



# Installation Instructions

Phone, Navigation Systems

B84 02 03

Page 1 of

June 2003

Product  
Development

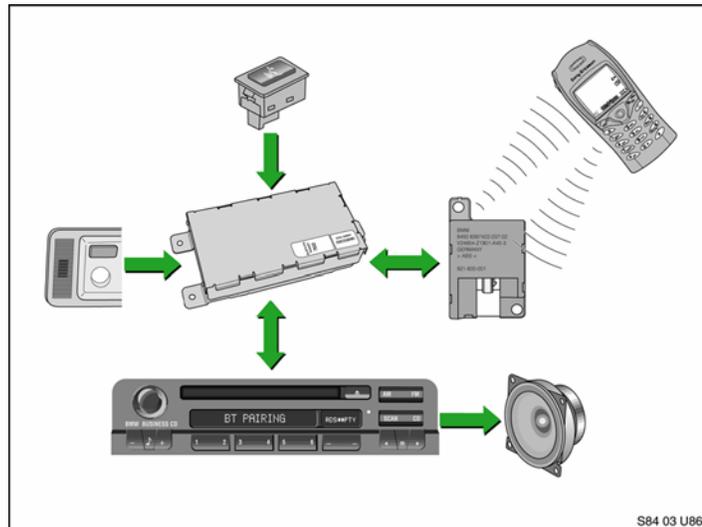
## ***SUBJECT***

## **BMW Universal Bluetooth™ Hands-Free-Kit**

## ***MODEL***

E39 - Sedan as of 3/02

E39 - Sport Wagon as of 9/02



"Never use any electronic device or make any inputs while driving that may distract you from driving safely.

Pay attention to traffic laws and road conditions/situations. Safe vehicle operation is the driver's responsibility. Always wear your safety belt."

## ***INSTALLATION TIME***

The average installation time for this kit is approximately 1 hour.

These instructions were developed especially for BMW vehicles and are not to be compared to any existing instructions for vehicles other than BMW. No methods other than those specified in this document are to be used to install the **BMW Universal Bluetooth™ Hands-Free Kit**.

|   |                 |  |   |            |  |   |                                     |  |  |  |
|---|-----------------|--|---|------------|--|---|-------------------------------------|--|--|--|
| Please initial and route to the following for information before filing |                 |  |   |            |  |   |                                     |  |  |  |
| X   | Service Manager |  | X | Warranty   |  | X | Service Technicians - Initial Below |  |  |  |
| X   | Service Advisor |  |   | Parts Mgr. |  |   |                                     |  |  |  |
| X   | Service Advisor |  |   | Body Shop  |  |   |                                     |  |  |  |
| X   | Shop Foreman    |  |   | PDI Dept.  |  |   |                                     |  |  |  |

★ ★ **FIX IT RIGHT THE FIRST TIME, ON TIME, EVERY TIME** ★ ★



***PARTS INFORMATION***

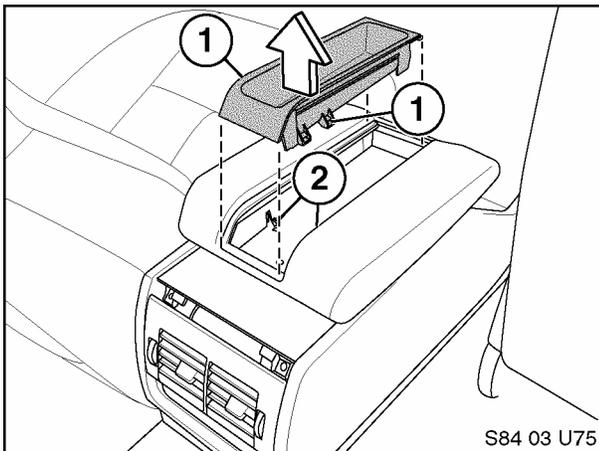
| <b>Description</b>   | <b>Qty</b> | <b>BMW Part Number</b> |
|--|------------|------------------------|
| ULF Control Module   | 1          | 84 21 6 934 552        |
| Voice Input System Jumper Plug   | 1          | 84 11 0 018 038        |
| ULF Control Module Mounting Bracket<br>(Sedan with Navigation produced 3/02 – 8/02)    | 1          | 84 13 6 924 547        |
| ULF Control Module Mounting Bracket<br>(Sedan without Navigation produced 3/02 – 8/02) | 1          | 84 13 6 924 546        |
| E39 Sedan/Sport Wagon Installation Kit   | 1          | 84 11 0 302 647        |

***Installation Kit Contents:***

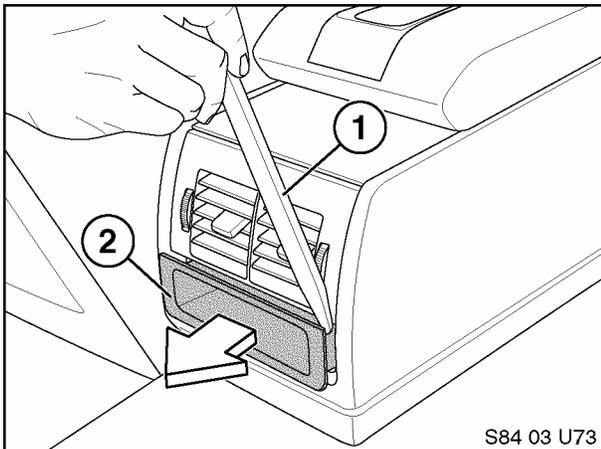
|  |   |                 |
|--|---|-----------------|
| M5 Bolt w/Washer                         | 3 | 07 11 9 902 932 |
| M5 Clip Nut                              | 3 | 61 13 1 372 033 |
| Wire tie                                 | 2 | 61 13 1 367 599 |
| Double sided tape with adhesion promoter | 1 | Supplied        |
| Eject Box with Tray                      | 1 | 84 21 6 933 415 |
| Microphone                               | 1 | 84 31 8 380 319 |
| Bluetooth™ Antenna                       | 1 | 84 50 8 928 461 |
| ULF Owner's Manual                       | 1 | 84 11 0 302 638 |
| ULF Passkey Reference Card               | 1 | 84 11 0 302 646 |
| ULF E39 Installation Instructions        | 1 | 84 11 0 302 642 |
| Owner's Manual For Voice Input System    | 1 | 84 11 0 027 942 |

***PROCEDURE:*****To install and connect the universal charger/hands-free electronic control unit**

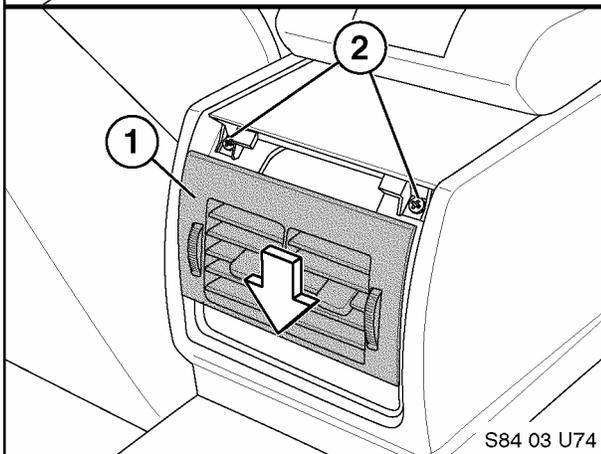
Disconnect Battery prior to starting the installation.

