

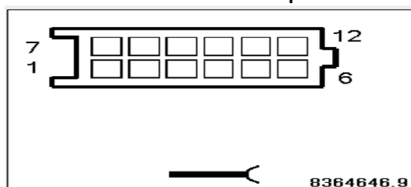
This DIY is based on configuration of my own car. A 2004 E60 Limousine with electric rear sun-visor, and PDC and seat heating. I don't have an electronic steering wheel column, neither do I have full electric seats.

I will mention the cables that you will have to swap for the electronic steering wheel column and the K-Bus wire that you will need to swap for the electric seats on the bottom of this DIY. But then again, I could not test this since I don't have an electric steering wheel column.

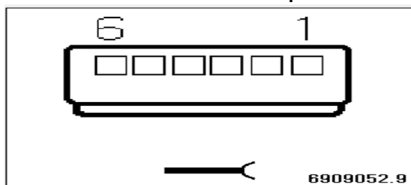
It would be wise to check WDS/ISTA if the instructions in this DIY matches your vehicle build year as I focused mainly on 2003/2004/2005. I take no responsibility for damage to your car as the wiring might possibly be different in your own car. Study WDS and take this DIY as a guideline.

The pre facelift center switch panel has three connectors on the backside.

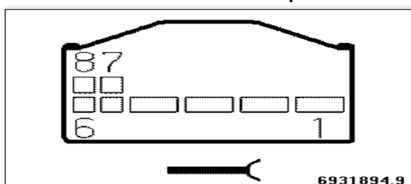
X14056 12 pin connector



X14057 6 pin connector



X14058 8 pin connector



We can rewire most of these wires to the new connectors (X16919 & X16920) for the LCI center switch panel.

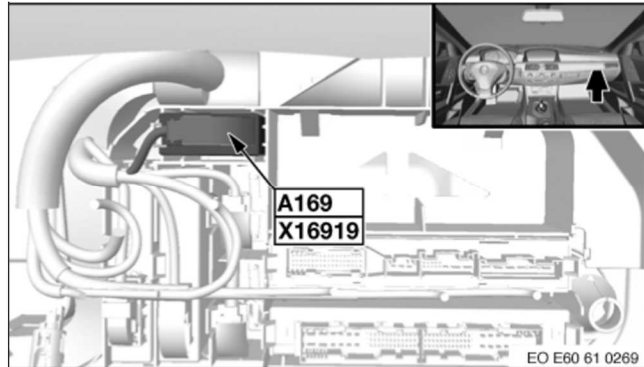
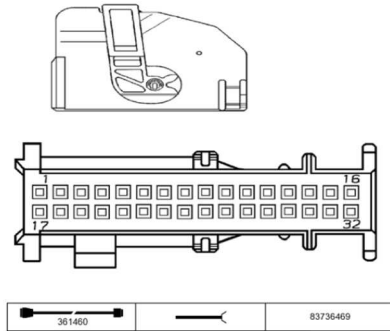
The LCI center switch panel has two new control modules to handle the functions that were integrated in the pre-LCI center switch panel.

These control modules are now located behind the glove box.

