BMW Light Control Module – Upgrade from LM1 to LM2

(E63 6 Series, also relevant for e60/e61/e64)
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Contents

1. About the LM II

Before Oct 2006 the E6x was fitted with an LM1, after that the LM2 was introduced which has a lot of more functions. There were many revisions & many variations of the LM2 module. Some time in 2007 BMW started to fit the LMII Light Control Module 2 to the e6x. This was before the LCI model was released so sometimes there is confusion as to whether LMII is only an LCI thing, but there was some fitted prior to LCI.

Anyway to LMII allows the following functions:

- Welcome Lights (choose any set of lights to come on when you unlock)
- Cornering fogs (like the current VAG)
- Angel Eyes (or any other lights) as DRLs

2. Part Numbers:

Remember that there are various part numbers depending on what lights you have but in the LM2 there are basically two versions:

    a) No adaptive headlights fitted
    b) Adaptive headlights fitted

Below is a list of the suitable part numbers. ENDED just means a revised version of the module was released, these modules are still up to the task. Choose the option that matches your headlight spec, check your option list on http://www.rubmw.ru/vincode/eng/ to see if you have the option SA524A (Adaptive headlights)

2.1 No Adaptive Headlights:

	For vehicles with Adaptive Headlights = No	S524A= No					
05	Light module		1	09/2006	09/2008	61359153272	ENDED
05	Light module		1	09/2006	09/2008	61359154943	ENDED
05	Light module		1	09/2006	09/2008	61359180756	ENDED
05	Light module		1	09/2006		61359192641	ENDED
05	Light module		1	09/2006		61359203081	Latest

2.2 Adaptive Headlights fitted:

	For vehicles with Adaptive Headlights	S524A= Yes					
05	Light module		1	09/2006	09/2008	61359153273	ENDED
05	Light module		1	09/2006	09/2008	61359154944	ENDED
05	Light module		1	09/2006	09/2008	61359179186	ENDED
05	Light module		1	09/2006		61359192642	ENDED
05	Light module		1	09/2006		61359203082	Latest

2.3 Example of Xenon LM II module:

Label from LMII module, note that there are multiple part numbers that are suitable for the task. The one below is revision 2:
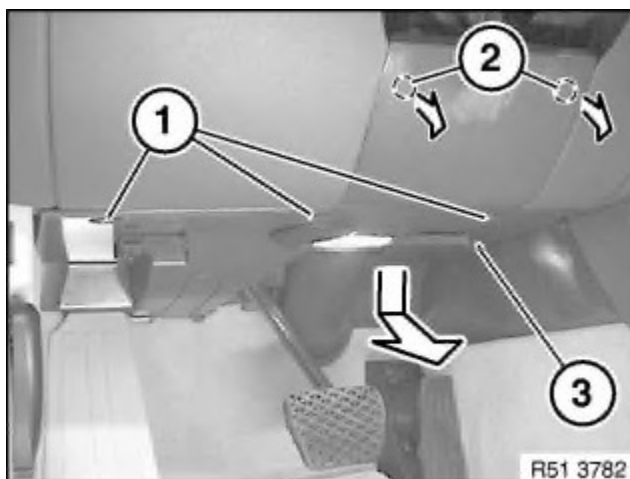
Comparison of the old & new LM labels, note the LM II on the newer on.
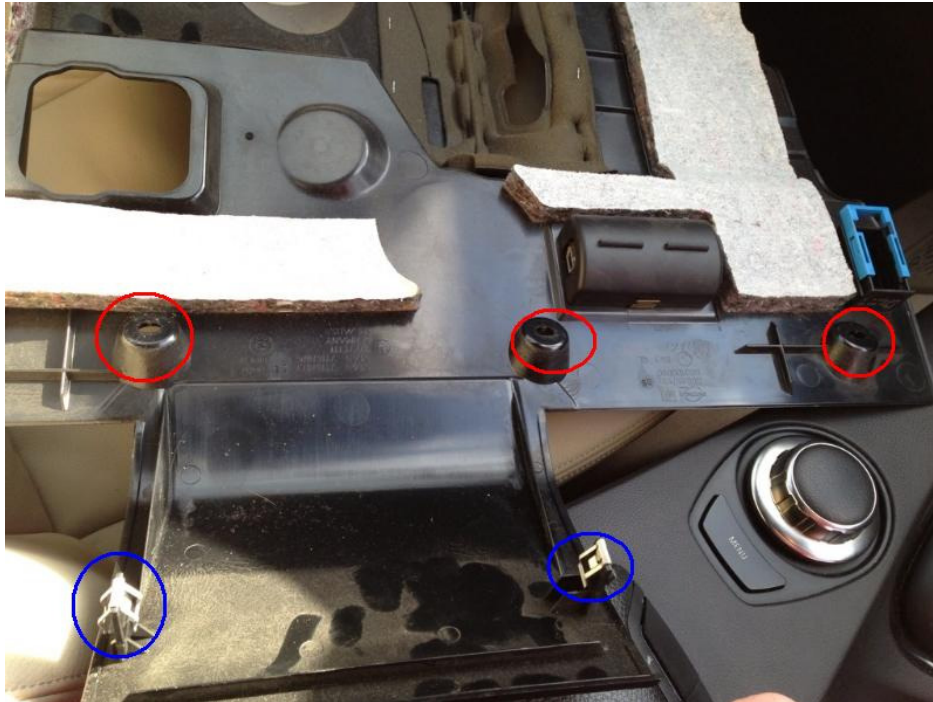