**A. Eject box and Bluetooth™ Antenna Installation:**

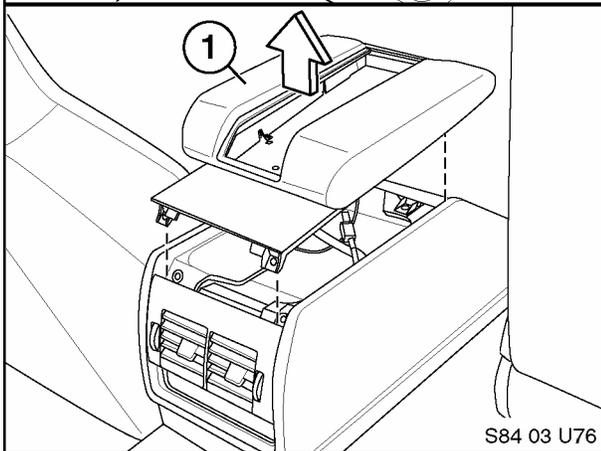
1. Remove the oddment tray from the center console by releasing the securing taps (1) on the tray by pressing in on the taps (2) located on each side of the armrest and pull the tray up.



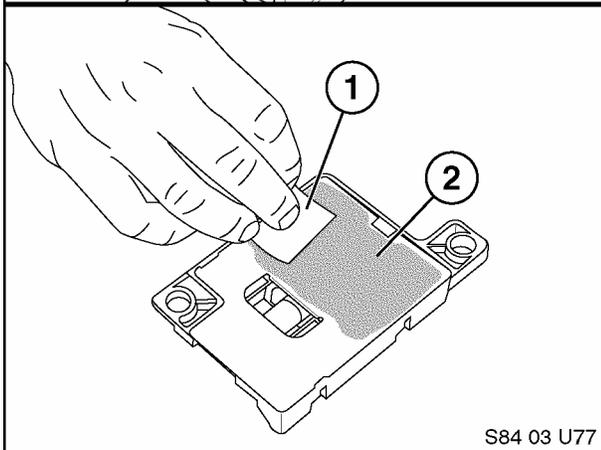
2. To remove the armrest, first remove the oddment tray (2) from the rear of the console using a plastic pry tool (1) to release the taps on the tray, then pull the tray out.



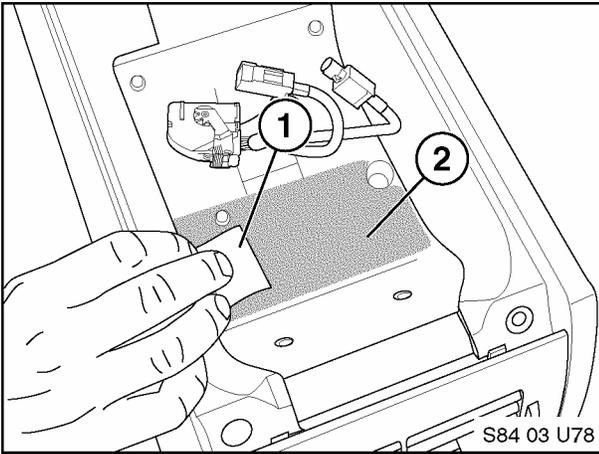
3. Slide the ventilation grill (1) down
4. Remove the two screws (2) that hold the armrest assembly in place.



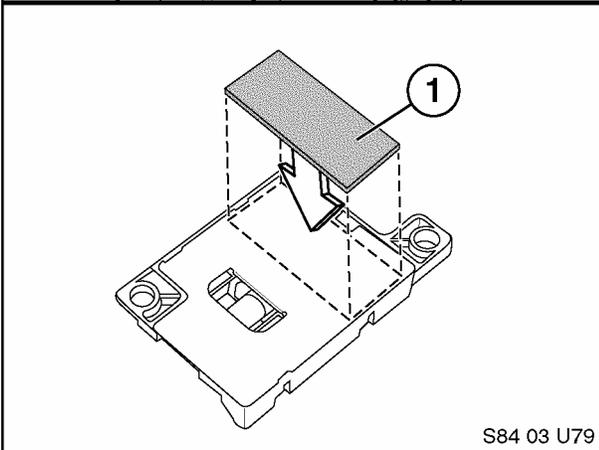
5. Lift the armrest assembly (1) off of the center console.



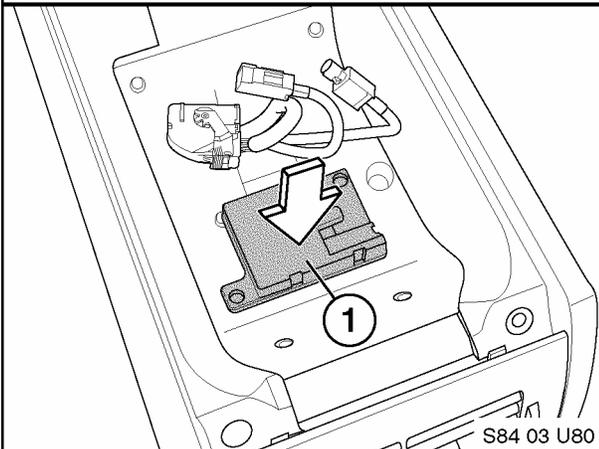
6. Apply an adhesion promoter (1) to the Bluetooth™ Antenna (2), P/N 84 50 8 928 461



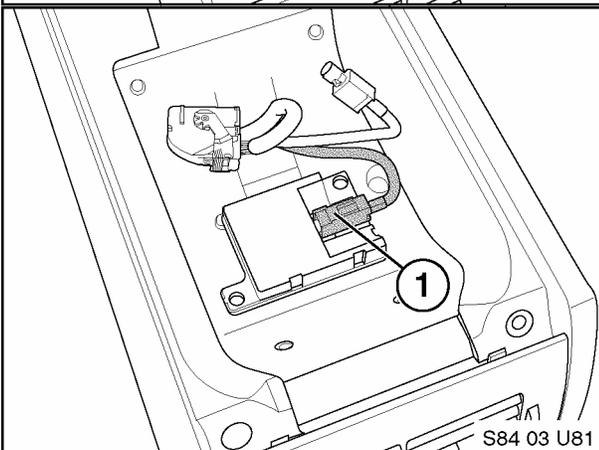
7. Apply the adhesion promoter (1) to an area in the center console (2).