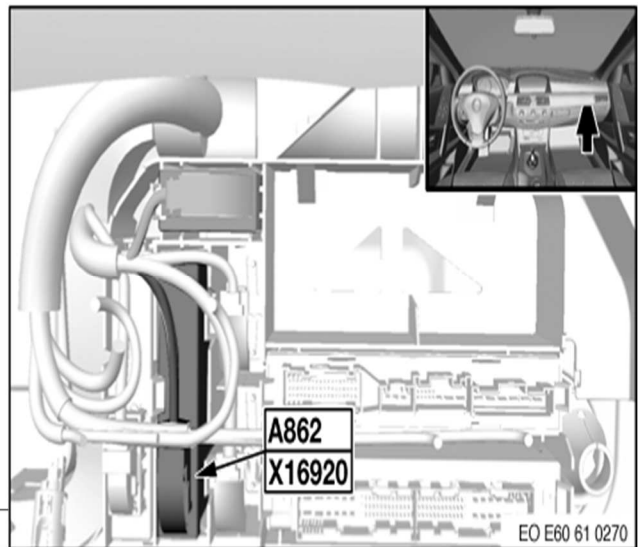
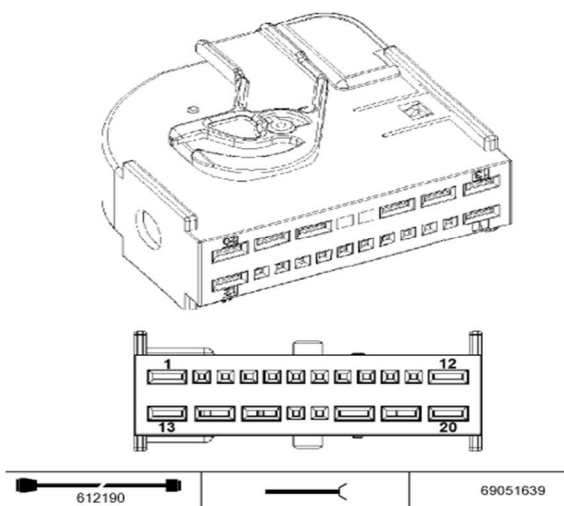
One control module is the Control Electronics, further down this DIY I will refer to this module as ELECTRONICS ECU.

The other control module is the Center console switch center ECU, further down this DIY I will refer to this module as CONTROL ECU.

X16919 is the connector which connects to the CONTROL ECU.



X16920 is the connector which connects to the ELECTRONICS ECU.



Further down in this DIY you will read that you have to route some wires to connector X4066, This is the black fan-connector box (german:kammverbinder) which you will find on the right side of the dashboard behind the glove box. Above the fuse box in the dash you will find this black box which has all kinds of wires attached to it from the backside. You will have to route some mass/negative wires to this box. Release this box from its clip, flip it over and find a connector where all the brown wires connect to. Release the corresponding connector. Just add these wires to this connector where the rest of the brown wires are attached also.

Everything is connected and rewired according to WDS/ISTA, according the official BMW LCI schematics, just like the way the LCI is wired.

Wiring colors:

RT	Red
VI	Violet
GE	Yellow
WS	White
GN	Green
BL	Blue
SW	Black
BR	Brown
GR	Grey

When I mention numbers like 0,35 / 0,50 / 0,75 behind wire colors, I refer to the wire thickness of that particular wire.

What you will need:

For the conversion you will need some parts that are described below. I haven't got the complete list of parts that I used anymore, additionally you may need some more male/female pins or anything, I simply forgot all the parts that I used, but anyway, all of the necessary bigger parts are mentioned:

Function carrier center dashboard	51456976403	
Connector for Control ECU module	61138373648	
Socket housing	61138373650	
Bushing contact female	20 x 61130005199	0,2/0,5
Bushing contact female	10 x 61130006665	0,75
Connector for Electronics ECU module	61136905167	
Bushing contact female	10 x 61131393724	
Socket housing	61136905178	
Socket contact ELO-Power 2, 8x0, 63	10 x 61138364834	
2x connector for center console buttons	2 x 61138377072	
ECU Switch center console	61319183233	
ECU control Electronics	61319138969	
Both Button blocks	See ETK	
Flat contact Fan-connector	61131387140	0,35/0,5
Flat contact Fan-connector	61131387142	0,75

There are some more (trim) parts that you will need, but you will have to find out those for yourself.

You will need to remove the trim panel on the dashboard, the Climate control trim panel, the climate control panel, the CCC/CIC/MASK, the glove box, and the glove box surrounding so that you have clear access to the fuse box/module storage compartment behind the glove box

Also you will have to do some minor sawing on the center dashboard, you need to remove a horizontal bit on the bottom of the center dashboard for the function carrier to fall perfectly in place when you rebuilding the car.