3. Physical Module removal.

    a) The module is located behind the panel just above the pedals. See the guides below for the correct removal & install procedure for the units & the panel.

3.1 51 45 185 Removing and installing/replacing panel for pedals

Release screws (1), screw locations are circled in red below.

Unclip trim for pedal assembly (3) at retaining points (2), highlighted in blue above.
Pull back panel for pedals (3) in direction of arrow.
Disconnect associated plug connections and remove trim for pedal assembly (3).
Important!
The OBD port can be released by sliding the blue clasp back. Disconnect the foot
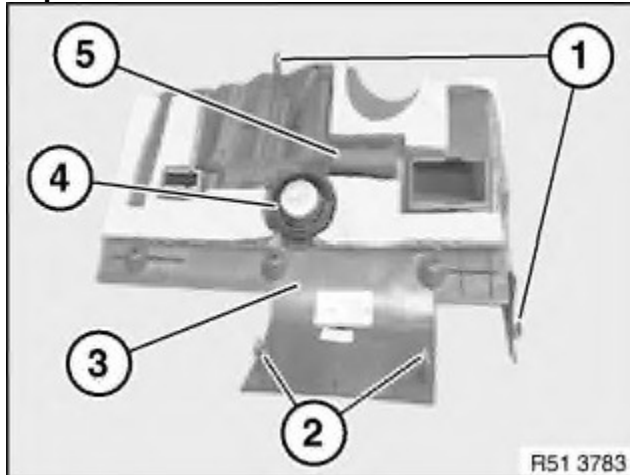well light too to remove trim panel out of the way.

Disconnecting the plug connection for the hands-free system speaker results in fault memory entries in the telephone control unit (limitation in the emergency SOS call system).
After fitting, read out fault memory and if necessary delete entries.

Installation:
Guides (1) and clips (2) of trim for pedal assembly (3) must not be damaged.

Replacement:

Remove speaker of hands-free system (4).
Remove footwell light (5).

Remove the screw holding the LCM and pulling downward. There is only 1 screw holding the LCM, the other side is held by a metal catch.

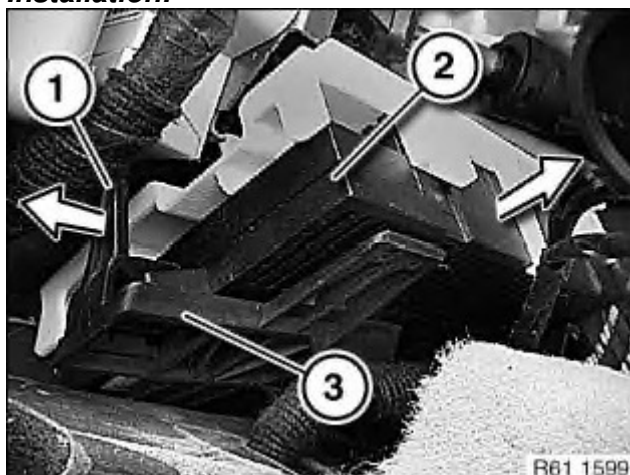## 3.1 61 35 285 Removing and installing (replacing) light module

Important!
Read and comply with notes on protection against electrostatic discharge (ESD protection).