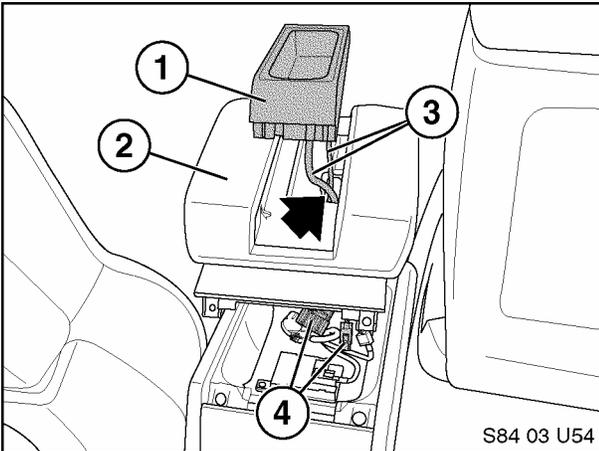
8. Remove the protective strip from one side of the double-sided tape and place the double-sided tape (1) onto the base of the antenna.



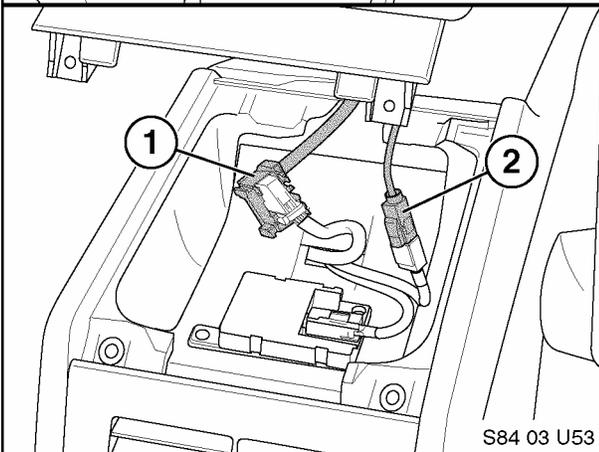
9. Remove the protective strip from the double-sided tape and install the Bluetooth™ antenna with the tape (1), P/N 84 50 8 928 461 into the area below the center armrest.



10. Connect the female FAKRA connector (1) to the antenna.



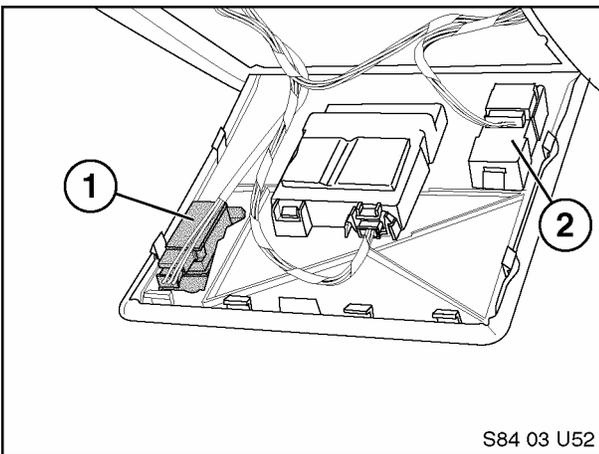
11. Insert the eject box (1), P/N 84 21 6 933 415 into the armrest (2) by feeding the wires/connectors from the eject box (3) through the opening in the armrest assembly.



12. Connect the black female FAKRA connector (2) to the male connector and connect the black 18-pin ELO connector (1) to the 18-pin ELO connector X4545.

13. Reinstall the armrest and oddment tray

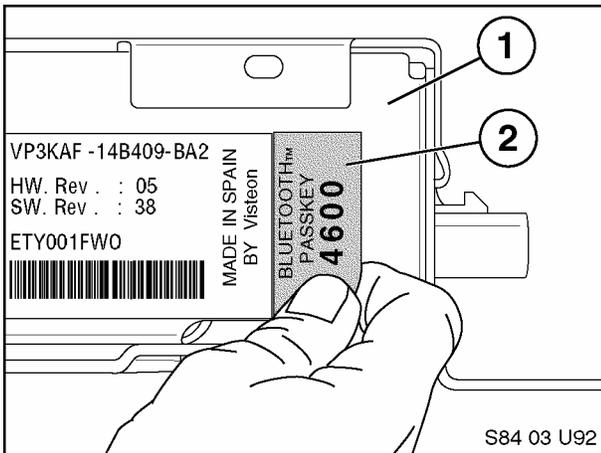
### B. Installation of Microphone:



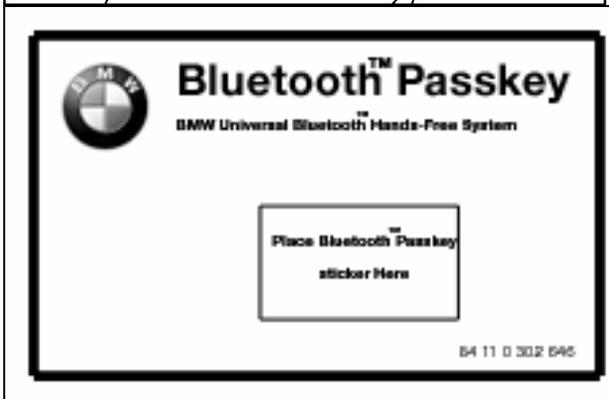
1. Install microphone (1), P/N 84 31 8 380 319 and connect the black 3-pin connector to the microphone.

Note: the black 3-pin connector may be taped to the wiring harness near the interior light assembly.

### C. ULF Control Module Installation



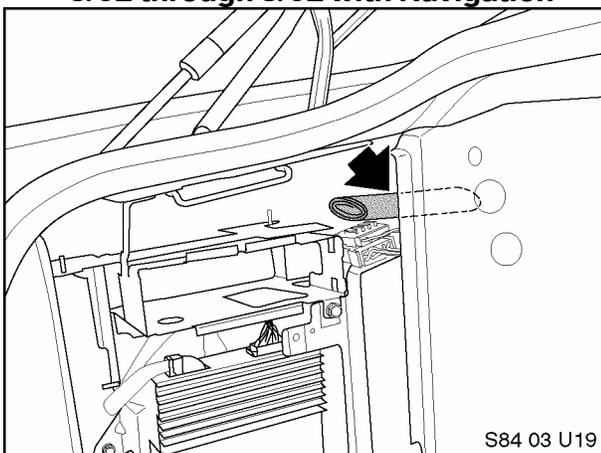
1. Remove/ peel off the Bluetooth™ Passkey sticker (2) from the label on the ULF Control Module (1).