I did start off with removing all these items, then it's necessary that you reroute the wiring loom with the 3 connectors which connect into the pre facelift center switch panel all the way back to the place behind the glove box. This is the spot where the new modules get placed, so this is the place where you want your wires/signals to be. So to be able to do that I had to strip the main wiring harness isolation tape all the way back, so that the corresponding wires could be rerouted behind the glove box. When all the wiring rerouting is done you can insulate your wires again with the same factory tape / insulation used.

Now for the technical work:

DSC Pass/DSC Button signal

Release Cable BL/VI from six-pin-connector X14057 pin 3 .

Pin this cable to pin 14 of 32-pin-connector X16919 (CONTROL ECU)

Electric rear sun visor

(SORO1) release cable GE from eight-pin-connector X14058 pin 8 .

Pin this cable to pin 20 of 20pin-connector X16920 . (ELECTRONICS ECU)

(SORO2) Release cable WS from eight-pin-connector X14058 pin 7 .

This wire pins to pin 19 of 20pin-connector X16920. (ELECTRONICS ECU)

Also for the sun visor you have to make the following four connecting wires between the ECU and the ECU ELECTRONICS:

PIN 20 - > PIN 2 Color GN/WS 0,35

PIN 21 - > PIN 3 Color GN/GE 0,35

PIN 22 - > 16 PIN Color BL/SW 0,35

PIN 16 - > 17 PIN Color BL/GN 0,35

For the connection between the ECU and the ELECTRONICS you make a cable from pin6 (CONTROL ECU) plug X16919 to pin9 of plug X16920 (ELECTRONICS ECU)

K-Can signal/for PDC/Seat heating

(K-CAN H) release cable SW from 12-pin-connector X14056 pin 11.

This wire pins to pin 10 of 32-pin-connector X16919. (CONTROL ECU)

(K-CAN L) Release cable GE from 12-pin-connector X14056 pin 12.

This wire pins to pin 11 of 32-pin-connector X16919. (CONTROL ECU)

Switch button blocks:

Both button blocks have a 3 pin connector, Lin-BUS cable's from both button blocks come together to one wire, also supply cable from both button blocks come together to one wire, and this wire connects to the supply cable that comes from the rear fuse box.

(Lin-BUS)

Lead both PIN3 WS/GE 0,35 (Lin-BUS) wires from button blocks together to 1 wire.

Pin this wire on (CONTROL ECU) pin 1 connector X16919

(Mass)

Pin 2 BR/SW 0,35 of each switch separately to ground point X4066 (fan connector) and connect separately to X4066 fan-connector.

(supply)

- Lead both Pin1 RT/VI 0,35 (supply) from both button blocks together and weld to 1 wire.
- Release Cable RT/VI 0:35 of plug X14057 Pin 1 of connector X14057. This is the power wire which goes to Terminal 30G in the rear fuse box on the right side. Pin in on position 12 of connector X16919. Also connect the 2 positive wires, which you welded together to one to this wire so that the button blocks also get power.

For the power of your ELECTRONICS ECU, release pin RT/WS 2,5 from pin 2 of 8-pin-plug X14058.

You will have to pin in this cable on pin 12 of connector X16920 (ELECTRONIC ECU)

For the mass for the ELECTRONICS ECU release wire BR 2.5 from pin 1 of 8-pin-connector X14058 .Pin this wire into pin 1 of connector X16920 (ELECTRONICS ECU)

For the Mass of the CONTROL ECU lead a new wire from pin 13 BR/SW0.75 X16919 to ground point X4066 (fan connector)

Remove 5 amp fuse F68 from the rear fuse holder and replaced with 10 amp fuse.
(up to 2005_09 according to WDS) (From 2005_09 it should be Fuse F74 according to WDS)
CHECK FOR YOURSELF!

