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Procedures after Control Module Replacement – KX11

Explanation

- If you replaced the control modules of KX11 model, you need to do related operations through GLDS to complete the replacement work.

- This instruction shows you what you need to do by GLDS after you replaced the controllers.

Procedures after Control Module Replacement for KX11

Steps	Operation	CEM	TCM	TACM	SRS	SAS	PSCM	VDDM	DEM	FLC	FLR	SODL/ SODR	DDM/ PDM	SMD	PAS	POT	Other Module
1	Software Reload	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
2	Set IMMO	●	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×
3	Add Keys	●	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×
4	Sunroof Calibration	●	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×
5	Perform Initial Learning	×	●	×	×	×	×	×	×	×	×	×	×	×	×	×	×
6	Calibration (gear position sensor)	×	×	●	×	×	×	×	×	×	×	×	×	×	×	×	×
7	IMU Calibration	×	×	×	●	×	×	×	×	×	×	×	×	×	×	×	×
8	IMU & SAS Calibration	×	×	×	●	●	●	●	×	×	×	×	×	×	×	×	×
9	Bleeding of Brakes	×	×	×	×	×	×	●	×	×	×	×	×	×	×	×	×
10	EPB Calibration	×	×	×	×	×	×	●	×	×	×	×	×	×	×	×	×
11	AOC Bleeding	×	×	×	×	×	×	×	●	×	×	×	×	×	×	×	×
12	Dynamic or Static Calibration for FLC	×	×	×	×	×	×	×	×	●	×	×	×	×	×	×	×
13	Dynamic Calibration for FLR	×	×	×	×	×	×	×	×	×	●	×	×	×	×	×	×
14	Dynamic Calibration for SODL/SODR	×	×	×	×	×	×	×	×	×	×	●	×	×	×	×	×
15	Window Initialization	×	×	×	×	×	×	×	×	×	×	×	●	×	×	×	×
16	Seat Module Calibration	×	×	×	×	×	×	×	×	×	×	×	×	●	×	×	×
17	AVM Camera Calibration	×	×	×	×	×	×	×	×	×	×	×	×	×	●	×	×
18	POT Calibration	×	×	×	×	×	×	×	×	×	×	×	×	×	×	●	×

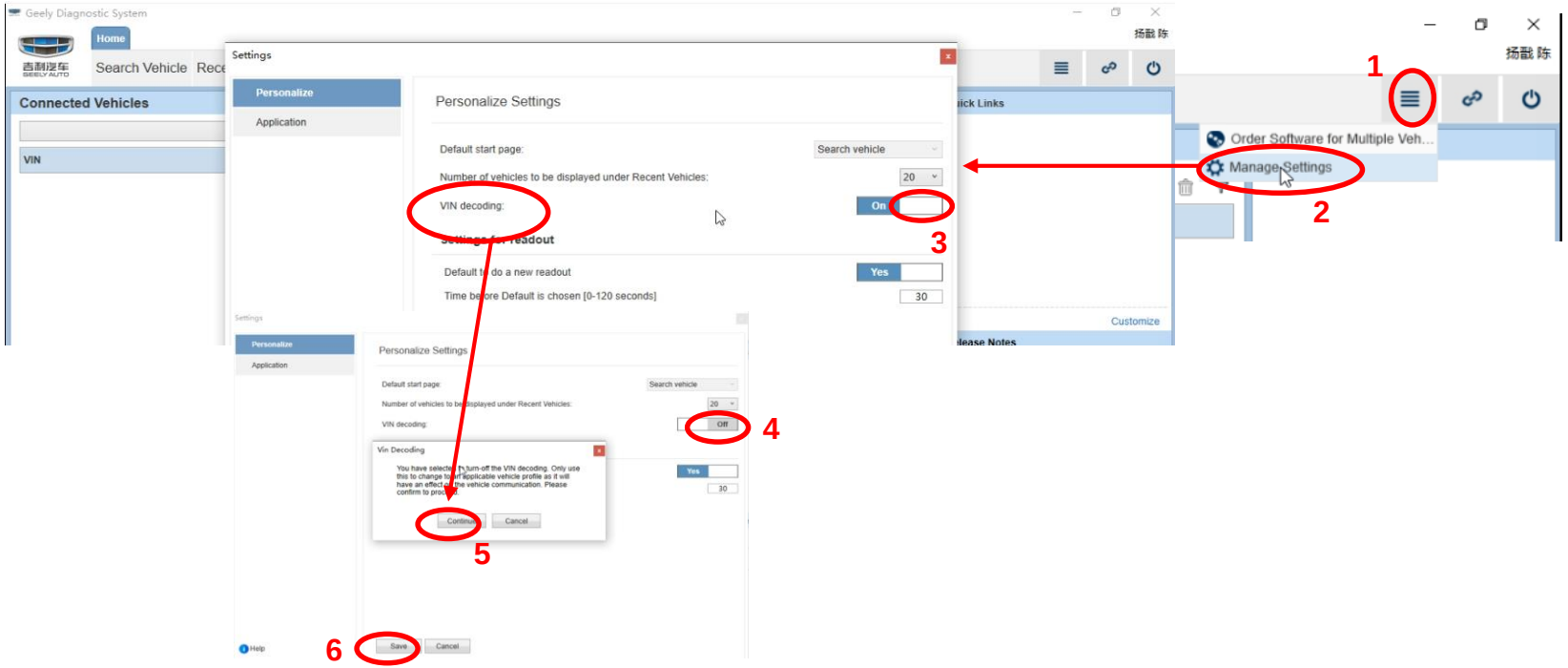
NOTE: The ● mark means need to operate, the × marks means don’t need to operate

CEM replacing

After replacing a new CEM (central electronic module, we need reload the software and write the ESK code; but when a new CEM installed, there are no VIN information, so GLDS could not get VIN information, it shows VIN “00000000000000000”, we need write the right VIN code first.

The operations are as follows:

Step 1: Turn off GLDS VIN decoding



CEM replacing

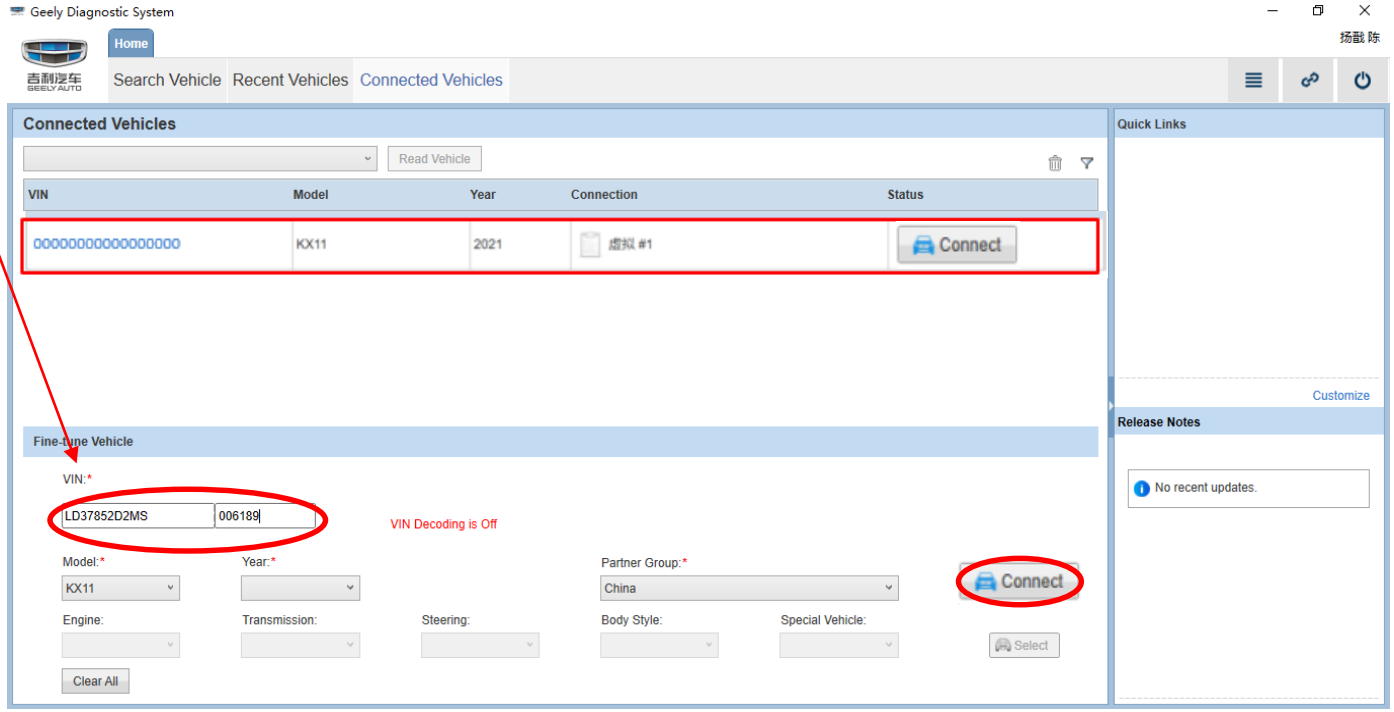
Step 2: Close GLDS and restart again, write the right VIN code and click “connect”;

Step 3: Choose Software module, reload CEM software(if failed, restart the program and reload again);

Step 4: On “SET IMMO” , write ESK code to new CEM.

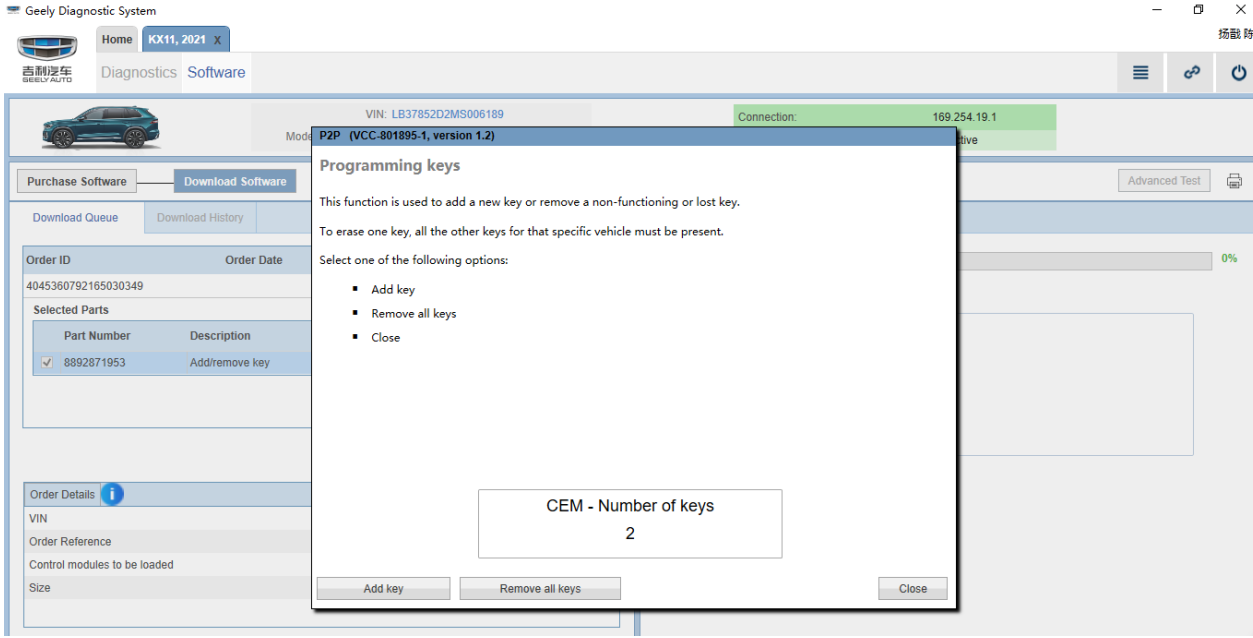
Note:

- When reloading CEM software, connect a battery charger to ensure vehicle power supply;
- After finishing these steps, turn on the GLDS “VIN decoding” .



Add/Remove Keys

- Download software “Add/remove key” (operations are the same with other software upgrades and reload);
- Run the software program and a new interface will be opened, we can choose “add key” or “remove all keys”;



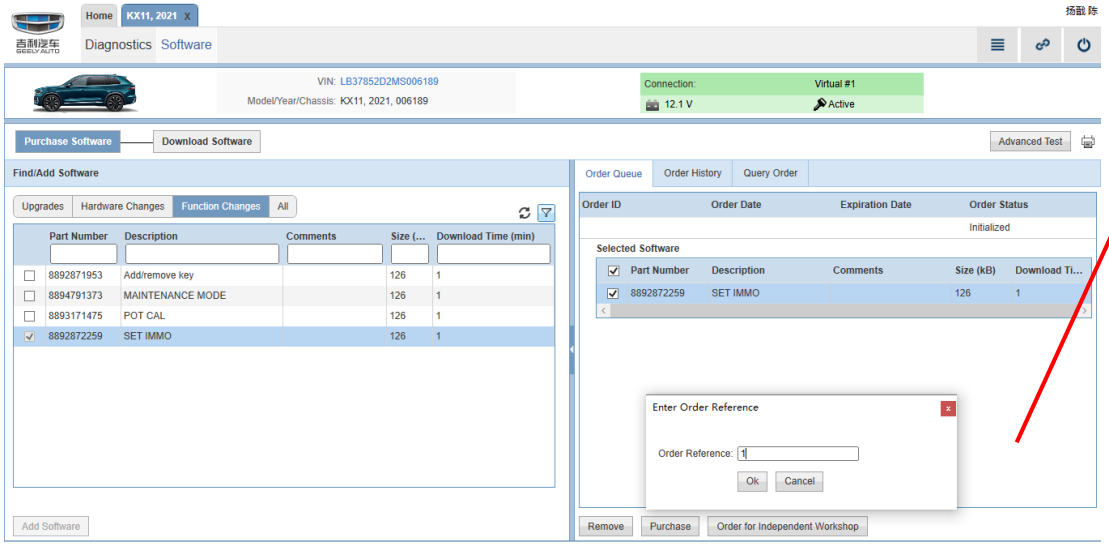
Notes:

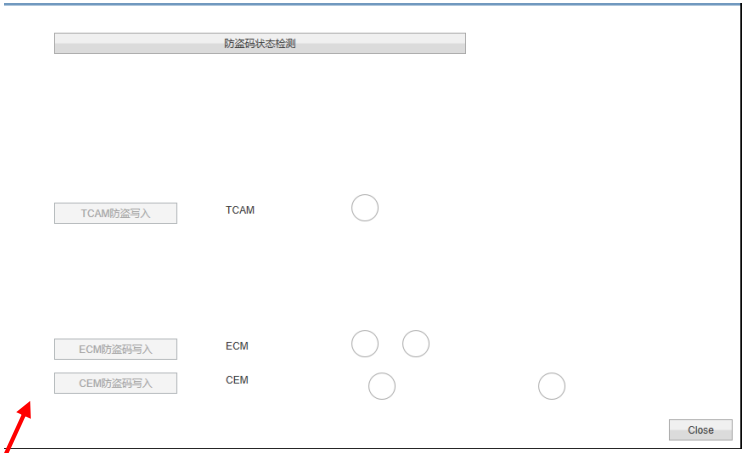
- All the keys will be removed when we choose “ remove all keys”, unable to select the number of keys to remove;
- When adding keys, only one key can be added at one time, put the key to be added on the storage box , and it’s not allowed to add multiple keys at the same time;
- 12 Keys can be learnt in maximum.

