



**Installation Instructions**

Date: October 2004

Order No.: **PRELIMINARY DRAFT**

Supersedes:

Group: 82

**SUBJECT: MODEL 211.065/070/076/082/083  
MODEL YEAR 2005  
CELLULAR TELEPHONE / OPTIONAL VOICE CONTROL SYSTEM INSTALLATION**

*We are interested in your comments and/or suggestions regarding these installation instructions—please e-mail them to [technicalinformation@mbusa.com](mailto:technicalinformation@mbusa.com)*

**⚠ WARNING**

**Do not disconnect the negative battery cable. Extensive reprogramming requirements will otherwise be necessary. Wiring harnesses will be electrically active. It is therefore necessary to exercise extreme caution while executing these installation instructions. Failure to do so could result in severe vehicle damage, personal injury, or death from electrical shock. Keep the ignition and radio powered OFF through the final test.**

**MOST Notes**

- Optical fibers damage easily; handle optical fibers with care to prevent cuts, nicks, abrasions, kinks, and crushing.
- Minimum bend radius for optical fibers is 25 mm.
- Optical fiber “ring configurations” must form a closed loop to function (i.e. couple the input of a component with the output of the preceding component).
- Identify MOST optical fibers cables by their orange or yellow, semi-rigid insulation.
- Electromagnetic interference (EMI) from bundled vehicle electrical harnesses does not affect optical fibers.

This bulletin has been created and maintained in accordance with MBUSA-SLP S423QH001, Document and Data Control, and MBUSA-SLP S424HH001, Control of Records.

## A. Installation preparation

1. Read these installation instructions in their entirety before proceeding.
2. Unpack and compare the installation kit contents against the Parts Information list—Section P.
3. Place the operating guides and customer accessories in the glove box or appropriate stowage compartment.
4. Remove the right side trim panel, trim on the rear center section, and carrier plate cover in the trunk.
  - See *W/S* document AR68.30-P-4800T, “Remove/install side trim panel in trunk” MODEL 211.0 except CODE (287a) Through-loading feature
  - See *W/S* document AR68.30-P-4800TA, “Remove/install side trim panel in trunk” MODEL 211.0 with CODE (287a) Through-loading feature
5. Insert a 5-amp fuse into slot #85 in the F33 rear pre-fuse box.

## B. Locating and identifying the antenna switch, VCS, microphone array, and MHI cables and connectors

1. On the right and left side compartments of the carrier plate (Figure 1), find the telephone, microphone, and antenna cables and connectors.

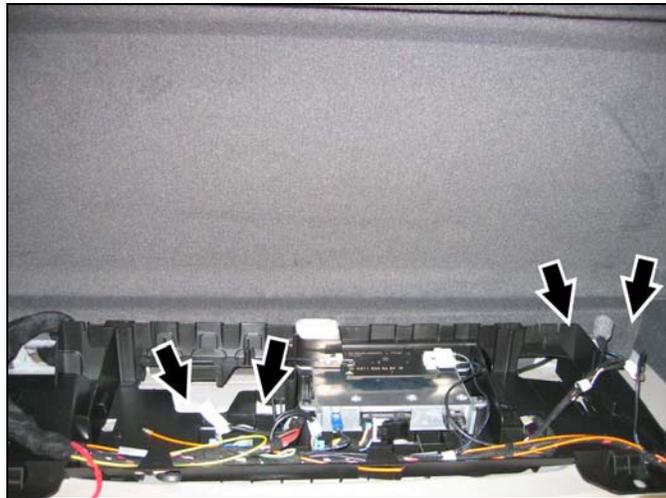


Figure 1

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2. On the right side of the carrier plate, find the:
  - Telephone FAKRA female, black connector (A, Figure 2)
  - Tele Aid FAKRA female, white connector (B, Figure 2)
  - Antenna switch 2-pin power supply connector (C, Figure 2)
  - Main antenna FAKRA male, white connector (D, Figure 2)