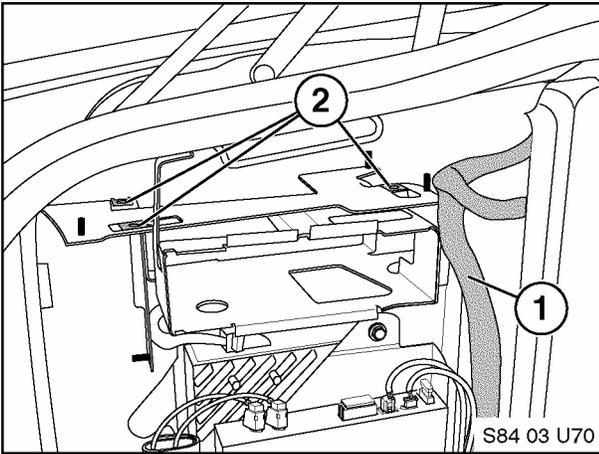
2. Place the Bluetooth™ Passkey sticker removed from the ULF Control Module onto the ULF Passkey Reference Card, P/N 84 11 0 302 638.
3. Place this card inside the owner's manual portfolio. Show this card to the customer when demonstrating the system and the pairing procedure to the customer. The code on the sticker is needed to pair phones to the ULF Control Module.

#### E39 Sedan - Produced as of:

- 9/02 with or without Navigation
- 3/02 through 8/02 with Navigation

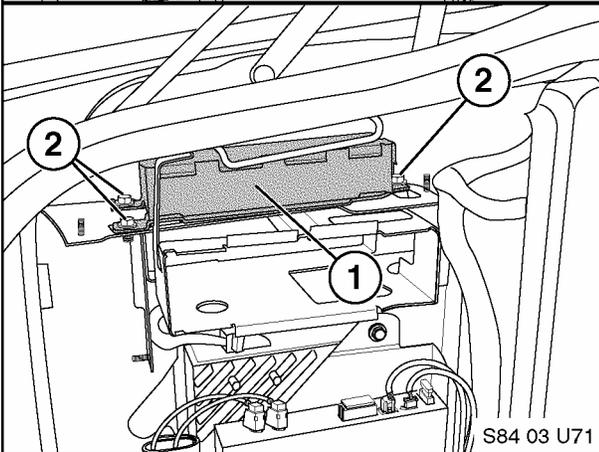


1. **For vehicles produced prior to 9/02** with Navigation installed, the mounting bracket that secures the Navigation Computer will need to be replaced with P/N 84 13 6 924 547 as shown in the illustration, in order to install the ULF Control Module.
2. Locate the black 54-pin plug and white FAKRA connectors, located in the upper right corner above the wheel well housing.

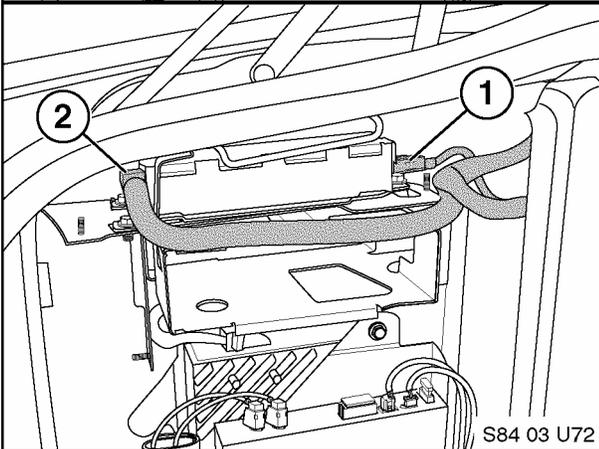


3. Install three M5 Clip Nuts (2), P/N 61 13 1 372 033, on the ULF Control Module-mounting bracket.

Note: Mounting bracket P/N 84 13 6 924 547 should be installed in all E39 Sedans as of 9/02 production.

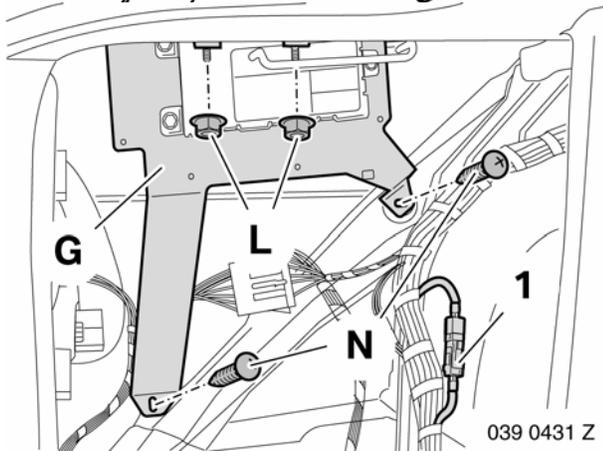
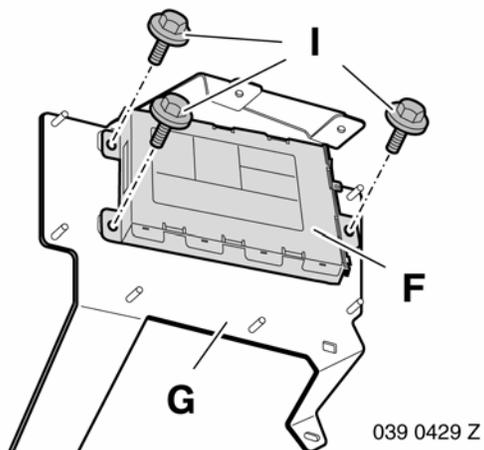
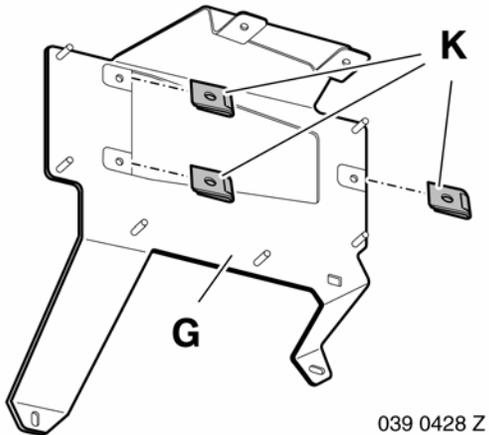


4. Install the ULF Control Module (1), P/N 84 21 6 934 552.
5. Use three M5 bolts (2), P/N 07 11 9 902 932, to secure the ULF control module to the mounting bracket.