Set IMMO

Steps:

1. Before replace CEM, remove all keys with the original CEM;
2. Replace new CEM;
3. Reload CEM software (check steps on the CEM training course) ;
4. Match CEM (SET IMMO);
5. Add old keys to the new CEM.

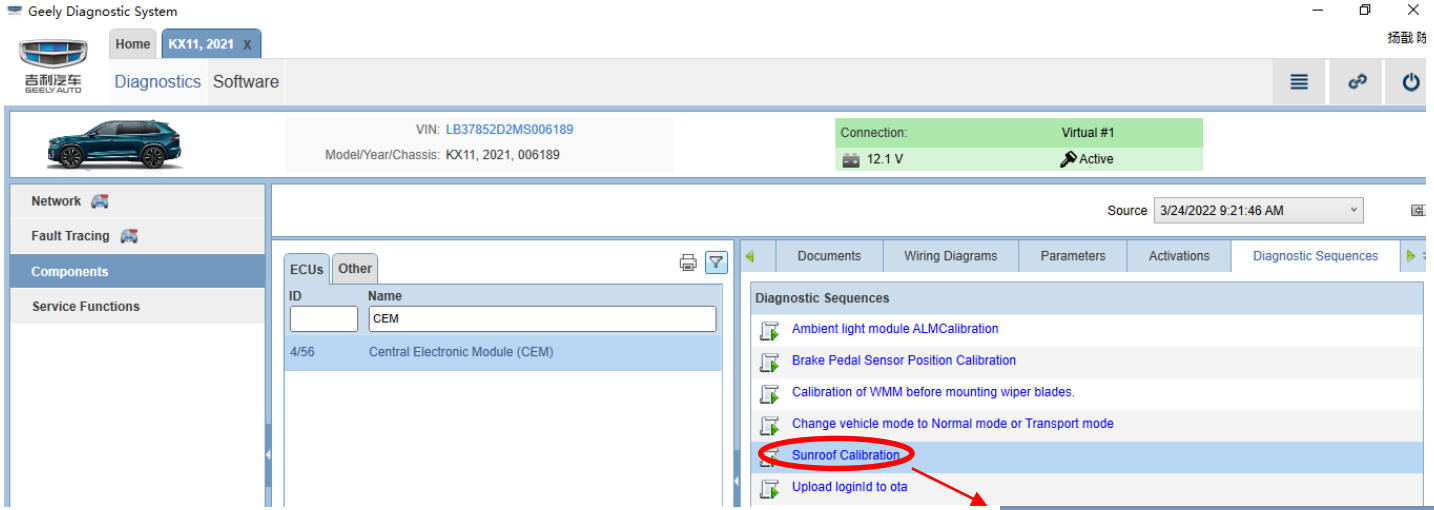


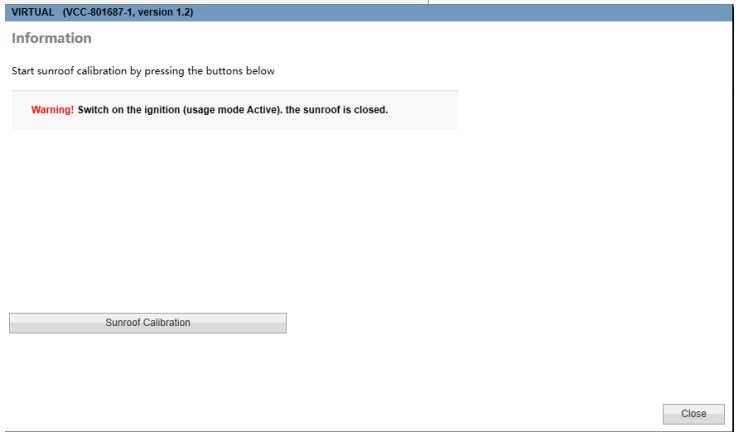


Note:

After replace CEM/ECM, match them through GLDS “Set IMMO” sequence, no need to apply and write ESK code manually.

Sunroof Calibration





CEM → Diagnostic Sequences → Sunroof Calibration

How to perform initial learning

If the automatic transmission or the TCM are replaced, or the TCM software is reloaded, be sure to perform initial learning.

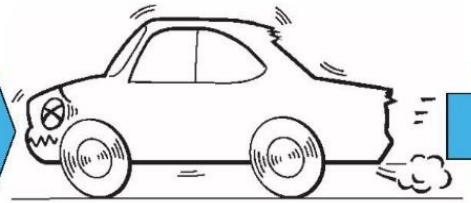
Learning conditions

Replaced AT、V/B or TCU

Update the TCU

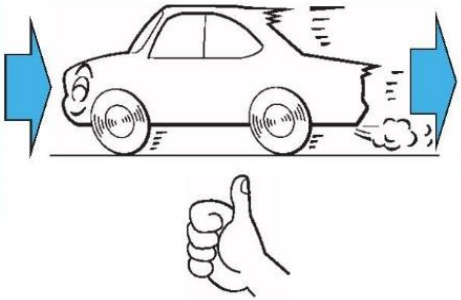
Replace the EMS

The vehicle impact of driving



Initial learning

Shift smoothly



Deliver the customer

How to perform initial learning

Step 1: warm-up (ATF temperature is between 40℃ and 110 ℃. Caution: if the ATF temperature is not between 40℃ and 110 ℃, initial learning cannot be performed)

Step 2: garage shift learning

with the vehicle stationary, depress the brake and keep the shift lever in “N” position for 3 seconds. Then, shift from “N” into “D” position, and maintain this condition for 3 seconds. Repeat this procedure 5 times. Then repeat 5 times in the same way for “R” position.

Step 3: gear shift control learning

in “D” position, with the throttle opening angle between 25% and 35%, drive until 8th gear. and Then, release the accelerator pedal and coast, and bring the vehicle to a stop within 60 seconds, repeat this procedure 10 times.

