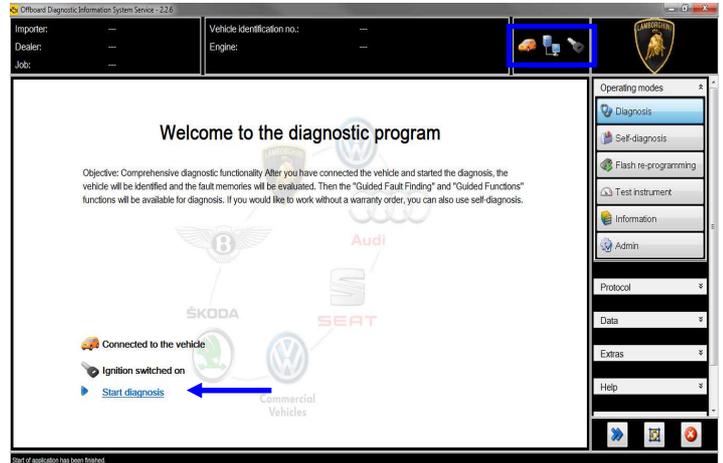**4.** Start the ODIS Service double clicking on the related icon on the desktop of the diagnosis laptop.

Offboard Diagnostic Information System

5. Scroll down the right side vertical bar. Click on "OK" to hide the general information window.

Welcome to the diagnostic program

Warnings / notes

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Exception: Print-outs of the maintenance tables, working hours and measurement reports may be given to customers.

The distribution of technical knowledge as well as general technical information to recognised NORA customers (in accordance with the NORA principles of VW AG) is permissible in the form of excerpts.
That explicitly excludes the following:

1. Information/data from RESERVE relating to the repair history.

OK

6. Select "**Start diagnosis**".

Make sure that ODIS can detect the vehicle connection status and the key ON.

Welcome to the diagnostic program

Objective: Comprehensive diagnostic functionality After you have connected the vehicle and started the diagnosis, the vehicle will be identified and the fault memories will be evaluated. Then the "Guided Fault Finding" and "Guided Functions" functions will be available for diagnosis. If you would like to work without a warranty order, you can also use self-diagnosis.

Connected to the vehicle

Ignition switched on

Start diagnosis

Operating modes
- Diagnosis
- Self-diagnosis
- Flash re-programming
- Test instrument
- Information
- Admin

Protocol
Data
Extras
Help

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7. Check the vehicle identification on the window "*Basic vehicle characteristics*".

   Select first the Variant (Coupe' or Roadster) in the related menu.

   Select then the Engine type (515 – 530 or 552 kW) in the related menu.
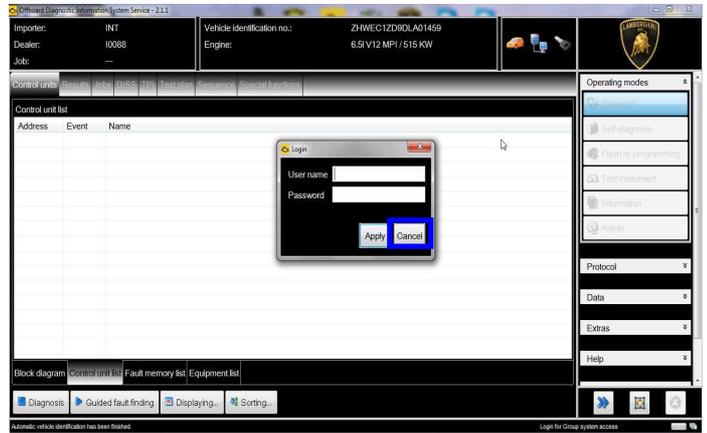
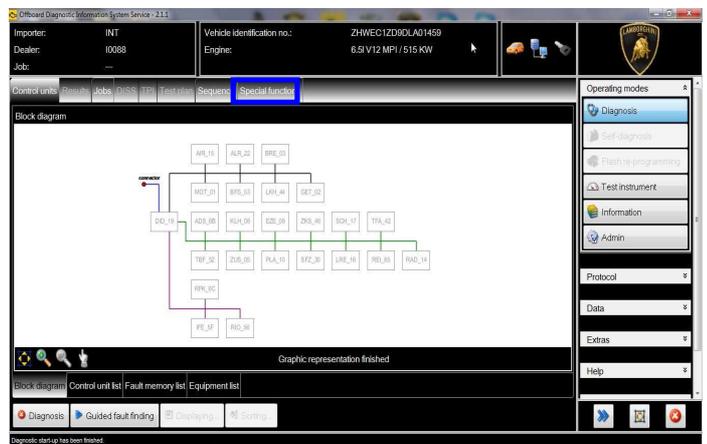   Deselect the checkbox "Using guided fault finding"

   Click "Adopt"

8. Click "Yes"

9. Skip the Login window by clicking "Cancel"

10. At the end of start-up procedure (see status in the progress bar bottom right), move on the ODIS tab "**Special functions**" now available.

11. Select "**SVM – Direct input: SVM code for problem related update**" by clicking the related row with the mouse.

    Click "Perform test…" to execute the SVM function
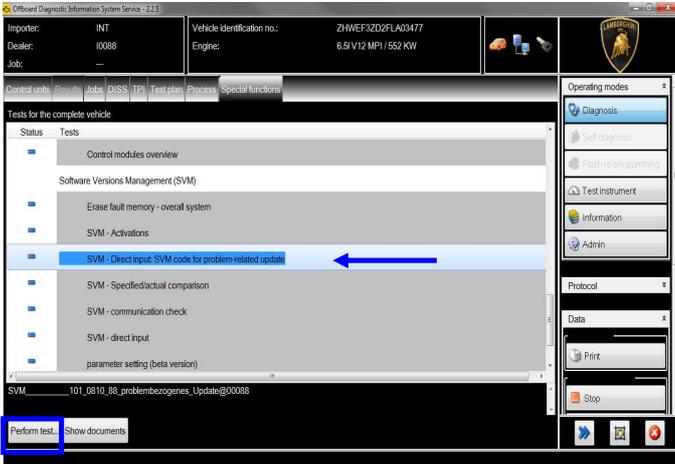
12. Insert in the upper box with the cursor the code **L73XA0215**

Click "Adopt"
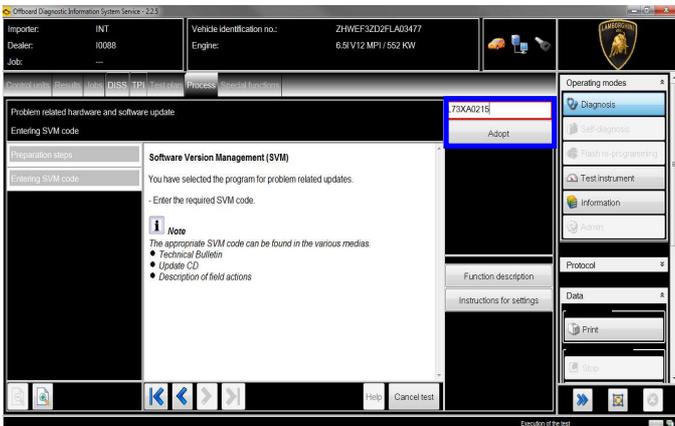
13. Confirm that the inserted code is correct clicking on "Yes".
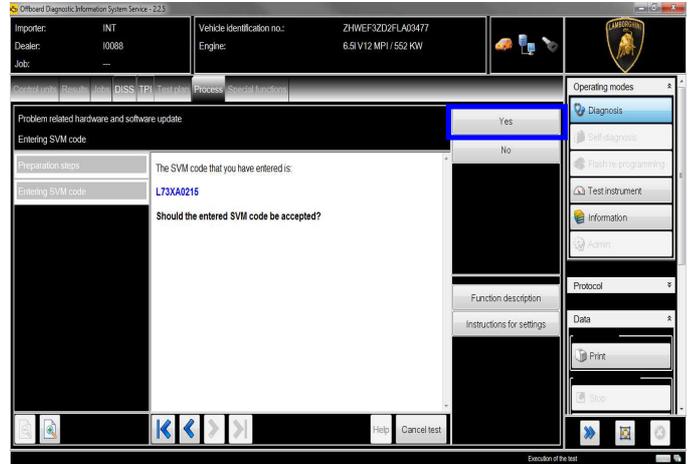
14. Click on "Done/Continue" to start the data acquisition from all the vehicle's ECUs.