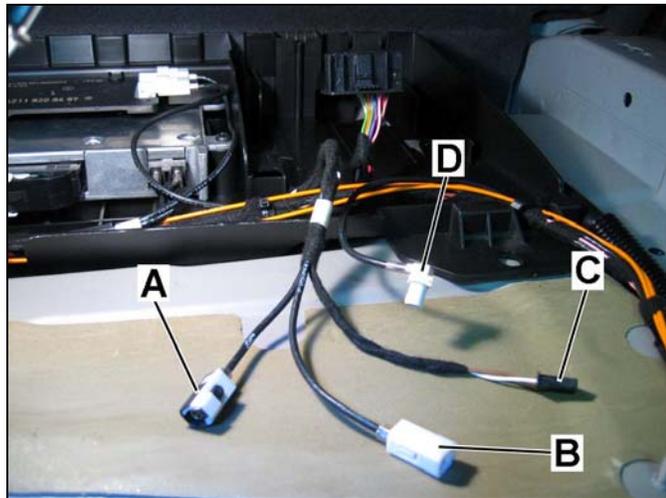
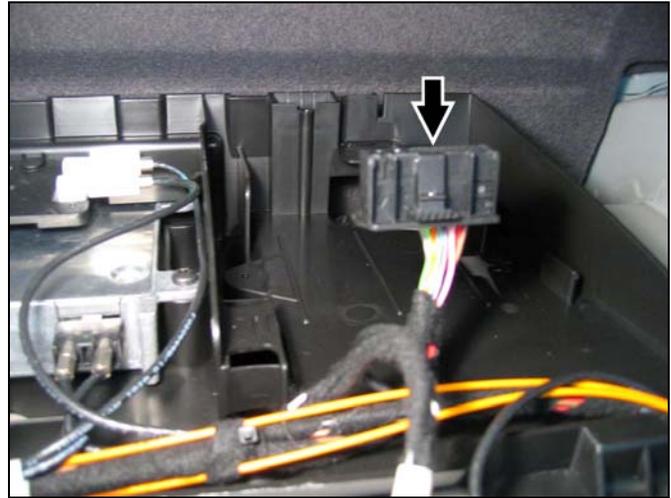


Figure 2

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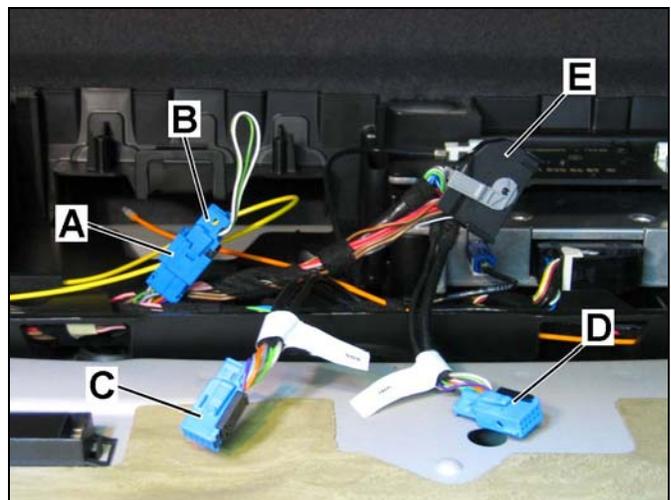
3. On the right side of the carrier plate, find, in the same harness as the antenna switch cables, the:
  - VCS power supply connector (Figure 3)



**Figure 3**

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4. On the left side of the carrier plate, find and carefully cut the wire tie bundling the:
  - Tele Aid microphone connector (A, Figure 4) and connected jumper (B, Figure 4) with green and white looped wires
  - VCS microphone connector (C, Figure 4) labeled with “SDS”
  - MHI microphone connector (D, Figure 4) labeled “UHI”
  - MHI power supply connector (E, Figure 4)

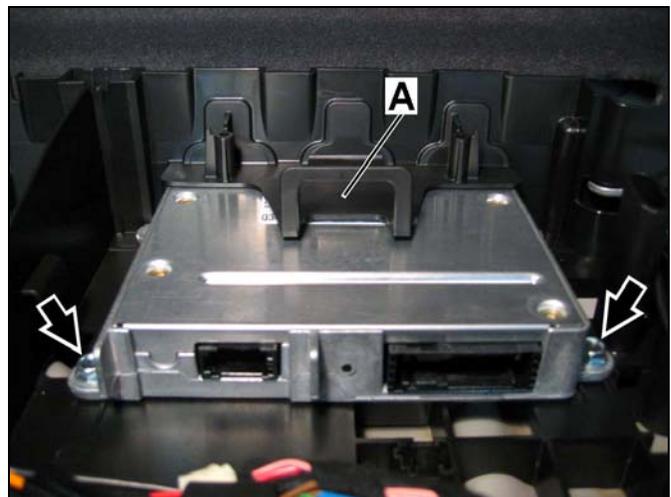


**Figure 4**

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### C. Installing and connecting the MHI control module