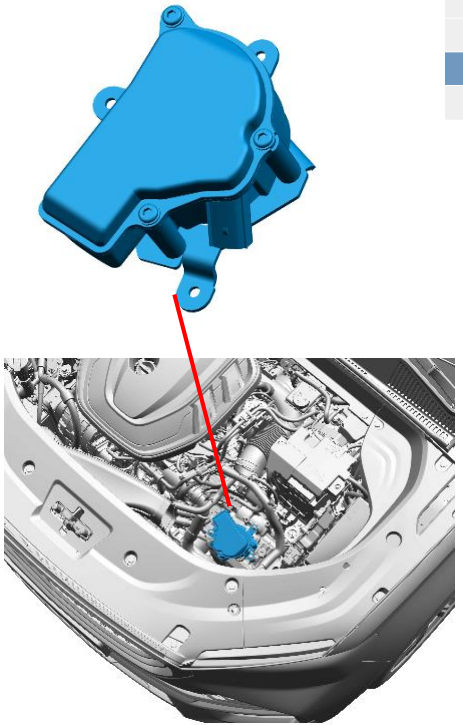
Step 4: check learning results

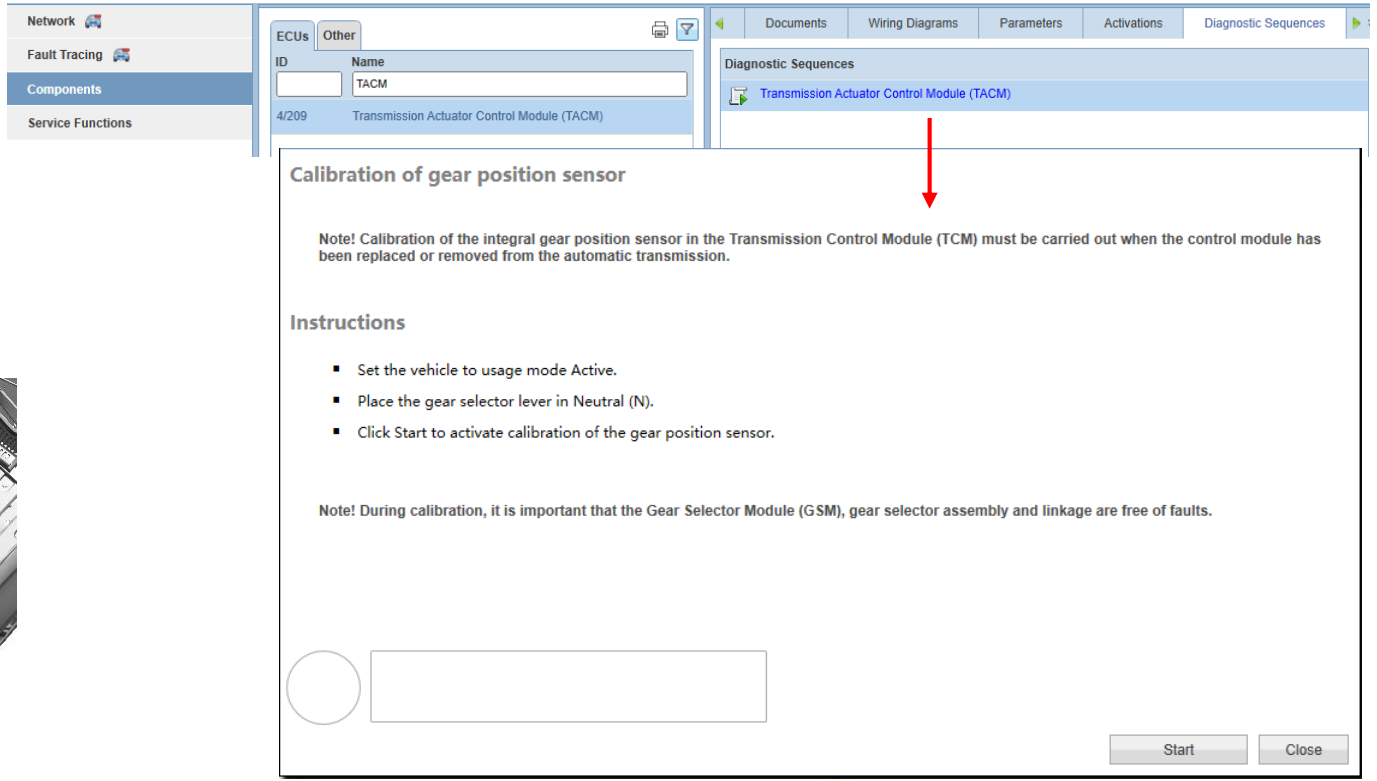
check that variable speed shock and shift shock have decreased compared to the conditions before learning.

TACM calibration

TACM - Transmission actuator control module

Once TACM disassembled from transmission, you need do the TACM calibration on GLDS.





SRS Replacing

➢ IMU calibration on SRS

When replacing the Supplementary Restraint System Module (SRS) or when the Supplementary Restraint Module (SRS) has been removed for some reason, the internal sensors must be calibrated. The SRS warning light is lit and a text message appears in the combined instrument display as long as no calibration has been carried out.

The Supplementary Restraint System Module (SRS) functionality is active even without calibration, but other systems in the vehicle which use the signals from the internal sensors will not have full functionality unless calibration is performed.

Instructions

1. Park the vehicle on a flat surface.
2. Empty the vehicle of cargo and occupants, including the driver.
3. Check the tire pressure.
4. The vehicle must be in usage mode Active.
5. Turn off the ignition. Wait 20 seconds.
6. Turn on the ignition. Wait 20 seconds.
7. Start the calibration procedure by clicking Start. Provided that you follow the instructions above, the SRS warning message and the text message in the combined instrument display disappear when calibration is complete.

Start calibration

Close

➢ SAS & IMU calibration on VDDM

Information

The test will calibrate the following sensor in the Vehicle Dynamics Domain Master (VDDM).

- Steering Angle Sensor Module (SAS) (located in the Steering Wheel Module (SWM))

The test will calibrate the following sensors located in the inertial measurement unit (IMU), which is physically located in the Supplemental Restraint System Module (SRS).

- Lateral acceleration sensor
- Longitudinal acceleration sensor
- Yaw rate sensor

Preconditions

Before running this test it is important to check the control module for internal errors. The test cannot be started if any DTCs concerning internal errors are set.

Instructions

- Park the vehicle on a level surface with the wheels pointing straight ahead.
- Release the brake pedal (no braking).
- Turn on the ignition.
- Press "Calibrate".

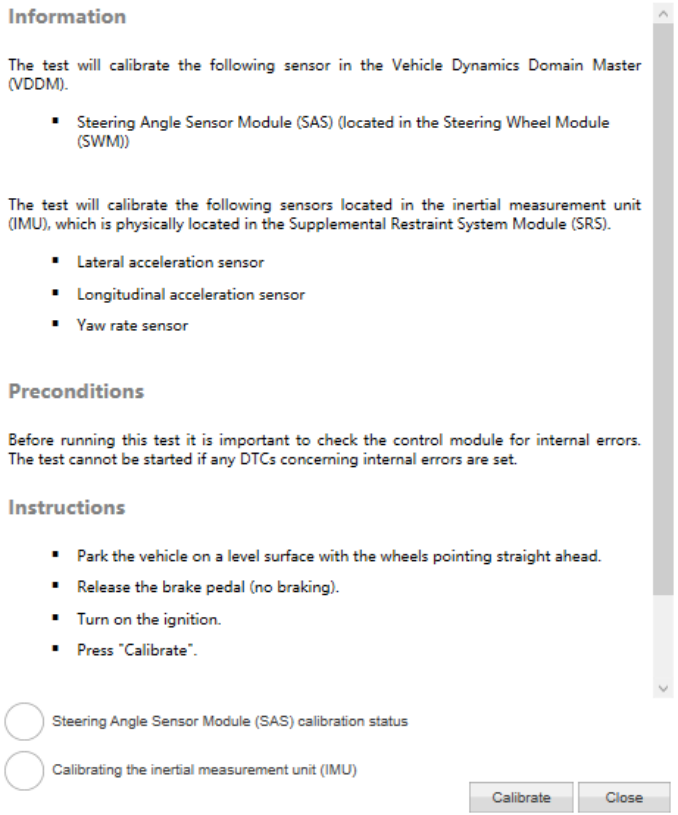
Steering Angle Sensor Module (SAS) calibration status