⚠️

IMPORTANT
Connect always a battery charger during the SVM function

15. Wait until the data acquisition from all control modules is completed.
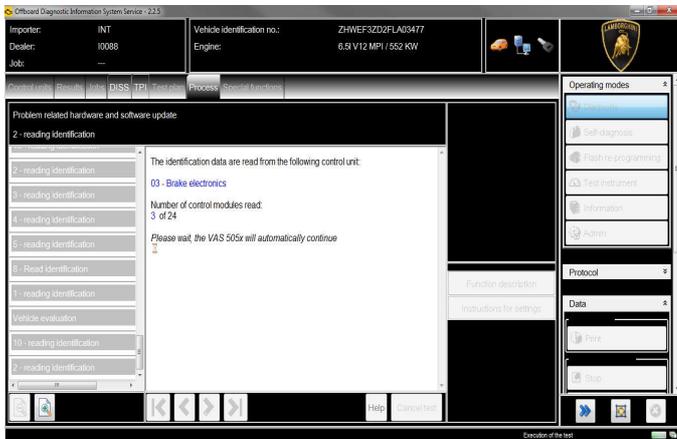
16. For the online authentication a valid GeKo account is necessary.

Be sure that your internet connection is working properly.

Click on "Done/Continue" to access the Login window.

Insert your GeKo user name in the field "Login" and the pin 1324 + current 6 digit code displayed on your GeKo token in the field Password.

Then confirm clicking on "Adopt".
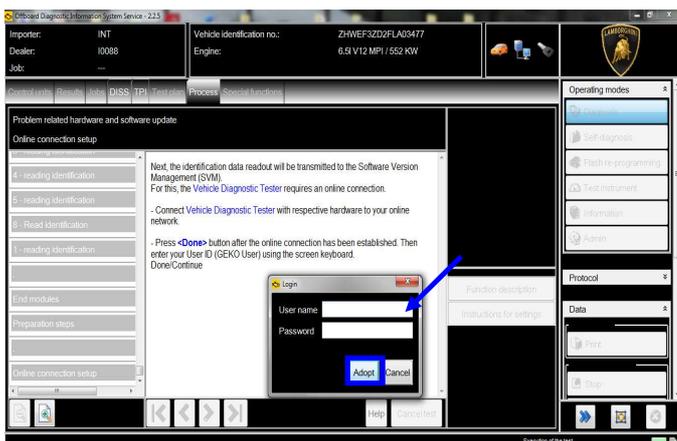
17. The communication is then established with the central server.

At the end of communication you receive following feedback:

"-software to be update has been detected (on **2** control units)."

Click "Done/Continue".
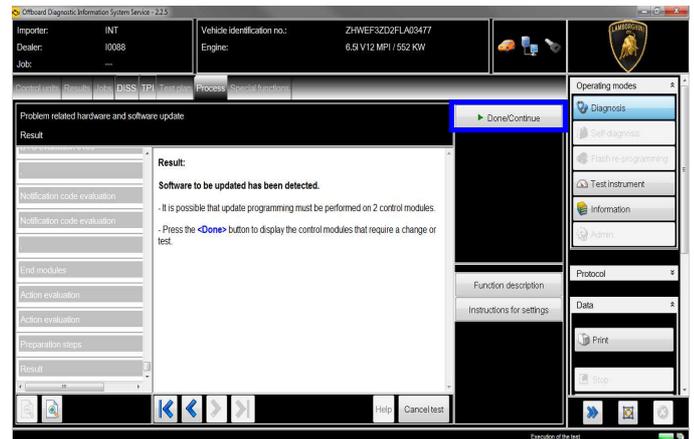
⊕ **NOTE:**

In the case of VIN MY16, the update is related to **only one ECU** (the control unit LIE for the Engine)

In that case follow only the steps related to the Engine Software update (Steps **20-24-25**, from **28** to **36**) and following Engine adaptations (Steps from **14** to the end)

18. All the data to be updated on all the interested control units have to be determined.

Click "Done/Continue".

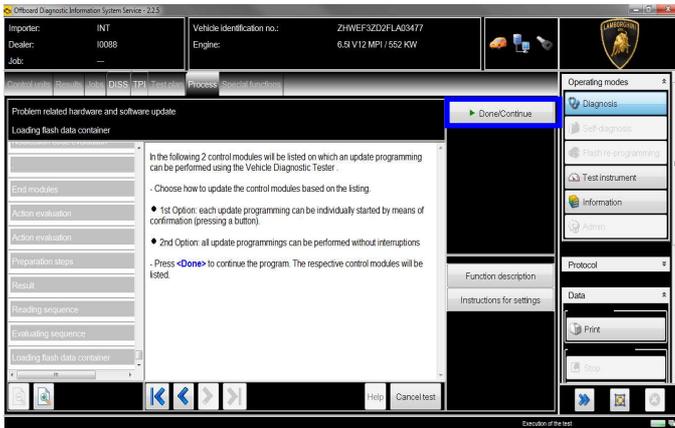| L73X-
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19.

NOTE:

Applicable only on VIN MY15

By chosing the 2nd option, all the interested control units will be updated without interruption.
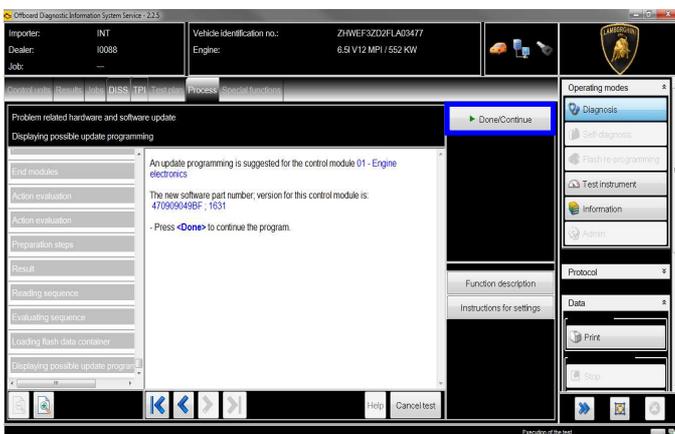
Click "Done/Continue".

20. Engine Software Update.

Depending on the market and according to car's equipment, new engine software part number and version will be different.