1. Mount the MHI control module (Figure 5) to the built-in bracket in the left most compartment of the carrier plate:
  - Insert the back of the MHI control module between the upper clip (A, Figure 5 and carrier plate floor
  - Fasten the mounting tabs (Arrows, Figure 5) on the front of the MHI control module to the carrier plate floor with two 10 mm self-tapping hex head screws.



**Figure 5**

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2. Connect the power supply connector to the MHI control module (Figure 6).

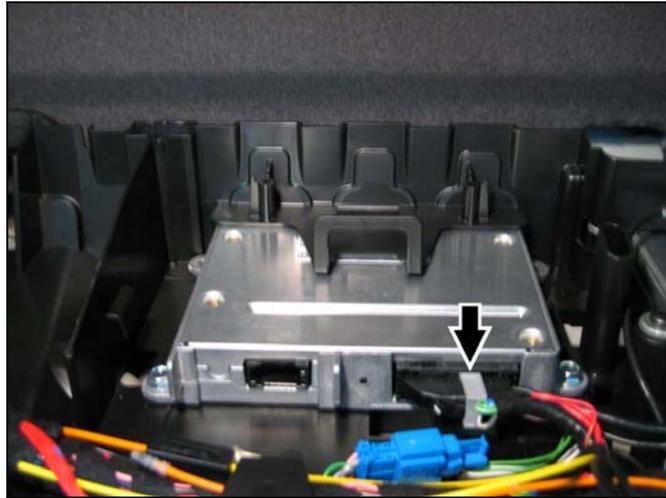


Figure 6

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#### D. Installing and connecting the antenna switch

1. Mount the antenna switch (Figure 7) to the built-in bracket in the right most compartment of the carrier plate with two self-tapping Phillips head screws.

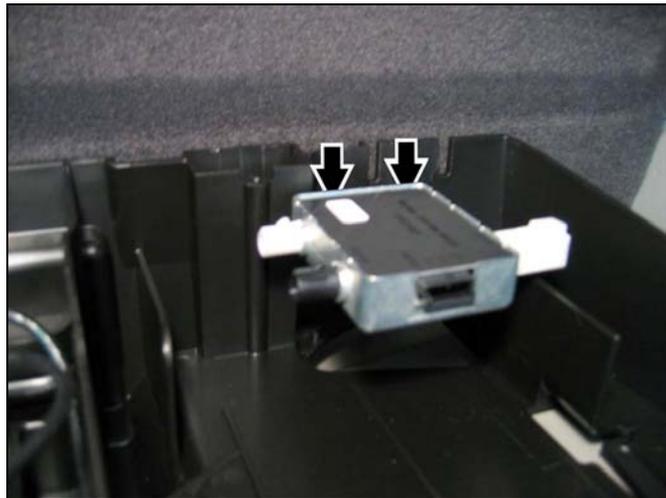


Figure 7

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2. Connect the telephone FAKRA female, black connector to the antenna switch jack labeled "BOOSTER" (A, Figure 8).
3. Connect the Tele Aid FAKRA female, white connector to the antenna switch jack labeled "LCT" (B, Figure 8).
4. Connect the main antenna FAKRA male, white connector to the antenna switch jack labeled "ANTENNA" (C, Figure 8).
5. Connect the 2-pin power supply connector to the antenna switch (D, Figure 8).
6. If installing the optional voice control module, proceed to Section E; proceed to Section G otherwise.