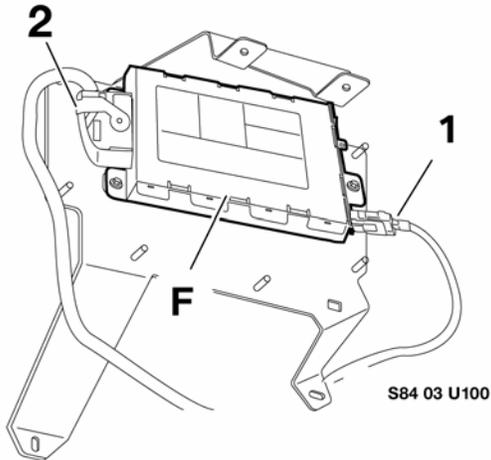
6. Connect the white FAKRA connector (1) and black 54-pin connector (2) to the ULF control Module.

**E39 Sedan - Produced 3/02 through 8/02 without Navigation**

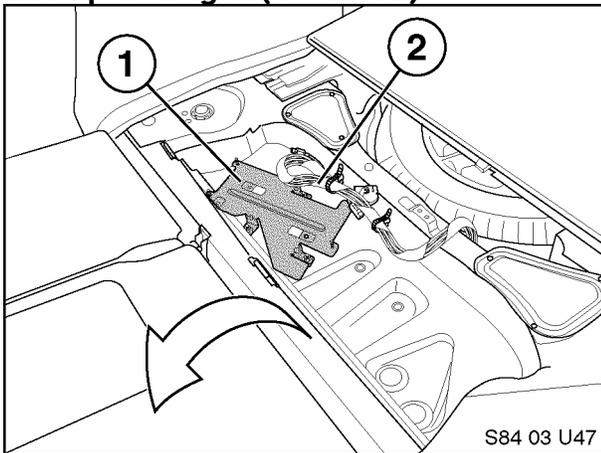


1. For vehicles produced 3/02 through 8/02 without navigation installed, a ULF Control Module mounting bracket, P/N 84 13 6 924 546, will need to be installed.
  2. Install three M5 Clip Nuts (K), P/N 61 13 1 372 033, on the ULF Control Module-mounting bracket.
  3. Use three M5 hex bolts (I), P/N 07 11 9 902 932, to secure the ULF control module (F) to the mounting bracket (G).
  4. Install the mounting bracket (G) into the left rear side of the cargo area.
  5. Use two M5 hex nuts (L) to secure the upper portion of the bracket in place.
  6. If an amplifier is installed, remove the top two M5 bolts in location (N), that secure the amplifier to the support brace, to allow for the installation of the lower portion of the bracket (G) and reinstall the hex bolts.
- If there is no amplifier installed use two M5 hex bolts (N), P/N 07 11 9 902 932, to secure the bracket (G) to the support brace.

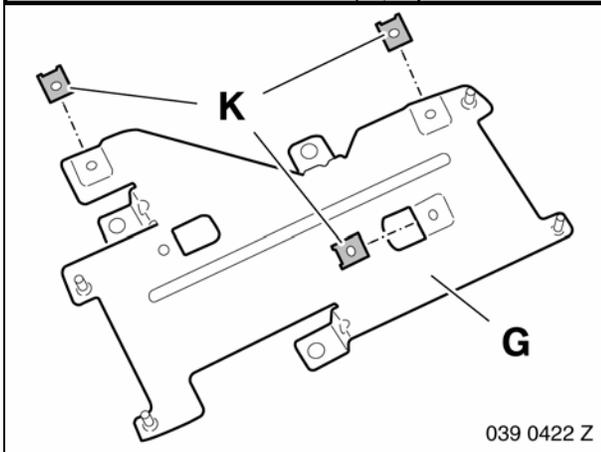
7. Connect the Black 54 pin connector (2) and white FAKRA connector (1) to the Control Module (F).



### E39 Sport Wagon (as of 9/02)

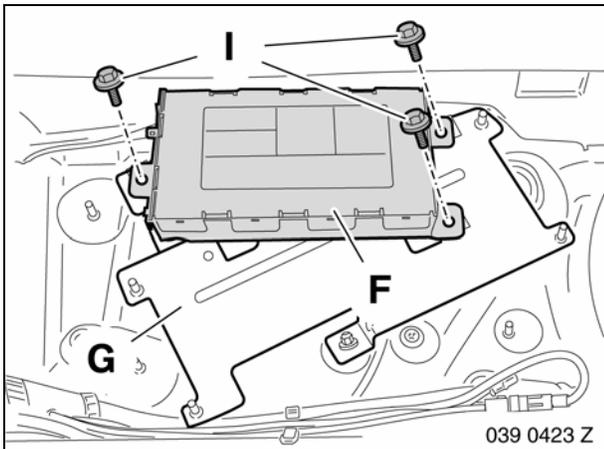


1. Remove the floor panel located directly behind the rear seats to gain access to the ULF Control Module mounting bracket (1) and connectors (2).

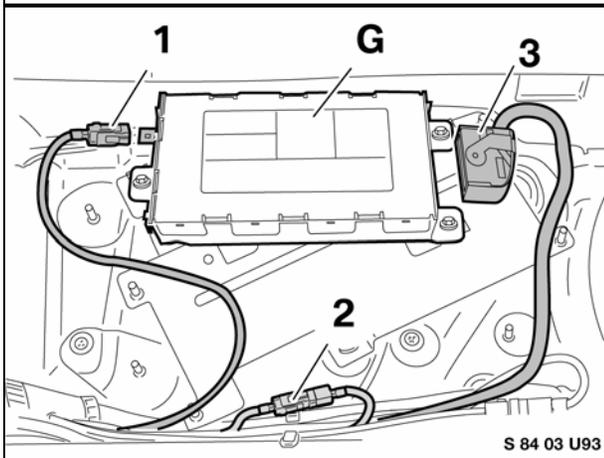


2. Install three M5 Clip Nuts (K), P/N 61 13 1 372 033, on the ULF Control Module-mounting bracket (G).

Note: Mounting bracket (G), P/N 84 13 6 924 548, should be installed in all E39 Sedans as of 9/02 production.