The example in the figure below refer to software version for MY15 Superveloce:

470909049BF; 1631

21. Gearbox Software Update.

NOTE:

Applicable only on VIN MY15

The example in the figure below refer to software part number and version of the Gearbox for MY15 Superveloce.
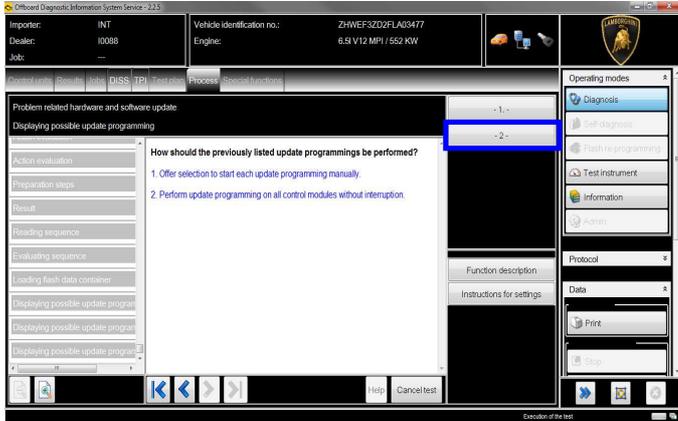
470927256D; 0942
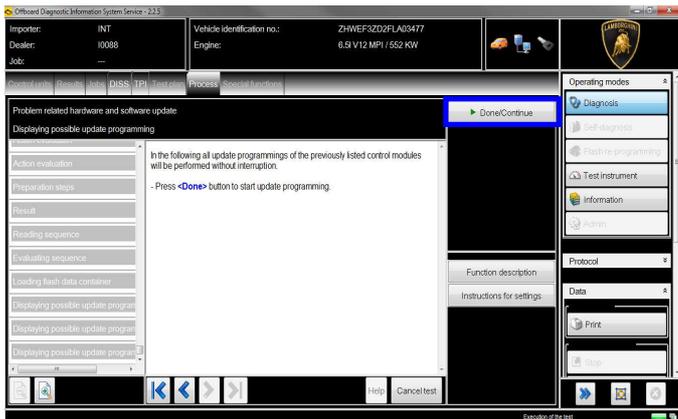
Click "Done/Continue" to continue.

22. Click "2" to select the Software update without interruption on all electronics control units interested in.
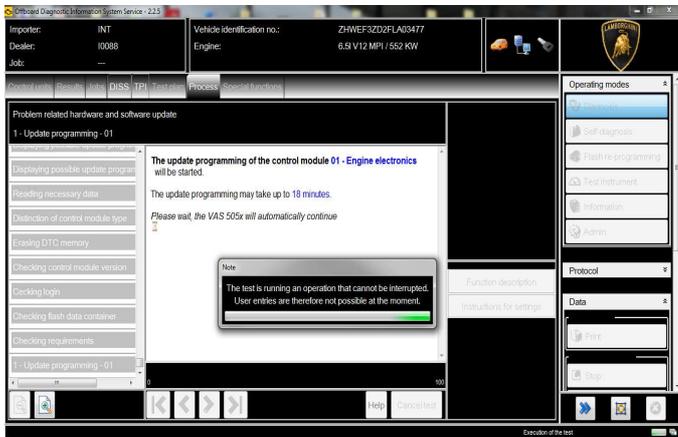
NOTE:

Applicable only on VIN MY15

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23. Click "Done/Continue" to update without interruption all electronics control units interested in Software Update.

24. Wait until the update programming of the engine ECU is completed.

25. Once the update programming has been completed successfully a feedback as in the picture below is displayed.

Click "Done/Continue".

If the update programming has not been completed or has been unsuccessful:

- turn the ignition OFF;

- wait 1 minute before turning the ignition ON again;

- if offered by the program: select "Repeat" to retry the update programming, otherwise repeat the procedure from step **11**.
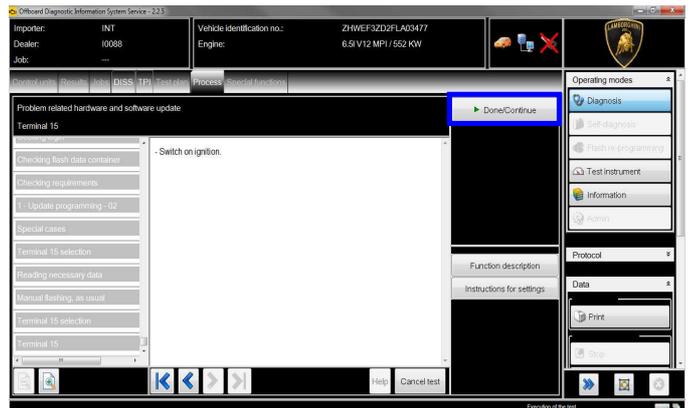

26. Wait until the update programming of the gearbox ECU is completed.

 NOTE:

Applicable only on VIN MY15
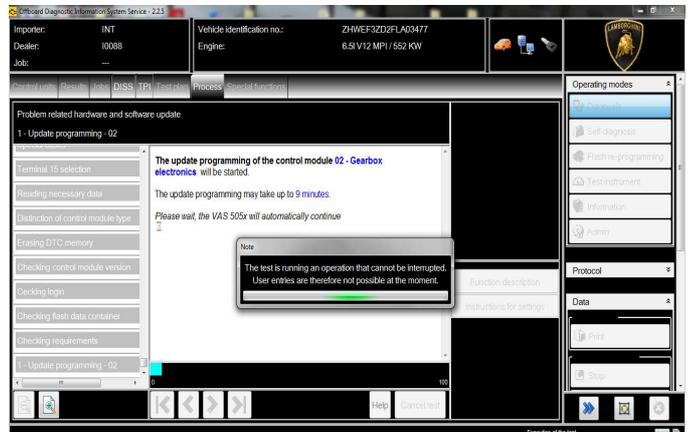
27. Once the update programming has been completed successfully a feedback as in the picture below is displayed.

Click "Done/Continue".

If the update programming has not been completed or has been unsuccessful:

- turn the ignition OFF;

- wait 1 minute before turning the ignition ON again;

- if offered by the program: select "Repeat" to retry the update programming, otherwise repeat the procedure from step **11**.
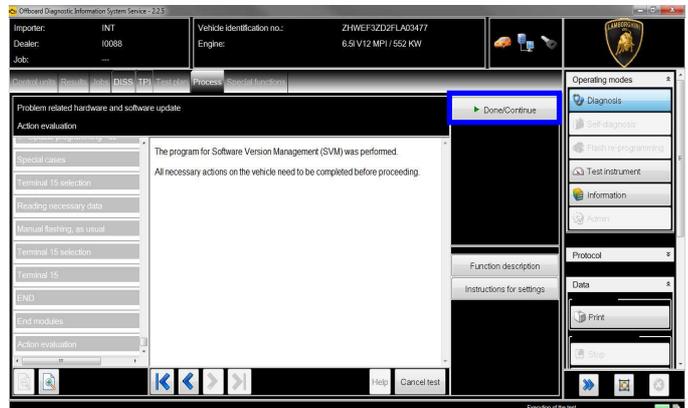

28. In the following an ignition OFF – ON cycle is necessary to restart the ECU.

Press "Done/Continue" to continue.

29. Switch the ignition OFF.

Press "Done/Continue".