Calibrating the inertial measurement unit (IMU)

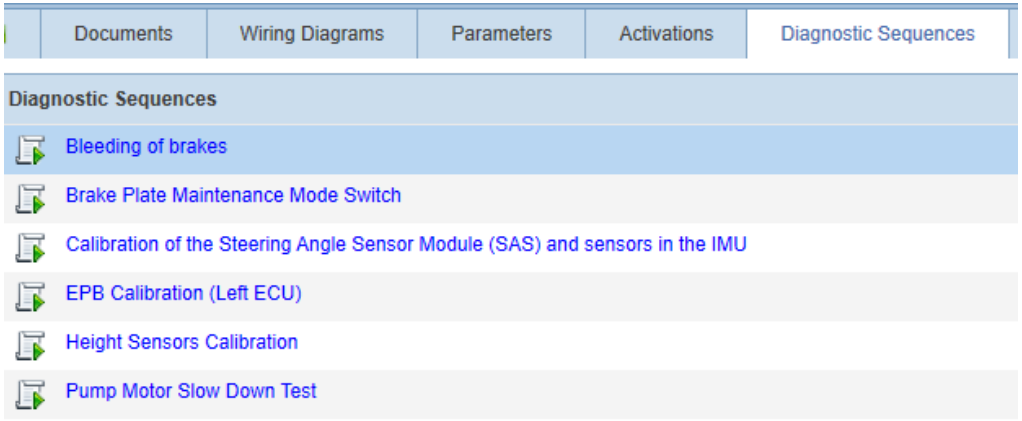
Calibrate Close

SAS/PSCM/SWM/VDDM Replacing

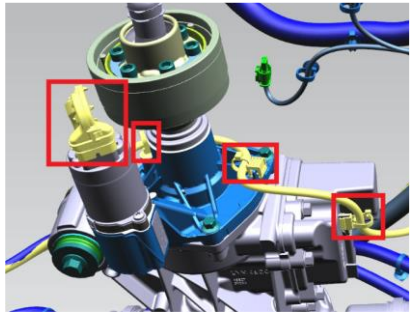
- SAS & IMU calibration on VDDM

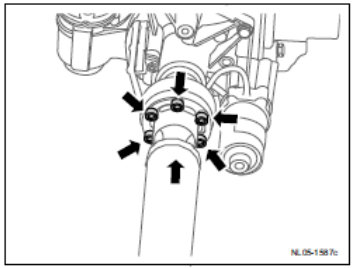


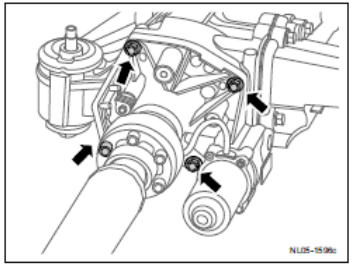
- VDDM Diagnostic Sequences



Disassembly and assembly procedure of AOC(DEM)







The disassembly steps are shown on the left：

- Remove the connector and wiring harness
- Remove the bolts connecting the propshaft to the torque manager flange
- Remove the 4 bolts connecting the torque manager to the rear main reducer
- Remove the torque manager

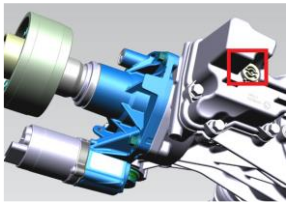
(Be careful that there will be some lubricating oil flow out)

The installation steps are reversed.

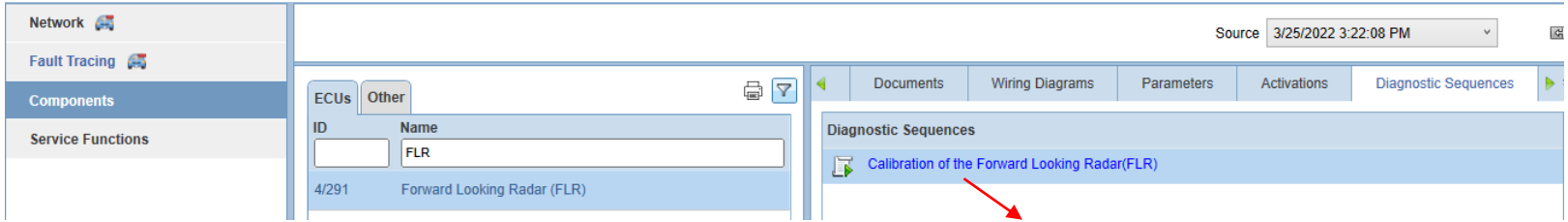
Notes:

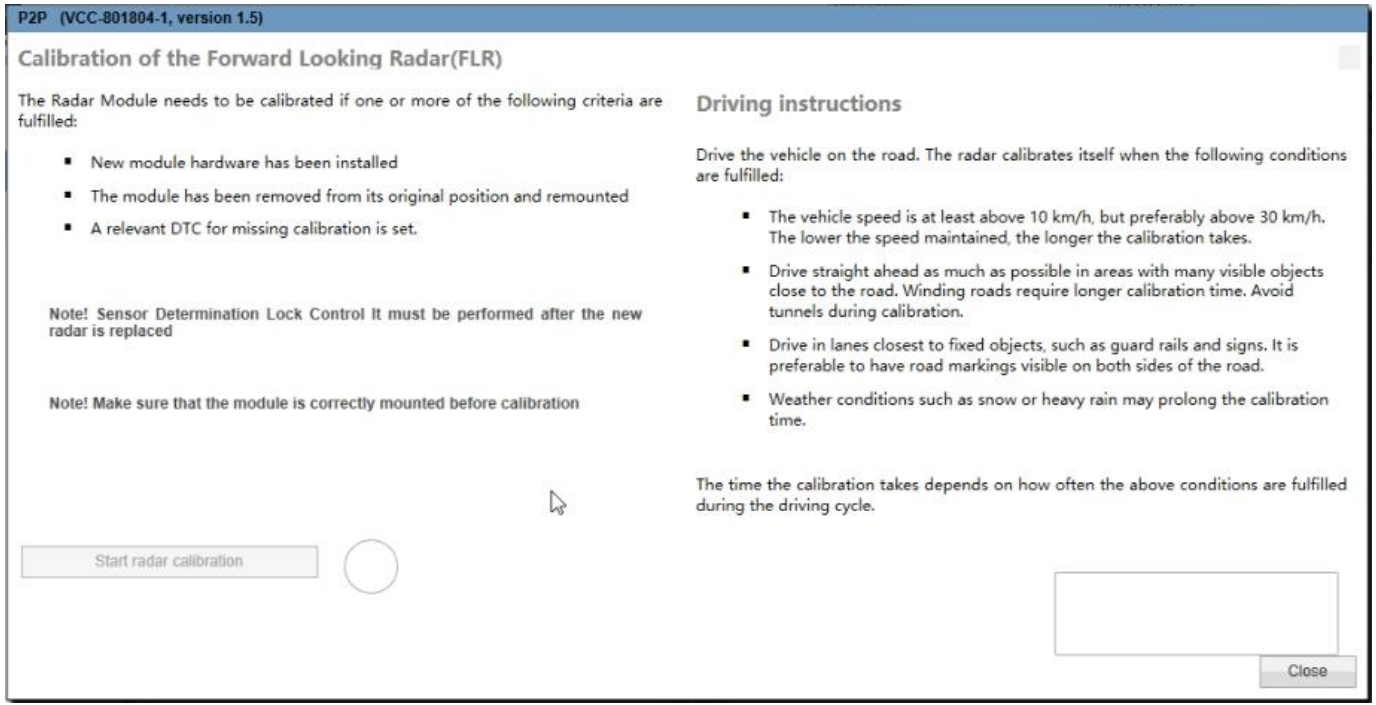
- The bolts connecting the propshaft and AOC should be tightened diagonally
- After the torque manager is assembled, refill some oil (habot 311)
- During installation, the white spot on the rear end of the propshaft should be within the two white lines on the rear main reduction flange
- After replacing the AOC, do “bleeding” by the following methods:

Do “bleeding” automatically
Start the vehicle, keep the speed above 20Km/h and drive straight, hold the accelerator pedal driving for 10 minutes, then stop and turn off the engine;
repeat the above operation 4-5 times

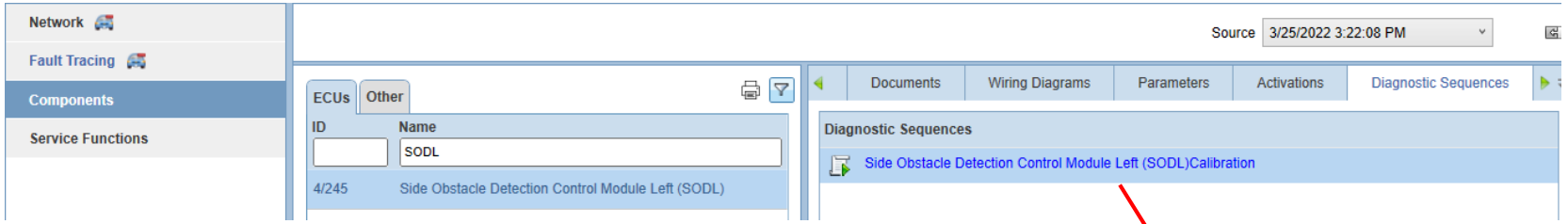


FLR Dynamic Calibration



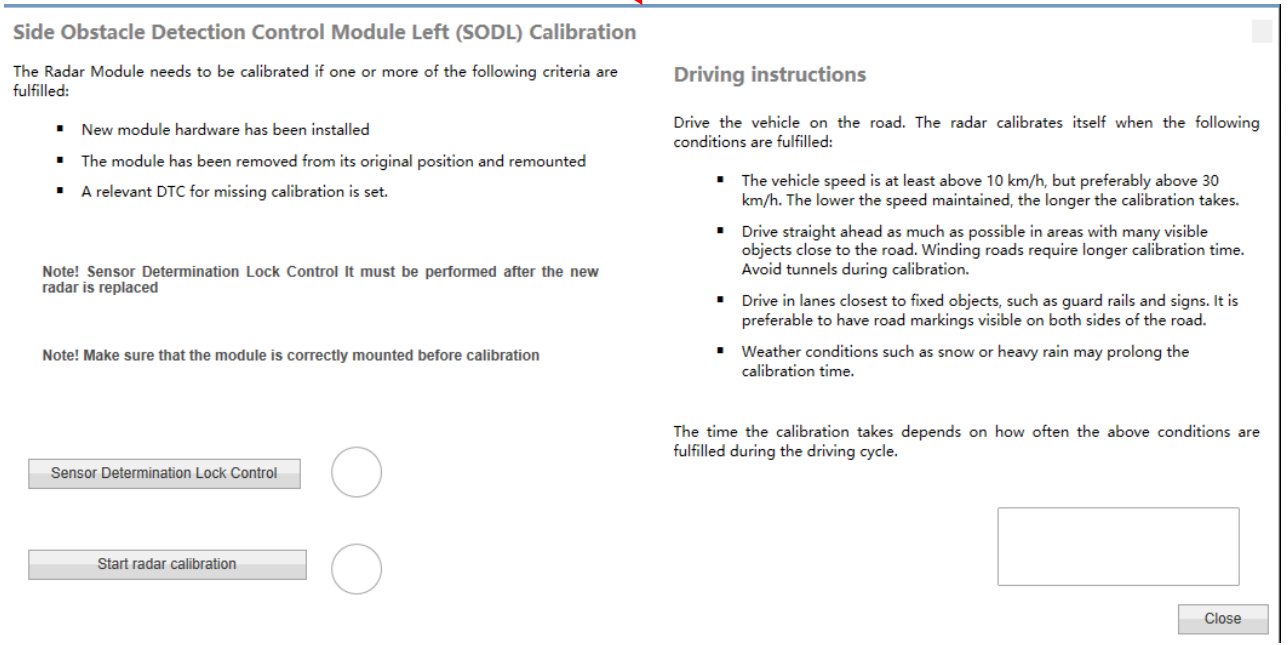


SODL/SODR Calibration

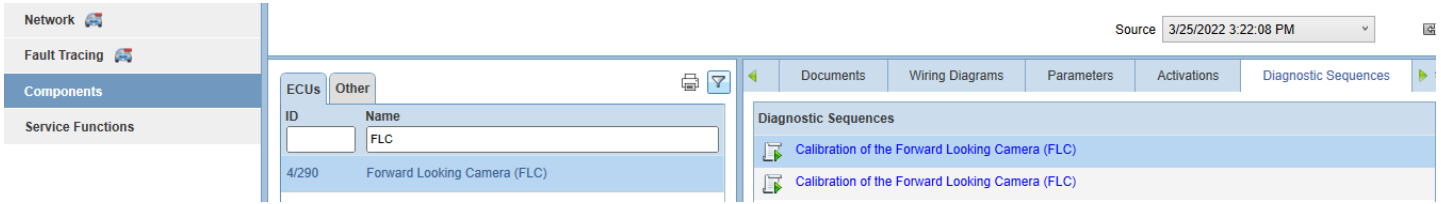


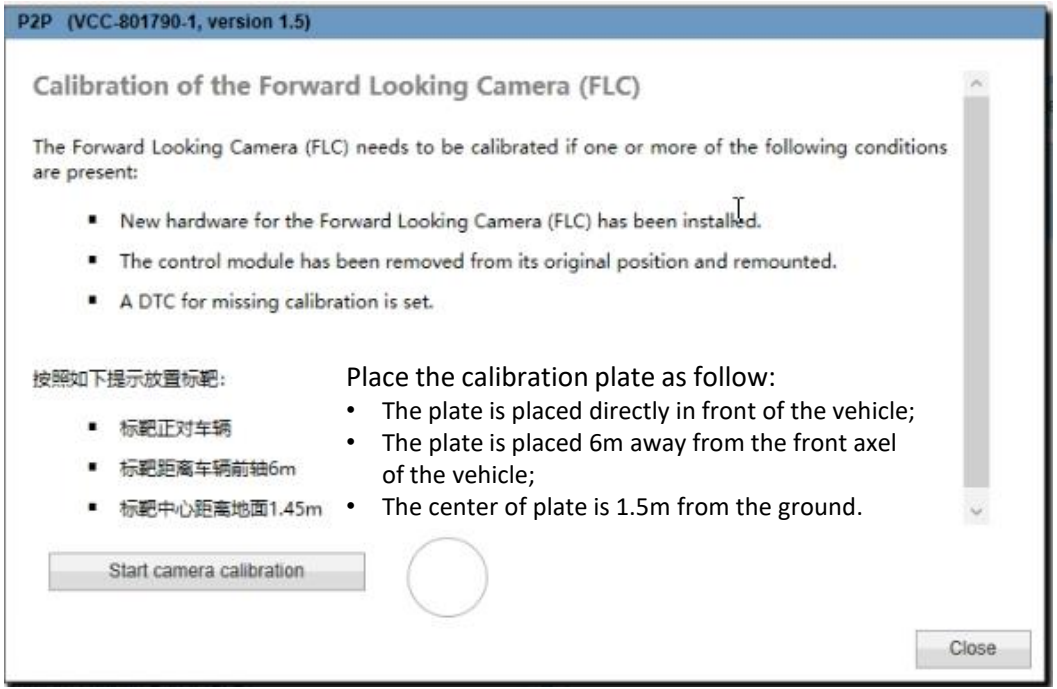
Caution:

Actually S0DL & SODR are the same (same part number), but if you disassembled them from