Necessary preliminary tasks:
Remove trim panel for pedal assembly. Unlock catch (1) and feed out/remove light module (2) in direction of arrow.
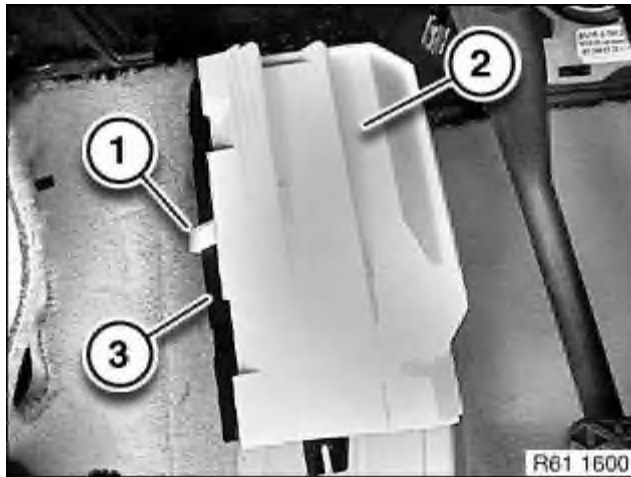
Installation:

Make sure light module (2) is correctly seated in mounting (3) and catch (1).

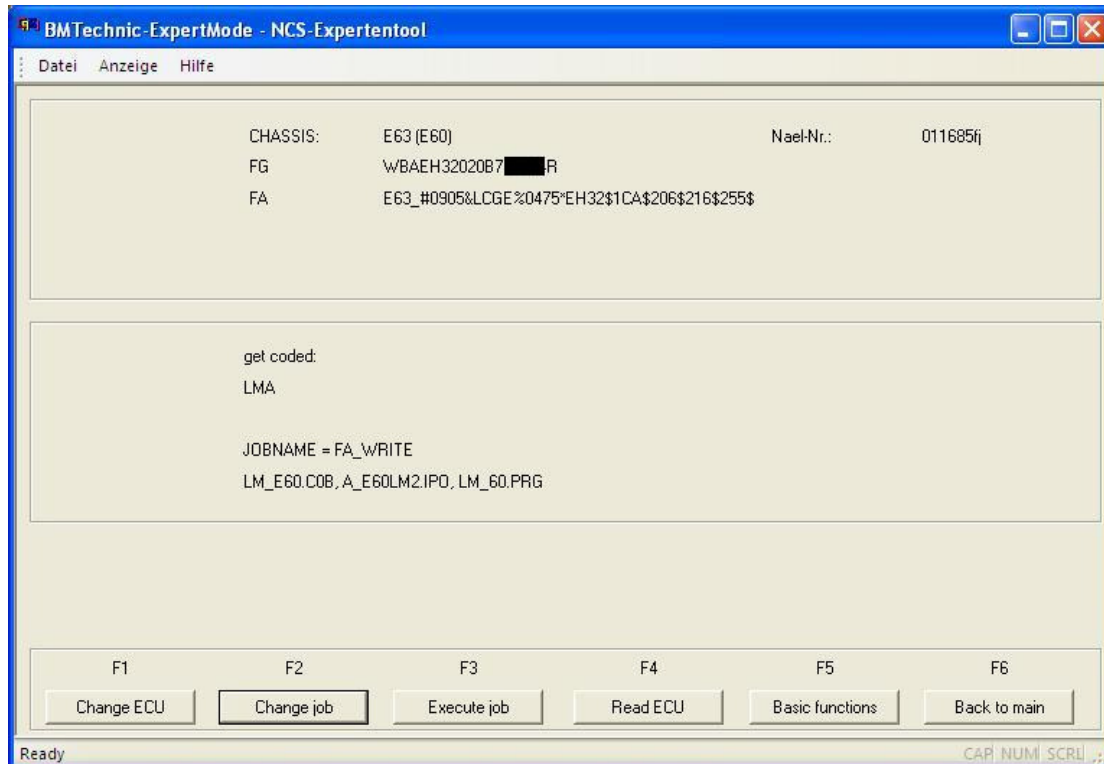If necessary, unlock catch (1) and remove cover (2) from light module (3).