30. Switch the ignition ON.

Press "Done/Continue".
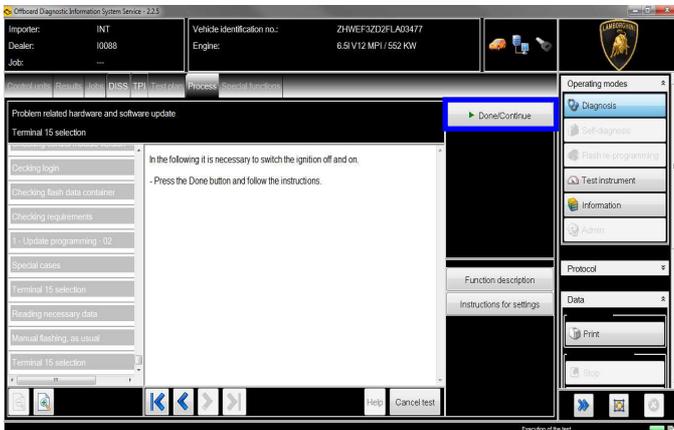
31. Click "Done/Continue" to perform the last update operations required by the SVM.

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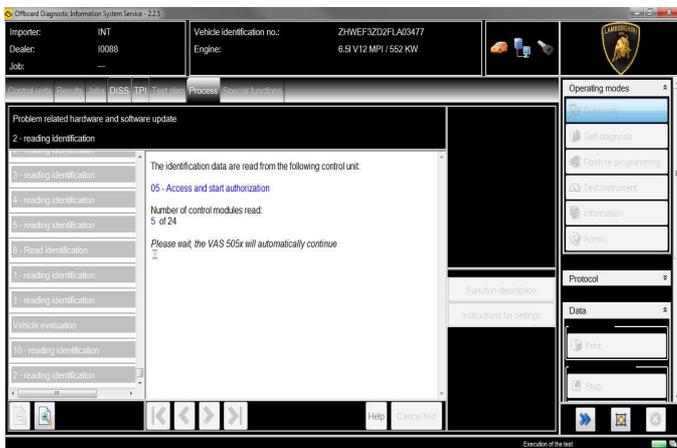
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32. SVM can be completed after data acquisition from all ECUs.

Click "Done/Continue".
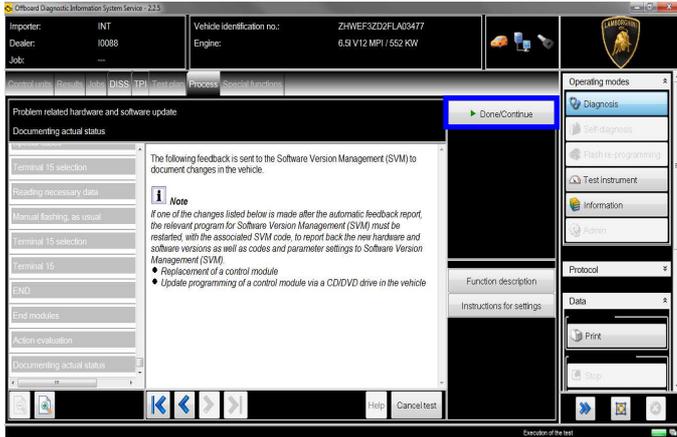
**33.** Wait until the data acquisition from all the control modules is completed.

34. Once the data report has been sent to the servers a feedback as in the picture below is displayed.

The software update of engine and eventually the gearbox ECUs has been completed successfully and all the information have been stored in the system.
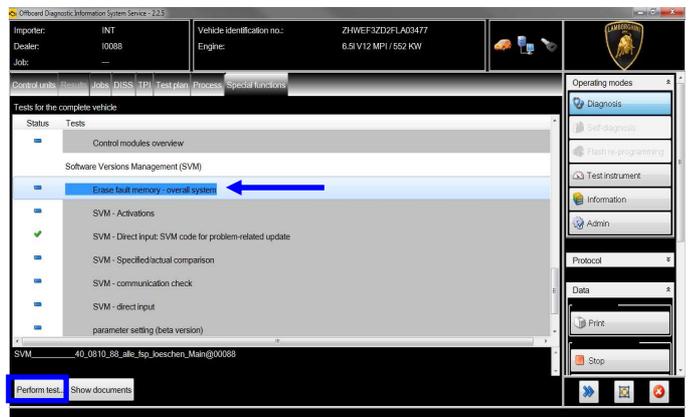
Press "Done/Continue" to exit the program.
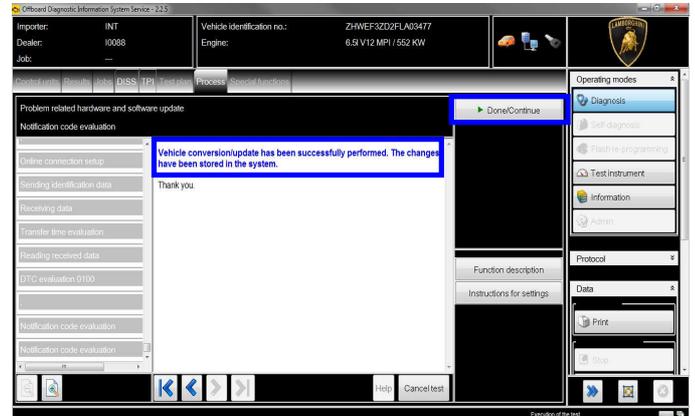
35. Go back to the tab "Special functions" and select "Erase fault memory – overall system" to clear all the faults stored because of the recent software update.
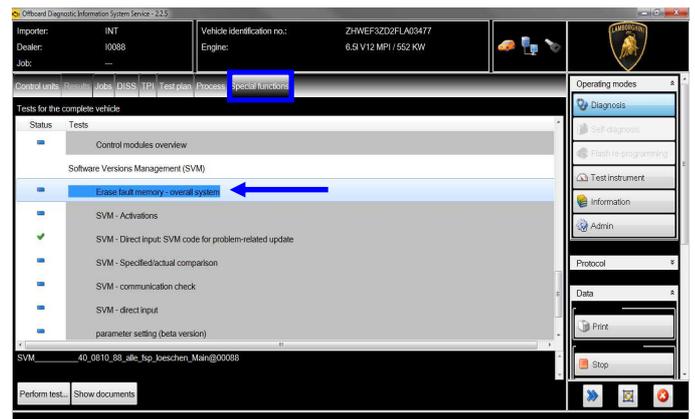
36. Execute the program "Erase fault memory – overall system" clicking on "Perform test…"

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/* Adaptation downstream the Software Updates */

⚠️ **IMPORTANT**

They are almost always necessary at the end of a control unit Software Update and after the next overall fault memories erase.
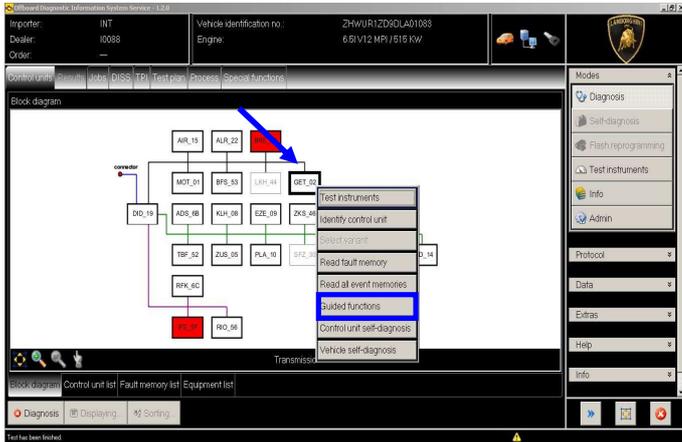
ℹ️ **NOTE:**

Following steps from **1** to **13** are needed only in the case of Gearbox Software Update.
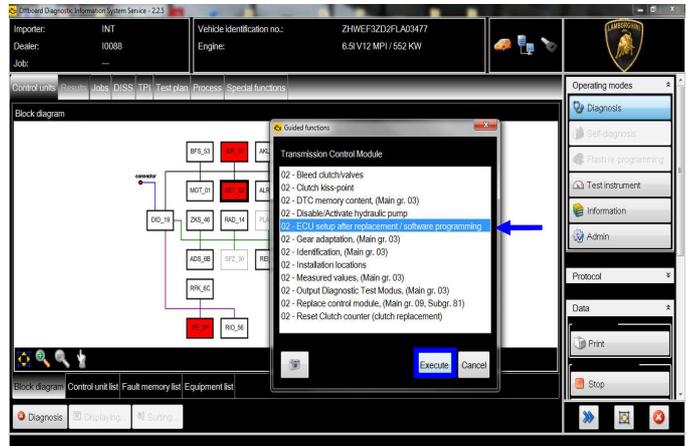
In the case of the only update of the Engine Software, proceed starting from step **14**.