the vehicle, you shall make sure that they are not mixed up and assemble them to the original location; otherwise there will be DTC and SODL/SODR will lose communication.



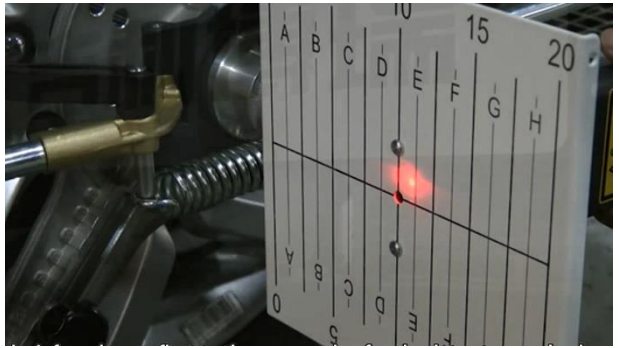
FLC Static Calibration

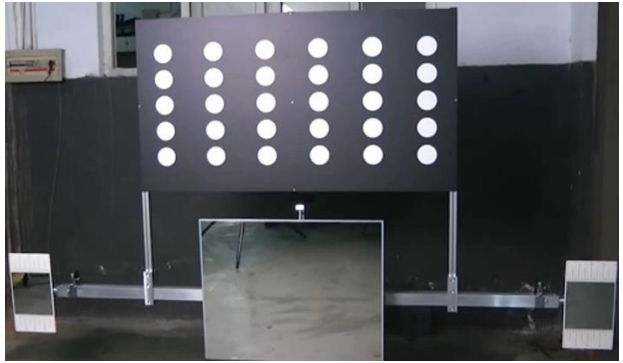




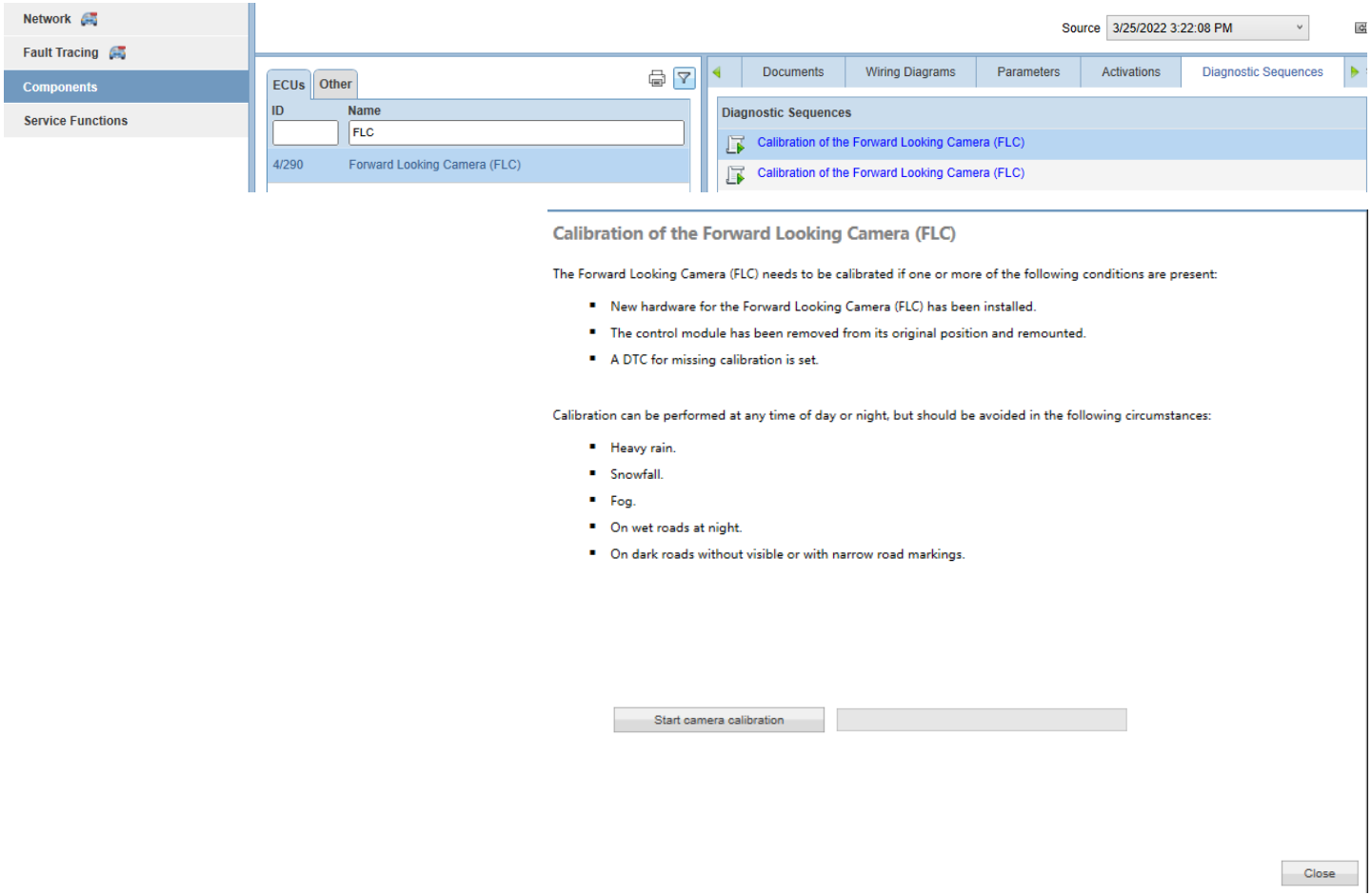
Place the calibration plate as follow:

- The plate is placed directly in front of the vehicle;
- The plate is placed 6m away from the front axel of the vehicle;
- The center of plate is 1.5m from the ground.