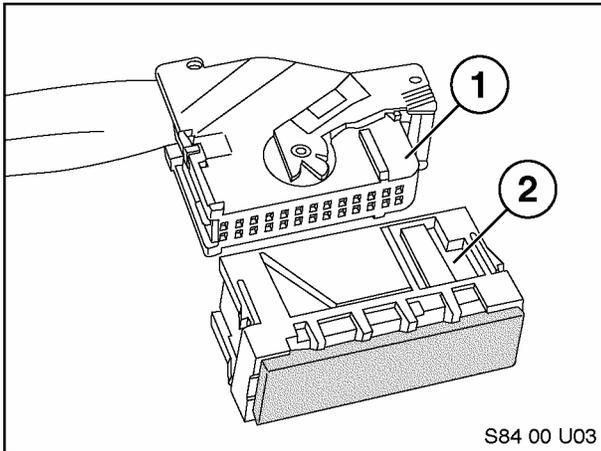


3. Secure the ULF Control Module (F) to the mounting bracket (G) using three M5 hex bolts (I), P/N 07 11 9 902 932.



4. Locate the telephone system connector bundle, and connect the white female FAKRA connector (1) and black 54-pin connector (3) to the ULF Control Module (G).
5. Use wire ties to secure the wiring in place.
6. **Reinstall** the floor panel.

## D. Installation of Voice Input Jumper



1. If a Voice Input Jumper Plug is not installed then a Jumper Plug, P/N 84 11 0 018 038, must be obtained and installed for the system to function correctly. The jumper plug should be installed onto a blue 26 pin connector that is located near the black 54 pin connector for the ULF module.

Note: The Jumper plug is not included in the kit as this plug may already be installed on some vehicles.

## Reconnect the Battery

### E. Coding ULF Control Module to Vehicle

After installing the ULF Kit, the vehicle should be re-coded with DISPlus/GT1 SW 33 or higher, using the “Retrofit” path to ensure that the system works properly with the systems currently installed in the vehicle. The recoding is done automatically when using the following “retrofit” procedure:

- Connect DIS or GT1 to vehicle (with SW 33 or higher installed)
- Turn on ignition
- Select “Coding ZCS”
- Series: “E39 Series”
- Path: “2 Retrofit”
- System: “ULF Universal charging and Handsfree facility”.
- Follow the on screen requests to activate the coding procedure.

### F. Function test

Upon completion of the recoding, verify that the BMW Universal Bluetooth™ Hands-Free System is working correctly by going through the following action steps. After completing each step ensure that the desired result is obtained:

| Action   | Response   |
|--|--|
| Pair phone to vehicle (refer to section for pairing instructions).   | Phone and or Radio/MID/Board Computer should display statement indicating Pairing succeeded          |
| Turn on radio and initiate a call using voice recognition commands by depressing/holding the Voice recognition button on steering wheel until an audible beep is heard | Radio should mute and an audible beep is heard through vehicle speakers.                             |
| Say “Dial number”  | System states “Please speak the number”  |
| Say phone number to be dialed ex”1234567890”   | System states “1234567890”   |
| If number is correct say “Dial”  | Call is placed and number being dialed is displayed on phone as well as on Radio/MID/Board Computer. |

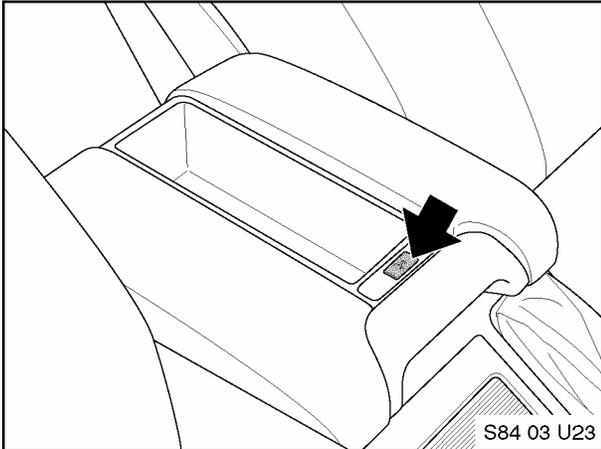
**G. Troubleshooting:**

| <b>Situation</b>   | <b>Correction</b>  |
|--|--|
| No audio output through vehicle speakers   | Check SES module jumper plug   |
| Radio does not mute after placing a call   | Check connections at rear of radio for Tel On and Tel Mute signal. Verify that connectors and pins are properly seated.  |
| Audio quality in vehicle may not sound very good   | <ul style="list-style-type: none"> <li>• Recode ULF Control Module.</li> <li>• NOTE: Audio quality in vehicle or at person being contacted, is dependent on the quality and signal strength of the wireless service provider in the area traveled.</li> </ul>  |
| Customer complains that the person being contacted hears a “Buzzing” noise, at times during their conversation or on voice mail message that he/she has left.              | Intermittently a “Buzzing” noise is noticeable to the person being called from the vehicle. The “Buzzing” noise is a result of the GSM signal being feedback through the microphone, this usually occurs if the GSM phone is located too close to the microphone. The customer should change the location of where the phone is placed/stored.   |
| Driver is told that the person being contacted complains that there is an echo/reverberation in the audio; person can hear his/her voice back through the phone.           | Audio volume in vehicle during a call may be a bit too loud, causing the other person to hear his/her voice coming back through the phone.   |
| A second call is received while in a call, and call cannot be accepted using MFL controls.   | Use handset to expect second call and place previous called on hold. Call waiting is functional only via the handset.  |
| The radio audio does not come back immediately if the “other” person hangs up first.   | It takes approximately 15 seconds for the ULF system to recognize that the call was terminated from outside the vehicle. If the call is terminated from outside the vehicle first, the driver can depress the button on the steering wheel to terminate the call from the vehicle and un-mute the radio quicker.   |
| Customer is not able to pair phone to system, not able to locate ULF passkey/password reference card.  | <ul style="list-style-type: none"> <li>- The “Bluetooth™ Passkey” is identified on the label of the ULF Control Module located in the rear of the vehicle.</li> <li>- The “Bluetooth™ Passkey” for the installed control module can be obtained by connecting the DISPlus or GT1 and accessing the diagnostics for the ULF system: <ul style="list-style-type: none"> <li>- select “Diagnostic requests”</li> <li>- select “Bluetooth code”</li> </ul> </li> </ul> |
| Intermittently a popping noise is audible through the vehicles speaker and there is no Bluetooth™ wireless communication established between the ULF module and the phone. | <ul style="list-style-type: none"> <li>- Vehicle and /or ULF Control Module are not correctly coded.</li> <li>- Recode module and vehicle (refer to Coding ULF Control Module to Vehicle)</li> </ul>   |
| E46 Only:<br>After installation of ULF system the speedometer and odometer do not work.  | Remove pin 7 & 8 from the 54-pin connector going to the ULF Control Module. Refer to the E46 installation instructions.  |

## H. Pairing Procedure:

The pairing procedure that must be initiated through the phone will differ corresponding to the different menu configurations of the various Bluetooth™ mobile phones on the market. The user's manual of the phone should always be referenced for specific steps on how to activate the Bluetooth™ feature and to pair/link devices.