1. Go back to the Control Unit tab (block diagram or list view), to select the Transmission Electronics ECU GET_02 and its Guided Function.
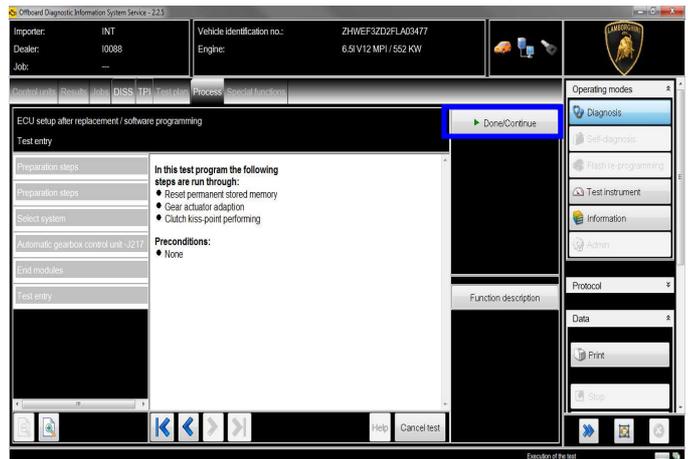

2. Select the function "02 – ECU setup after replacement / software programming" in order to initialize the gearbox ECU.
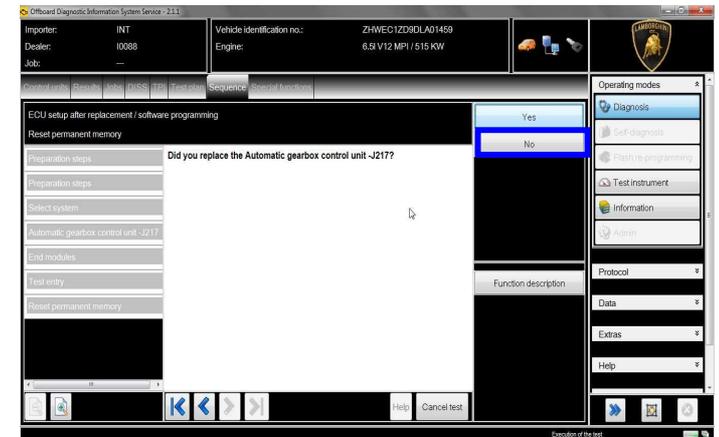
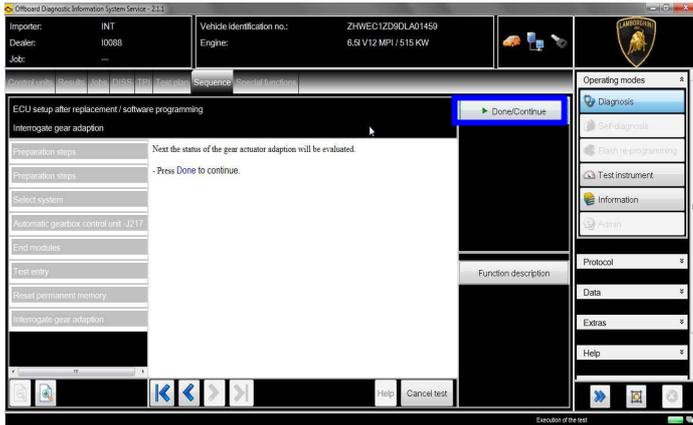Click "Execute" to run the test.
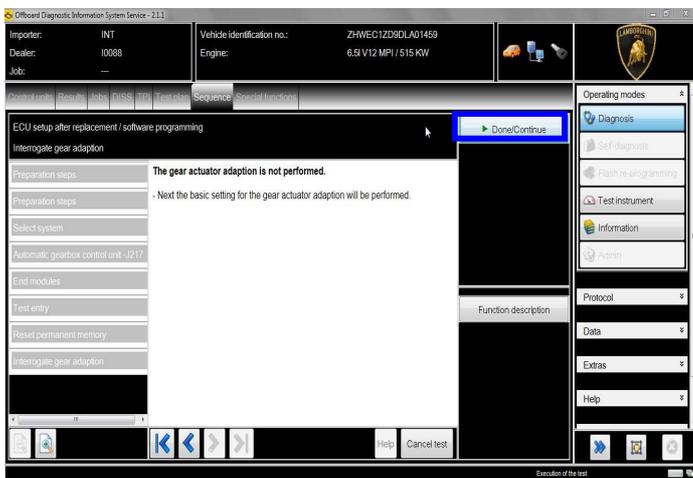

3. Click "Done/Continue".

4. Select "NO"

5. The status of the gear adaptation is evaluated.

Click "Done/Continue".

6. Click "Done/Continue".

7. Click "Done/Continue" in order to execute the gear adaption.

8. **Gear adaptation.**

Confirm clicking on "Yes".

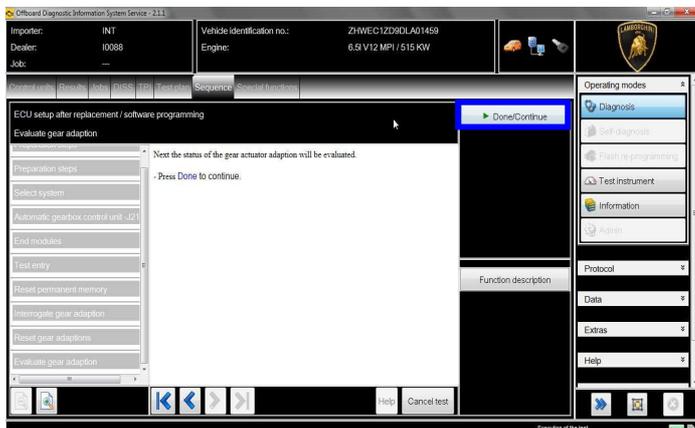**9.** Wait until the gear adaption procedure is completed.

Gear engagements can be checked directly from the instrument cluster.

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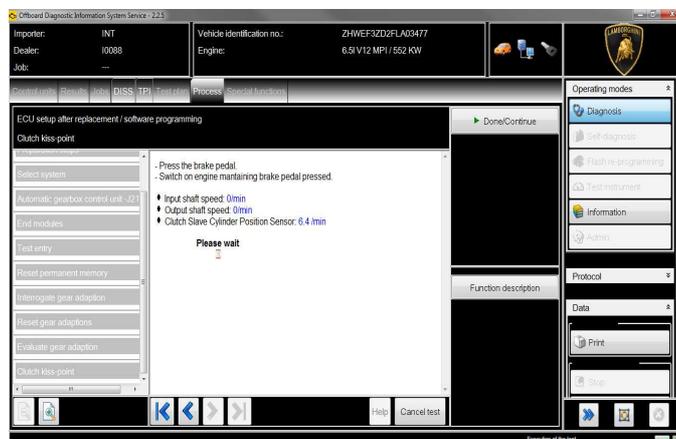**10.** Click "Done/Continue".