Installation:
Make sure cover (2) is correctly seated on light module (3).

Disconnect plug connection (1).
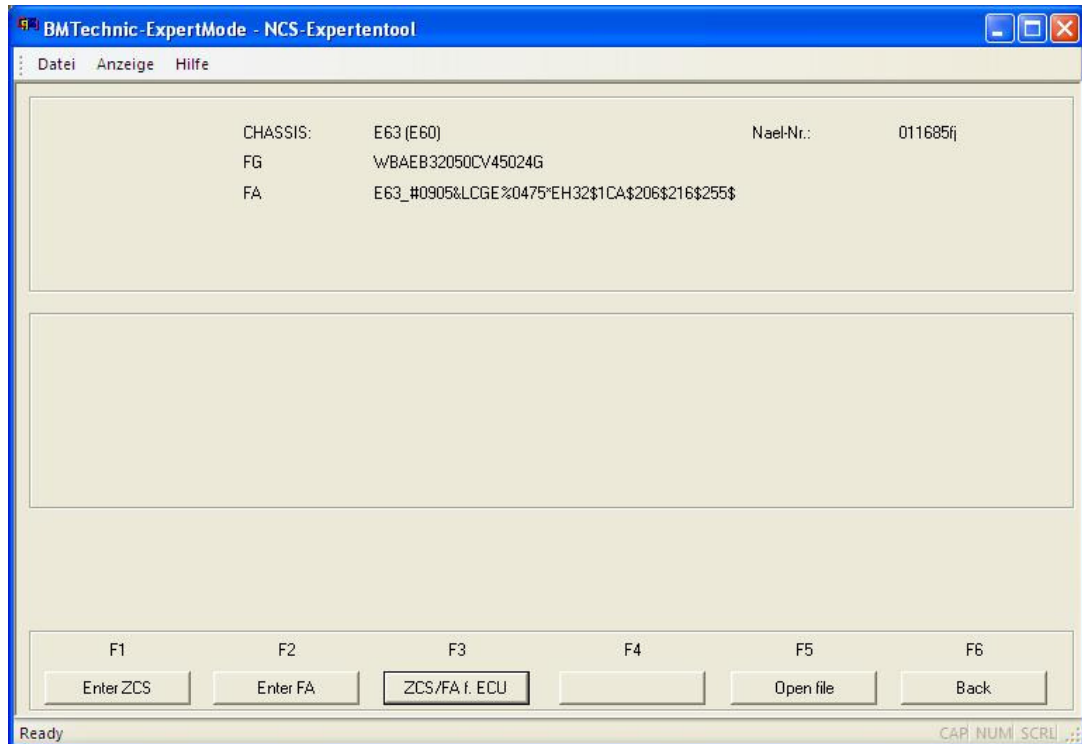
4. Write VO to replcement LMA

a) Load NCS Expertprofile
b) Click:

   F1 -> then F3 -> Choose the CAS -> then "Back"
c) Change the jobto "FA_WRITE" job process the LMA ECU.
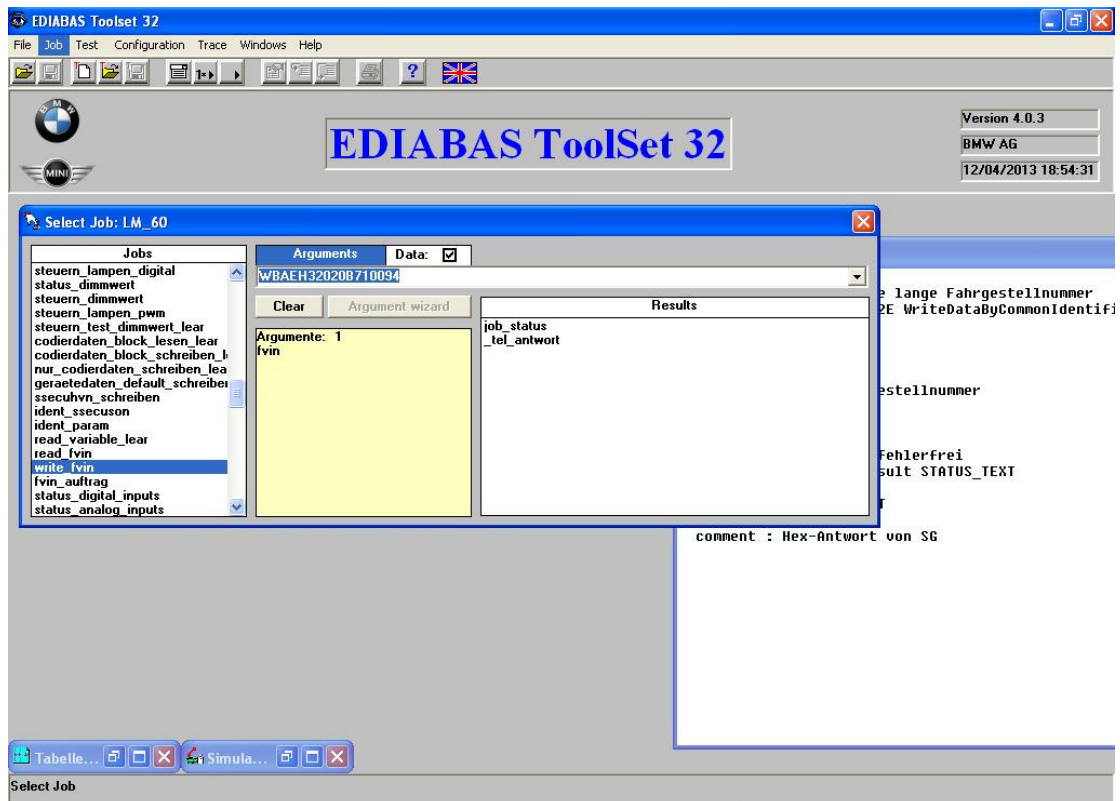
   a. This process copies the VO from the CAS to the LMA.

5. Correct VIN in LMA with Tool32

a) When you start NCS Expert and instead of choosing CAS you choose LMA you will notice that the old VIN number still loads.

Here you can see the VIN that was on my replacement module was from an E64 with a build date of 15/10/2007

b) Perform a "Read ECU" and note down the .prg file that NCS is using for the LM2. Close NCSExpert. In my case it was the file called LM_AHL_2.prg

c) To fix this load Tool32 and load up the .prg file that you noted down.

    a. File -> Load prg file -> choose appropriate prg file

d) The job called "read_fvin", which when run will show the old VIN. To run select Job -> "Run Job once"
e) Load up the job "write_fvin" which requires one argument. Again, to run select Job -> "Run Job once"
f) Enter the VIN noted from NCS Expert, omit the end letter that follows the VIN
g) Run the job.
h) Check that correct VIN show by again running "read_fvin".

6. Check this VIN in NCS expert
a) Just another check to ensure that the correct VIN has been written to the replacement LMA

7. Default Code LMA to match VO.
a) Load NCSexpert Expert Profile
b) F1
c) F3
d) Back
e) Process the LMA ECU again; this will code the LMA to the new VO.
f) Job done!

8. Custom coding

This is the step where you get to enable the features that you want to:
For example:

LM2 features:
- Angel eyes as DRLs
- Welcome lights, any light options
- Cornering fogs
- Custom settings for individual keys

Other features that don't need LM2:
- Remote Homelights (via key fob)
- Brake force display (various settings)

9. Optional Step

9.1 Reprogram the LCM

The LCM is the other module in the car that holds the VO, the other being the CAS.

a) Load NCS Expert and choose the CAS and then choose "Enter FA", just copy the **complete** VIN number that pops up. Close NCS Expert.

b) Load INPA and check the "**Ident**" of the LMA module and check the part number there. Note this part number down, in fact print this page to a PDF file. Close INPA.

c) Load WinKFP:

   a. Click F1 "Comfort Mode"

   b. Click F2 "Choose ZUSB"

   c. In ECU family choose LM460
      i. Make sure that the part number that you took noted shows up on the ZB-Number list; otherwise choose another ECU family.
   d. Click cancel and then Click F3 "Update ZUSB" and choose LM460 and click OK.

   e. Click F4 "Enter VIN"
      i. Enter the VIN number that you copied from NCS Expert.
      ii. Click "Done".

   f. Click "Prog ZB-Update".
      i. The module will start getting coded and the UIF will be written, which means that the VIN will have been updated.
   g. Close WinKFP.