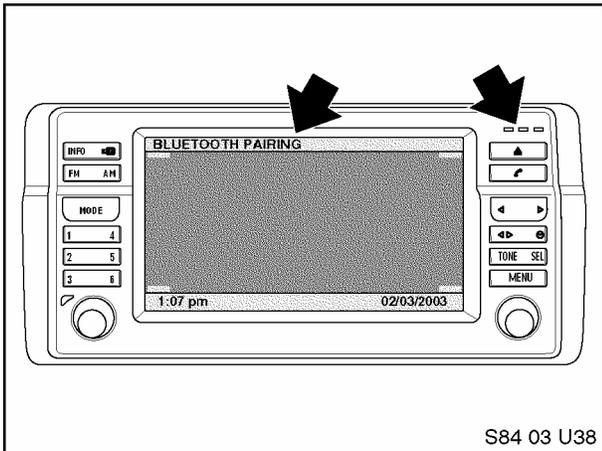
The following steps are generalized steps that should help in activating the Bluetooth™ function of most phones:



### IN VEHICLE:

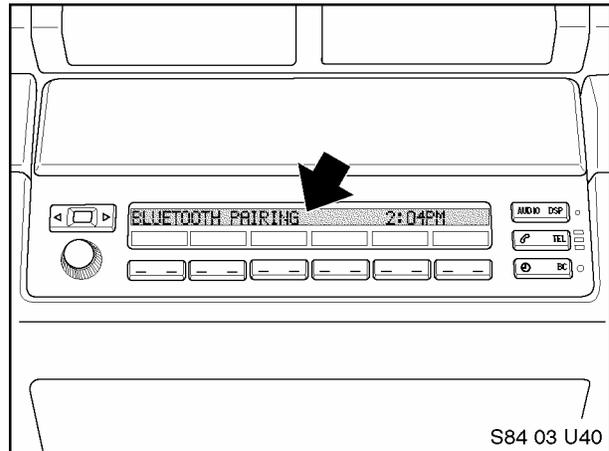
1. Depress the pairing button for at least 1 second prior to switching on the ignition and continue to hold the button down for approximately 2-3 seconds after the ignition is turned on.
2. Release the button.

3. Shortly after releasing the button the Radio or Board Monitor display should look like one of the following:



a. Board Monitor Display:

- "Bluetooth Pairing" displayed.
- Green, Yellow and Red LEDs on the right side of the unit are flashing which indicates that the ULF is searching for available Bluetooth™ devices.



b. MID Display:

- "BT Pairing" display which indicates that the ULF is searching for available Bluetooth™ devices.
- Green, Yellow and Red LEDs on the right side of the unit are flashing which indicates that the ULF is searching for available Bluetooth™ devices.

4. Activate the search function of the phone as indicated below.

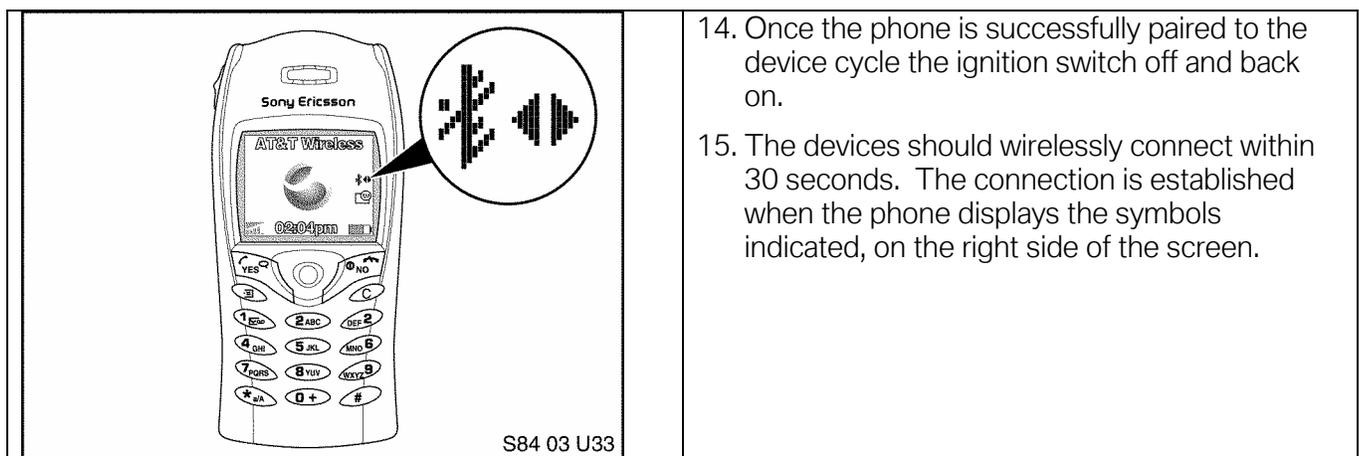
### ON PHONE:

1. Locate the connection/settings menu and select Bluetooth™.
2. Select the response that will activate the Bluetooth™ feature of the phone.
3. Next select a menu option that will allow you to "Discover" or "Search" for active Bluetooth™ devices.