11. Kiss point

Click "Done/Continue" in order to perform the Kiss Point adaptation.

12. Start the engine at idle and keep pressed the brake pedal for at least 1 minute.

If the engine doesn't start:

- turn the ignition OFF;

- disconnect the diagnostic interface;

- wait at least 1 minute before turn the ignition ON again;

- reconnect the diagnostic interface and repeat the program from step **1.**

13. If the Kiss Point adaptation is completed successfully the screenshot below will be displayed.

Click on "Done/Continue" in order to exit from the program.

If the Kiss Point adaption is not completed successfully:

- turn the ignition OFF;

- disconnect the diagnostic interface;

- wait at least 1 minute before turn the ignition ON again;

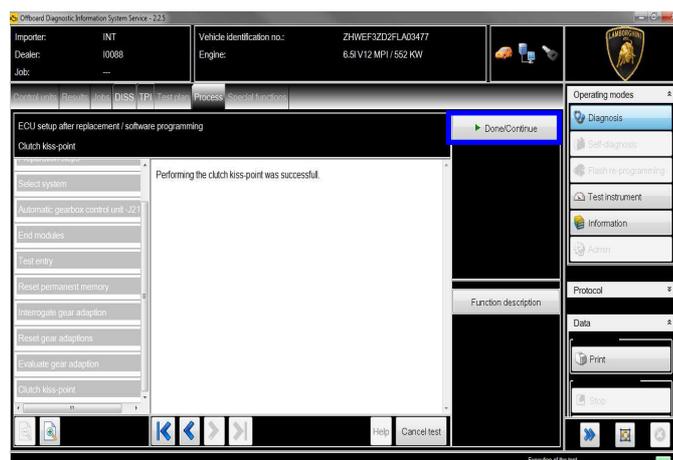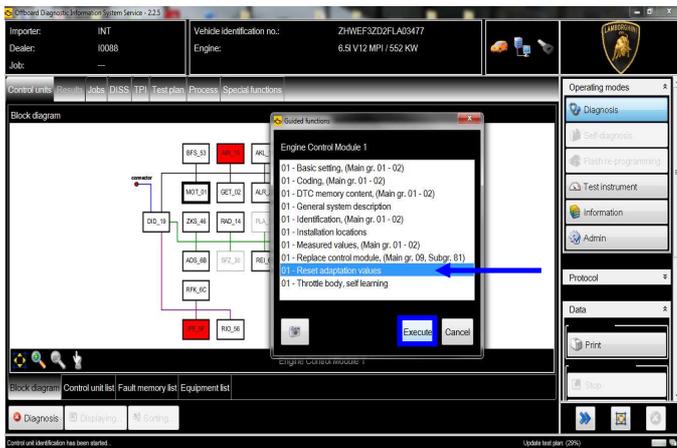- reconnect the diagnostic interface and repeat the program from step **1**.

14. Go back to the Control Unit tab (block diagram or list view), to select the Engine ECU MOT_01 and the Guided Function:
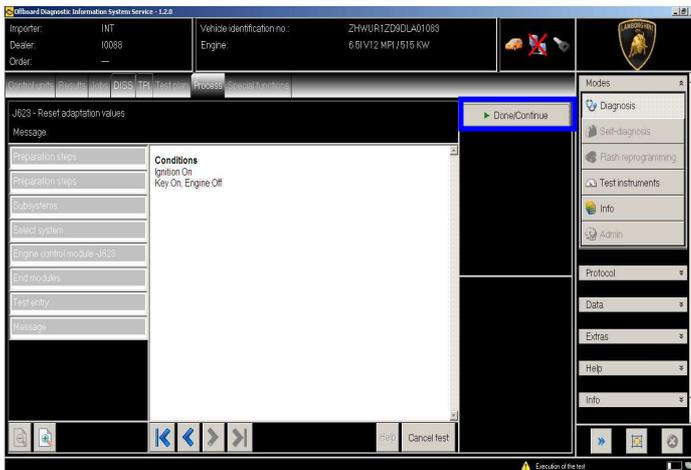
01 – Reset adaptation values.

Click "Execute" to start the procedure for resetting the adaptation values (Basic Setting 254).

15. Be sure the activation conditions are respected:
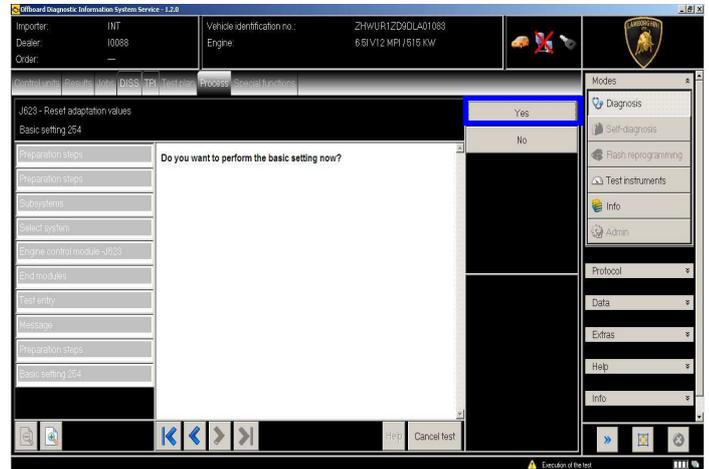
- key ON;

- engine OFF;

- no faults stored in the Engine ECU's memory;

- press "Done/Continue".
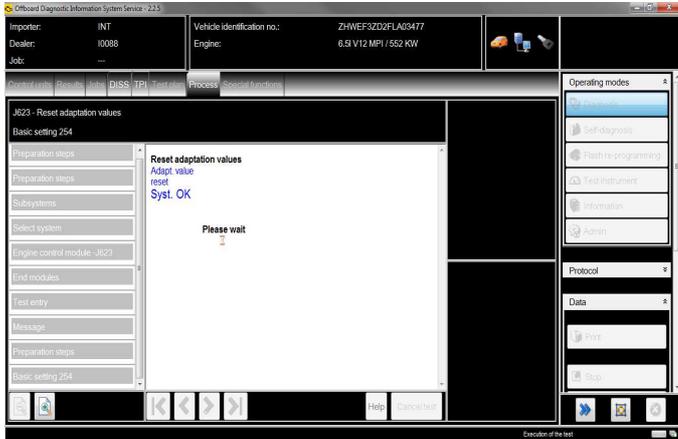

16. Click "Yes" to continue.

17. Click "Done/Continue" to perform the basic setting.

18. Wait until the feedback message is shown.

If the procedure has been performed successfully the message "**Syst.OK**" will appear, as shown in the picture below.