Electric steering wheel Colum rewire:

X14058			To X16920
PIN 5	M_UMSCH+	0,75 SW	PIN 15
PIN 6	M_UMSCH-	0,75 BR/SW	PIN 18
PIN 3	M_VERST+	2,50 GR	PIN 13
PIN 4	M_VERST-	2,50 BL/GR	PIN 14
X14056			To X16919
PIN 6	HALL_LV+	0,35 BL/RT	PIN 5
PIN 7	HALL_LV-	0,35 BL/GR	PIN 26
PIN 4	HALL_HV+	0,35 BL/WS	PIN 3
PIN 5	HALL_HV-	0.35 BL/GE	PIN 4

According to the schematics, the LCI has extra wires for the electric steering column between the CONTROL ECU and the ELECTRONIC ECU.

I don't know if these extra wires are needed, what their function is and if the electric steering wheel Colum will function without these wires, but I will describe these extra wires that you will have to attach between the two control modules:

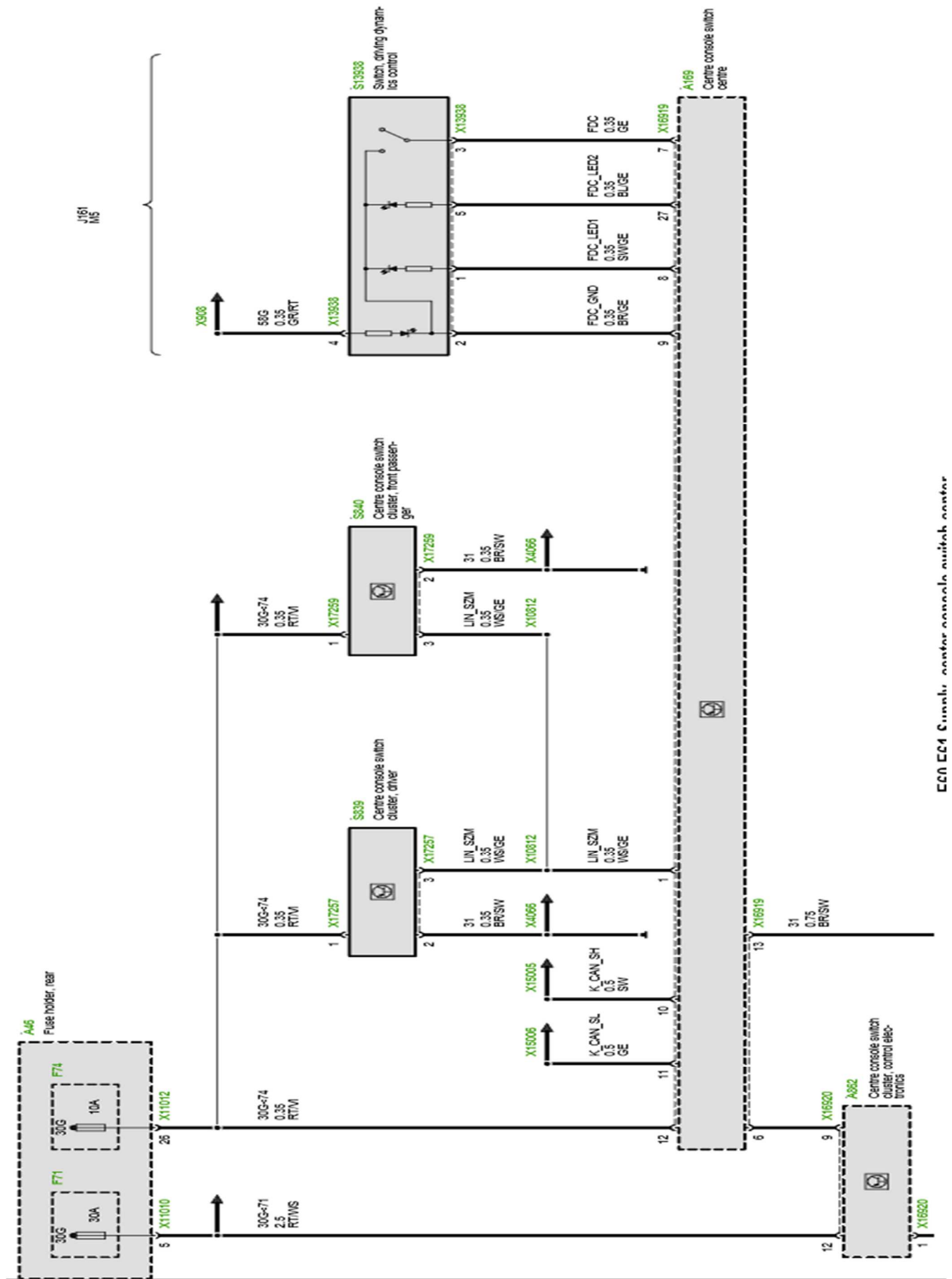
Make the following extra wires between the two modules from:

X16920		TO		X16919
PIN 4	ANT_HOCH	0,35	WS/BL	PIN 23
PIN 5	ANT_RUNT	0,35	RT/GN	PIN24
PIN 6	UM_HOCH	0,35	GE/SW	PIN 17
PIN 7	UM_RUNT	0,35	WS/GE	PIN 18
PIN 8	MOT_STAT	0,35	BL/VI	PIN 15
PIN 10	MOT_CUR	0,35	GN/WS	PIN 19
PIN 11	ANT_CUR	0,35	RT/GE	PIN 25

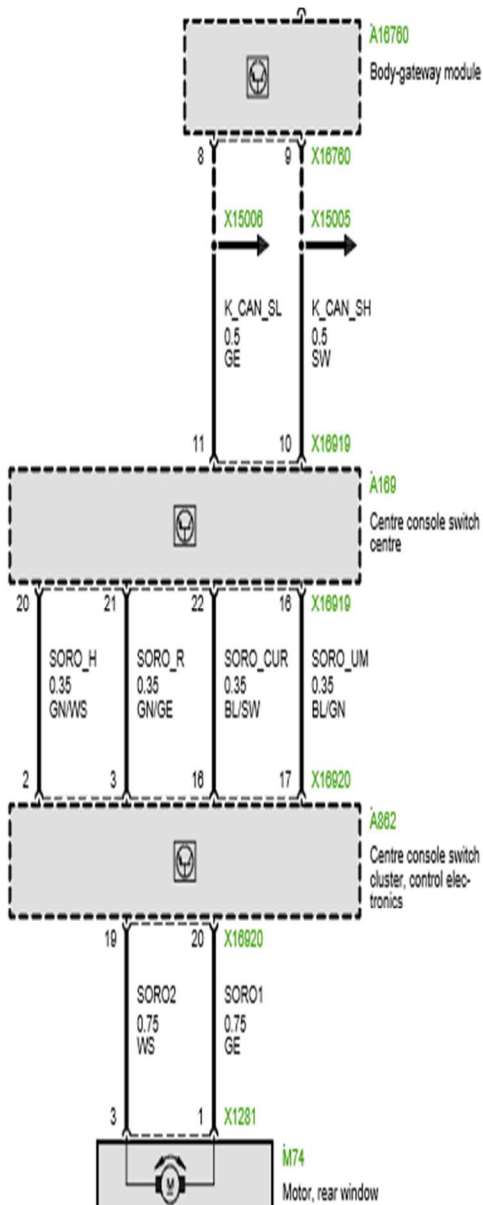
K-BUS SIGNAL (For full electric seats)

Unpin Pin 3 WS/RT/GE from 12-pin-connector X14056.

Pin this wire into PIN 2 plug X16919 CONTROL ECU



Wiring Diagram Facelift



Wiring diagram facelift, rear sun visor

Most functions will work right away without coding your car, Code VIN into your new module, and code module.