FLC Dynamic Calibration

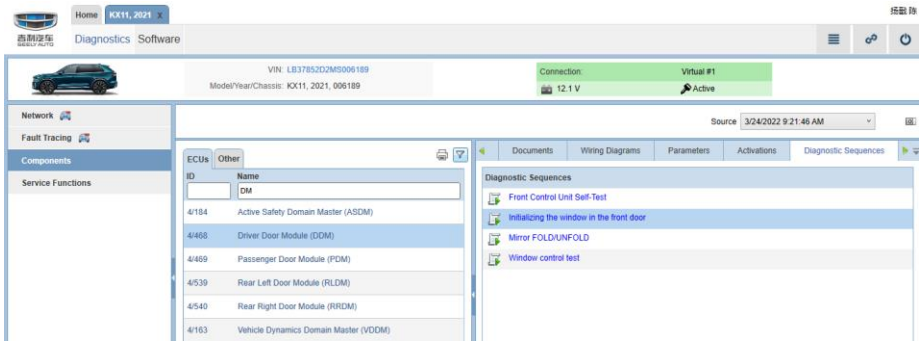


Window Initialization

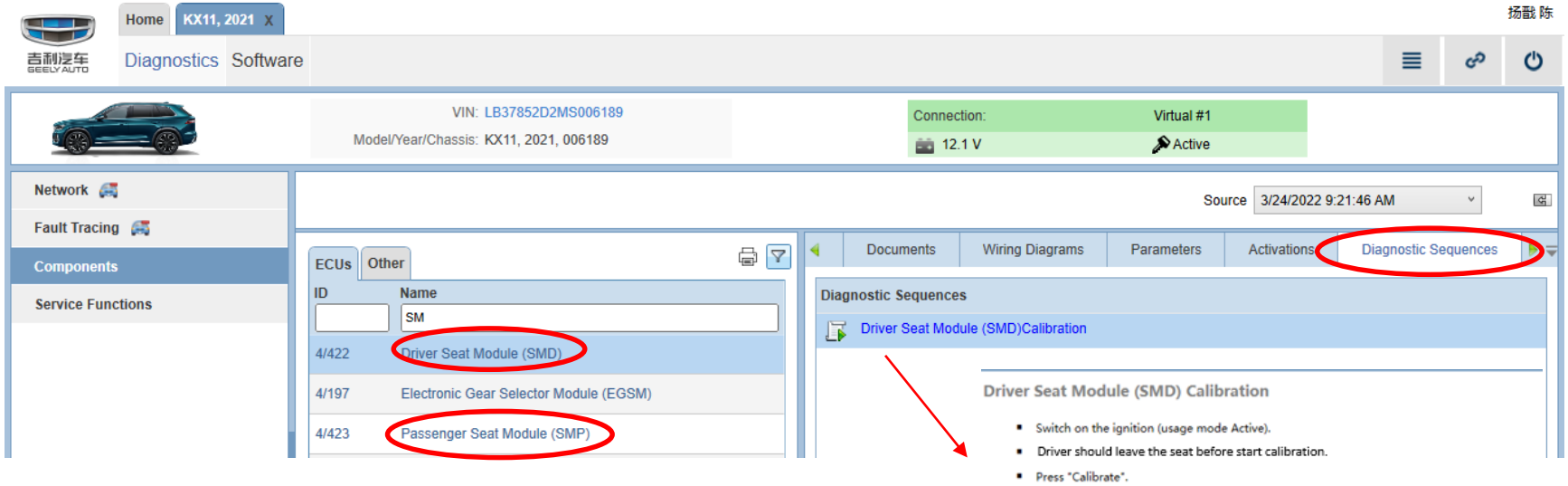
If window automatic closing or anti-pinch function can not work normally, you need do the **window self-learning** as follow:

- Operate the switch, pull up the window to fully close, continue to pull the window switch up and hold it for 3 seconds, release the switch;
- Operate the switch, pull down the window to fully open, continue to pull the window switch down and hold it for 3 seconds, release the switch;

You can also operate window initializing through GLDS, door module:



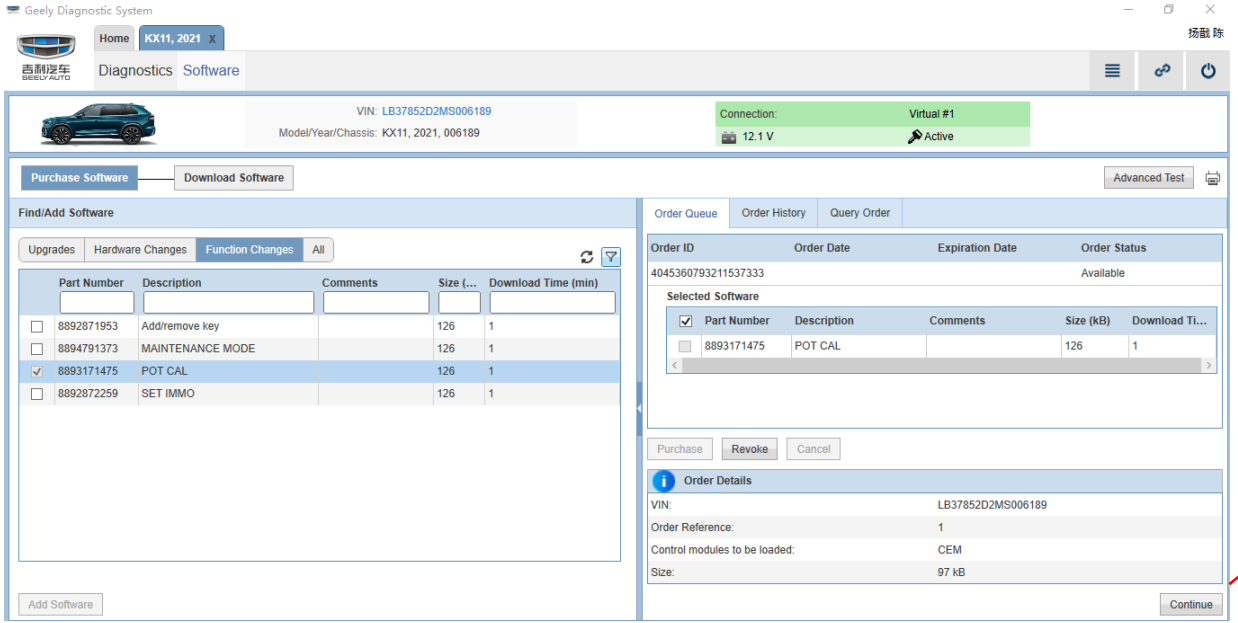
Seat Module Calibration

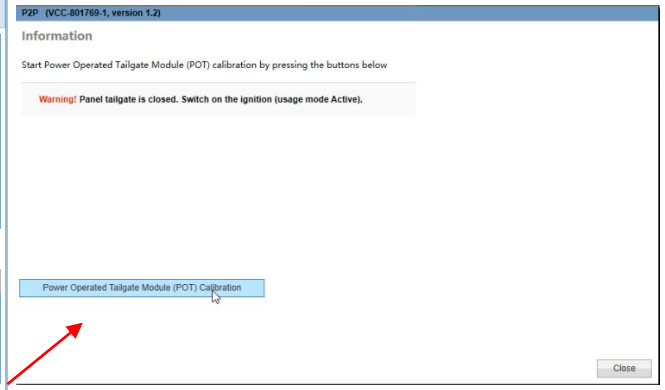


Using GLDS, Diagnostics, Components:
SMD/SMP → Diagnostic Sequences → Seat module calibration

POT Calibration

- Using GLDS, purchase “POT CAL” software;
- Click “continue” to start the calibration;
- After finished calibration, check the functions of power operated tailgate.





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