19. If the procedure has not been performed success-fully:

- turn the ignition OFF;

- wait at least 1 minute before turn the ignition ON again;

- repeat the program from step **14.**

Click "Done/Continue" to exit the basic setting.
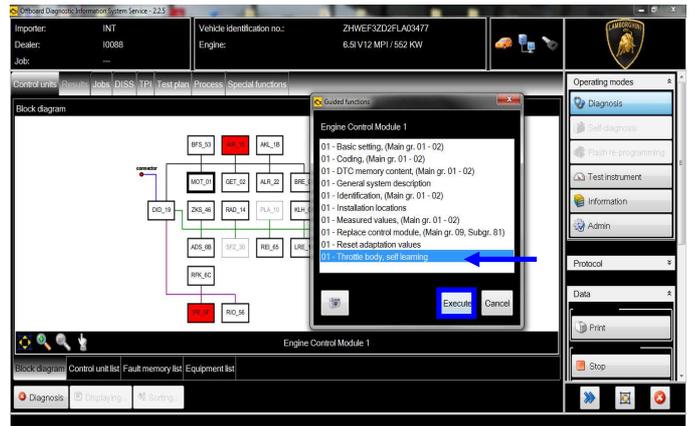

20. Go back to the Control Unit tab (block diagram or list view), to select the Engine ECU MOT_01 and the Guided Functions.

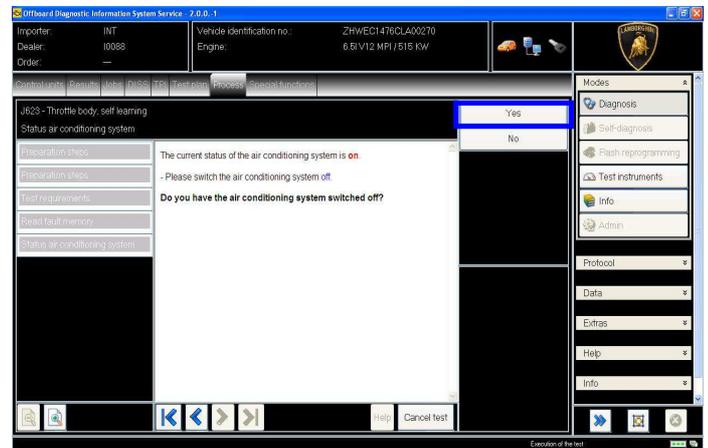**21.** Select the Guided Function

"01 – Throttle bodies, self learning".
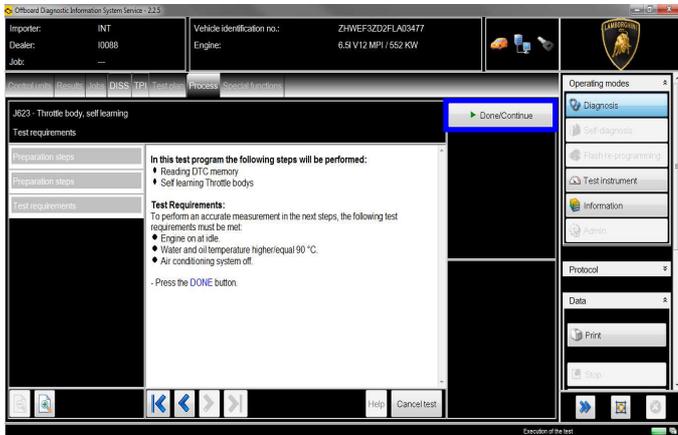
And execute clicking on "Execute".

22. Be sure that Air Conditioning is **OFF.**

Click "Yes"

23. The prerequirements for the test are summarized.

Press "Done/Continue"

24. Start the engine at idle.

Click "Done/Continue.
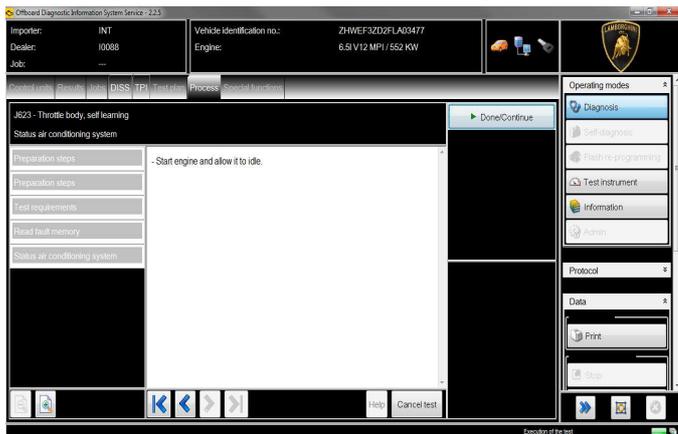
25. Self learning is an automatic procedure and it is activated when engine water and oil temperature exceed 90 °C.

Check the parameters from ODIS and wait until water and oil temperatures reach the target.

Don't perform any action on the car (e.g. pushing the accelerator pedal) if not necessary.

26. Once reached the activation conditions (water and oil temperatures major than 90°C) the "Throttle body – Self learning enabling con-ditions flag" changes from 0 to 1 indicating the start of the self-learning procedure.

27. If the self-learning is completed successfully a screen as in the picture below is shown.

Click "Done/Continue" to display the ignition advance values.

If in 10 minutes from the activation the procedure has not been completed, interrupt and:

- Switch the ignition OFF;

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- Wait 1 minute before redo the ignition ON;

- Restart the procedure from step **20.**

28. Have a look to the ignition advance values, that must be inside the range [-2º 3º].

In the case those values were out-side the range, restart the procedure from step **20** after an ignition switch OFF for at least 1 minute.

Switch the engine OFF and press "Done/Continue" to exit the program.
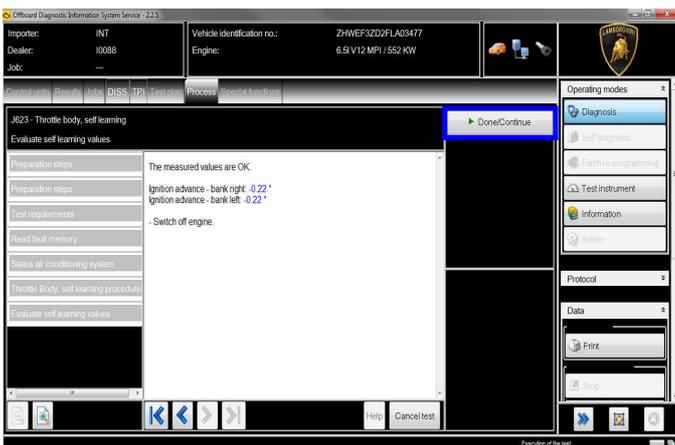
/* Diagnosis Protocol Saving*/

29. At the end of previous steps, expand the menu' "**Protocol**" on the right side (menu bar).
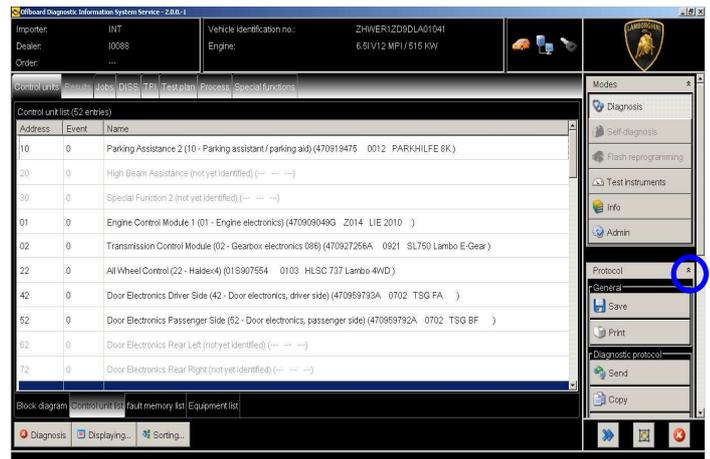
30. Click "Save" in the subgroup of buttons "*General*" In the diagnosis protocol window under GFF select:

- **Long protocol.**

By clicking on it. Then click "OK".
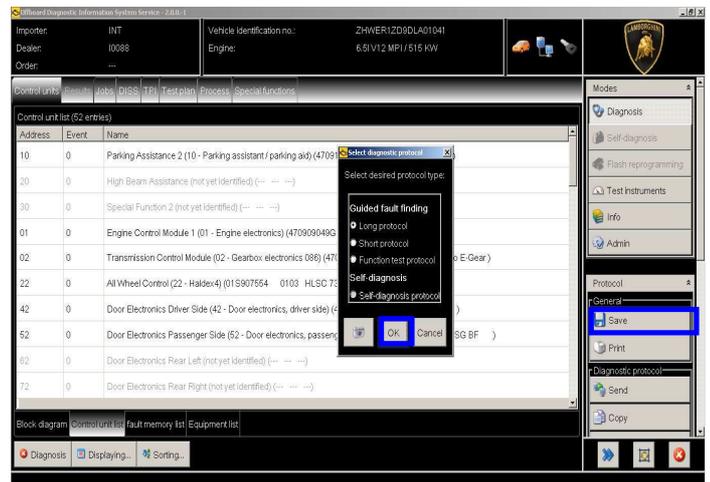
31. Select the position where you want to save the di-agnosis protocol on your diagnosis laptop.

(default path can be changed under Admin and is set under ODIS Service installation folder)

Diagnosis protocol format is internet (.htm).

Click "**Save**" to save the protocol.

Click "**Print**" in the subgroup of buttons "*General*" to print the protocol directly on a pdf file (if available Adobe pdf) or in paper format by sending to an installed network printer

32. The diagnosis protocol has to be attached to the related Warranty Claim

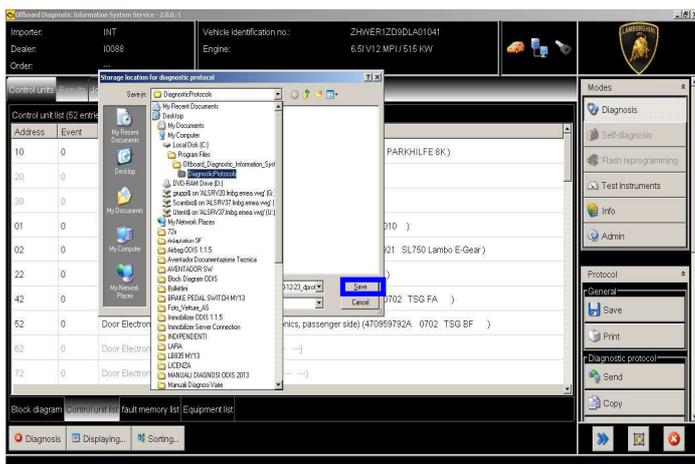(in order to insert the claim on the Web Portal, please refer to Warranty Claim Manual you can find under the Portal, Warranty section.
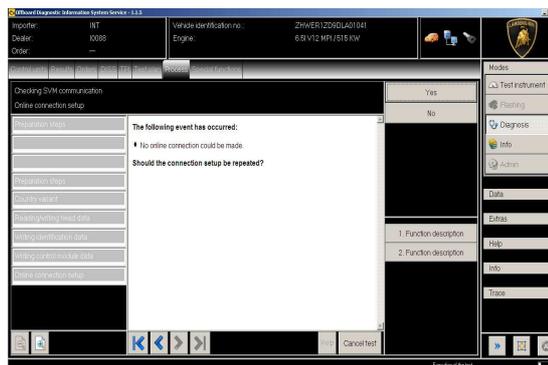
Trouble shooting

A. If the error message regarding the VAS5054 interface and the 2 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".
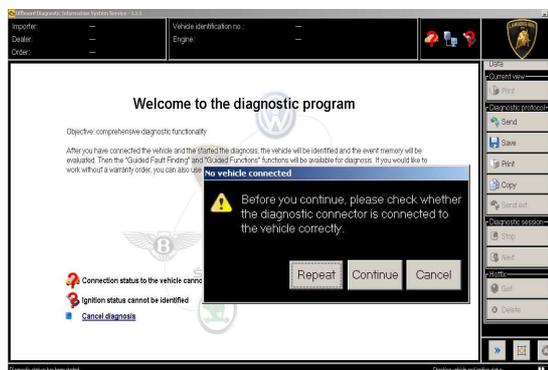
B. If one of the connection errors screens is shown as in the pictures below:

- 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".

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 doc. nr: L/V6_M06 Rev.[02] | 18/20 |
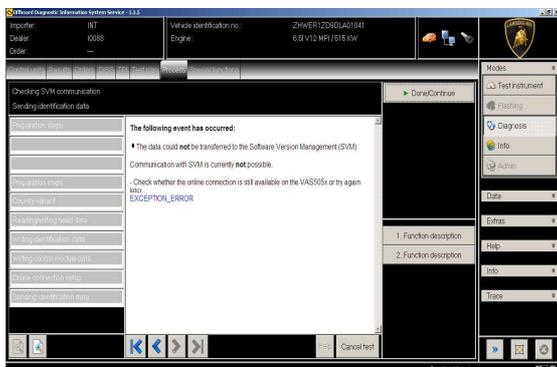
C. If the loss of connection happens during the target/actual comparison.

- It is not possible to connect to central server, check the working connection of internet and retry by clicking "1".
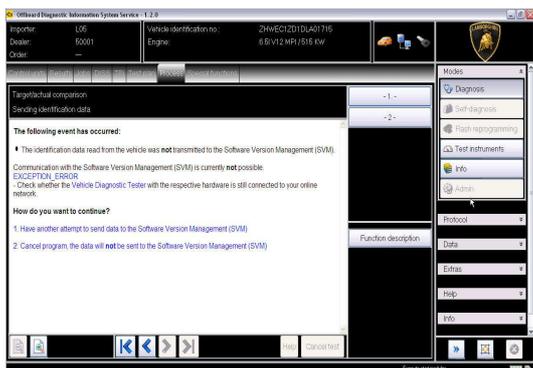
D. If the incorrect identification message is shown as in the picture below (error code: ODS1007E):

- 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" (*)).

E. 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 was present during the application test, try 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.

In the remote case there was still an error, retry the procedure with a second GeKO token, if available.
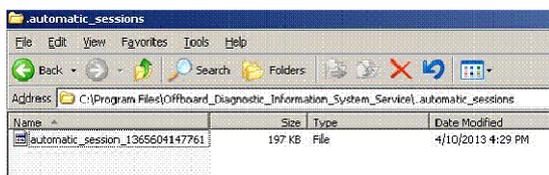
F. In the case the flash container is not detected (see figure):

- Make sure to be recently synchronized with Mirrorserver by checking the last date of Sync under:

    http://mirrorserver/welcome

    or under

    http://IP_address/welcome

    if you don't have previously defined the "mirrorserver" IP address alias.

- Make sure to be correctly connected with Mirrorserver.

Congratulations

You have successfully installed your MirrorServer/2 NOS-Box.

Testing the connection to the configured Provider Server. Please wait a moment, this takes some time …

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	http://10.48.187.43:8080/
Key file	/var/www/desert/certs/userkey.pem
Certificate	/var/www/desert/certs/usercert.pem
Tests	
Provider WebDAV access	OK (/deployment/)
Repository WebDAV access	OK (/storage/)
Feedback WebDAV access	OK (/health/)
Successful package downloads	5
Failed package downloads	0
Last Sync	28-07-15 at 22-55-33

 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