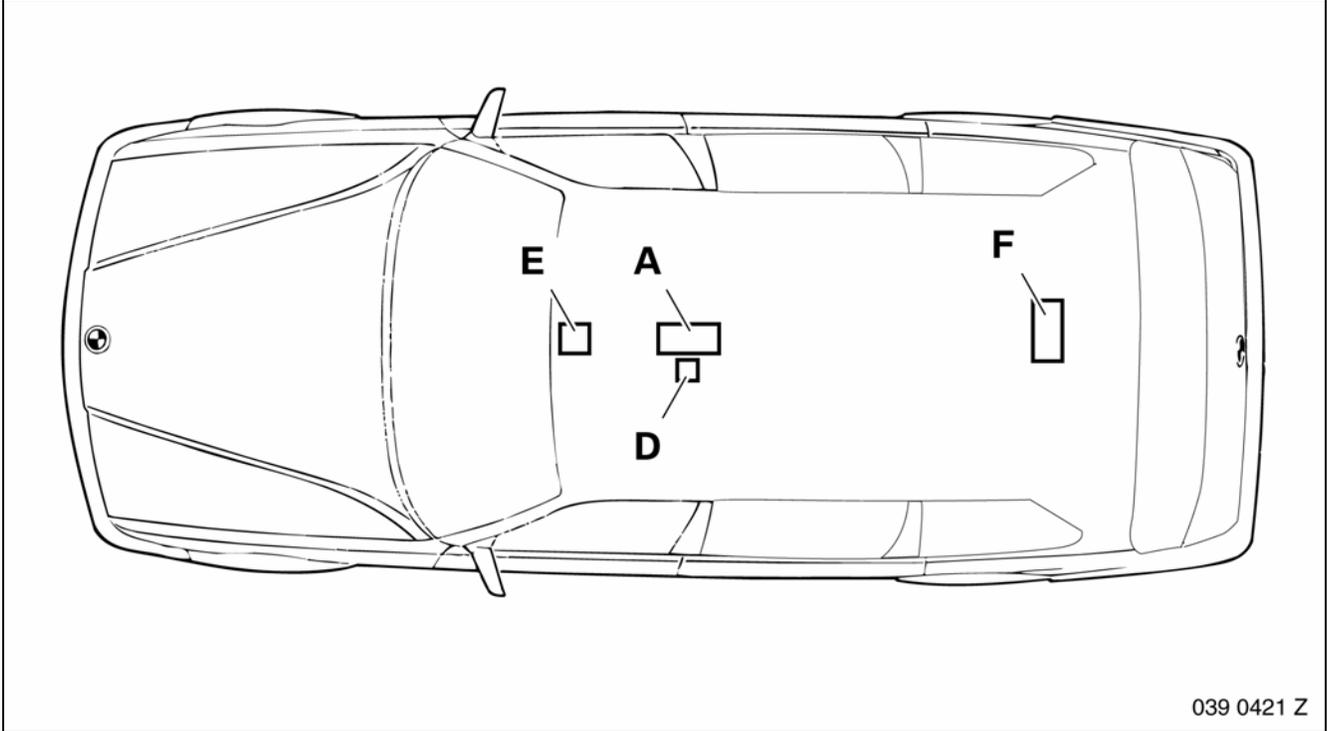
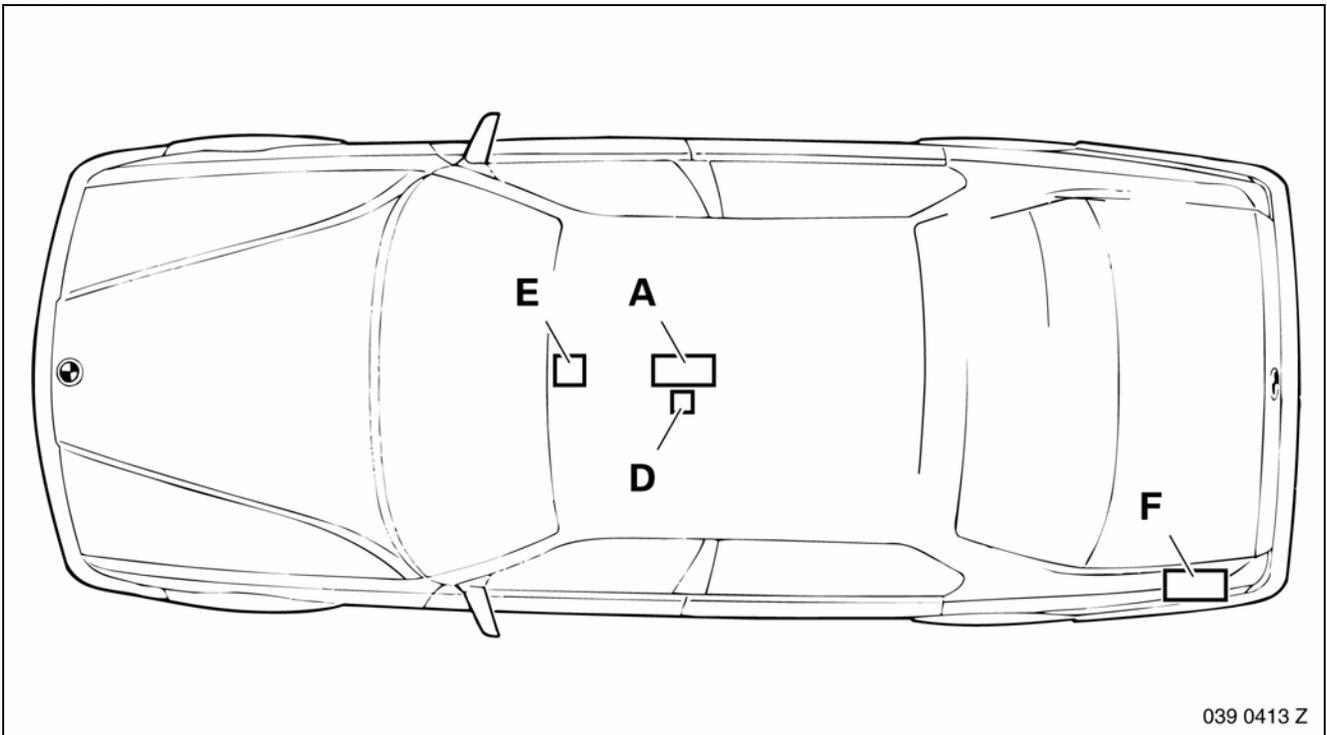
4. If the phone identifies/finds a device select it and follow the indicated steps to complete the pairing process.
5. Once the phone is successfully paired to the device cycle the ignition switch off and back on and the devices should wirelessly connect within 30 seconds. When the connection is established the phone will display a connection symbol.

*The following steps are an example of the pairing procedure that must be initiated to pair the Sony Ericsson T68i phone to the ULF Control Module.*

1. Press the menu button.
2. Select "Connect".
3. Select option 3: "Bluetooth".
4. Select option 4: "Options".
5. Select option 1: "Operation mode" and set to "On" or "Automatic".
6. Go back one step by pressing the red phone button.
7. Select option 3: "Discover".
  - Mobile Phone display shows 'Searching'
8. Select "BMW ....." in upcoming list.
9. Select option 1: "Add to paired"
10. Enter password (= ULF passkey) located on ULF Control Module in the rear of the vehicle or on the Passkey Reference Card.
  - Mobile Phone display shows 'BMW ..... Pairing'
  - Mobile Phone display shows 'Pairing Successful'
  - Board Monitor display shows 'Pairing succeeded' for 3 seconds
11. Enter device name.
12. Mobile Phone display shows "Added to paired devices".
13. Quit menu by pressing the red phone/NO button for several seconds.



**Note:** Shortly after turning on the ignition and the Bluetooth™ connection is identified, the phone may display a message asking if the connection should be established/accepted. The connection authorization request will always occur unless the setting on the phone is modified to allow automatic connection every time, please refer to the user's manual of the phone to determine how to change this setting.

**COMPONENT LOCATION:****SPORT WAGON****SEDAN**

A - Eject Box  
D - Bluetooth™ Antenna

E - Microphone  
F - ULF Control Module



# ULF Wiring Schematic E39 with Multi Information Display