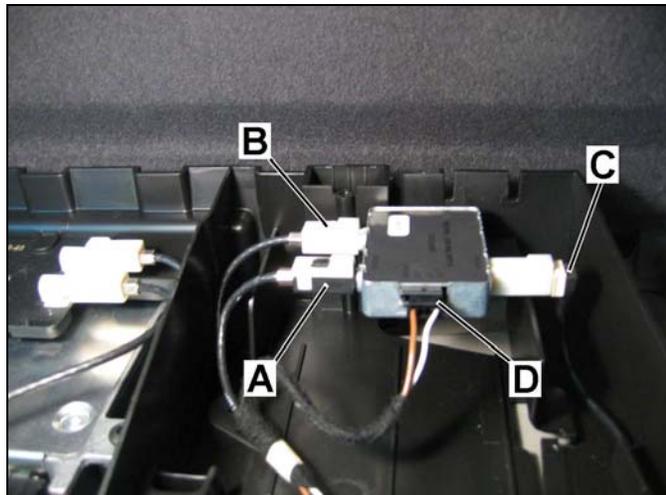


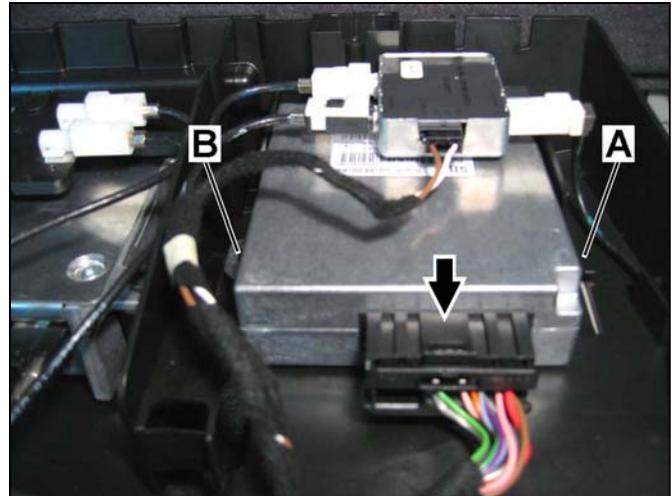
Figure 8

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### E. Installing and connecting the control module for the optional Voice Control System (VCS)

1. Mount the VCS control module (Figure 9) to the built-in bracket in the right most compartment—under the antenna switch—of the carrier plate:
  - Slide the right side tab (A, Figure 9) of the VCS control module under the clip on the carrier plate floor
  - Fasten the left side tab (B, Figure 9) of the VCS control module with a self-tapping Phillips head screw

**Note:** Face the receptacle for the power supply connector out, toward the vehicle rear (Figure 9).



2. Connect the power supply connector (Arrow, Figure 9) to the VCS control module.

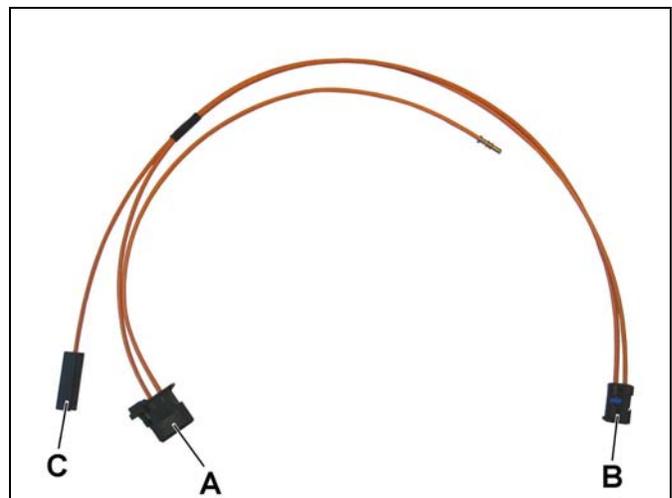
**Figure 9**

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### F. Installing the MOST adapter cable, connecting the microphone array connectors, and configuring the MOST ring (with Voice Control System [VCS])

1. Find the MOST adapter cable (Figure 10) for CTEL and VCS in the kit.

**Note:** Identify the MOST adapter cable for CTEL and VCS by its two connectors (A and B, Figure 10) and one coupling (C, Figure 10).



**Figure 10**

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2. Connect the larger connector (A, Figure 10) of the MOST adapter cable to the MHI control module (A, Figure 11).
3. Connect the smaller connector (B, Figure 10) of the MOST adapter cable to the VCS control module (B, Figure 11).
4. Remove the fiber end of the yellow optical fiber from the coupling (C, Figure 11).



Figure 11

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5. Connect the fiber end of the yellow optical fiber, removed in step 4, to the coupling (Figure 12) of the MOST adapter cable.

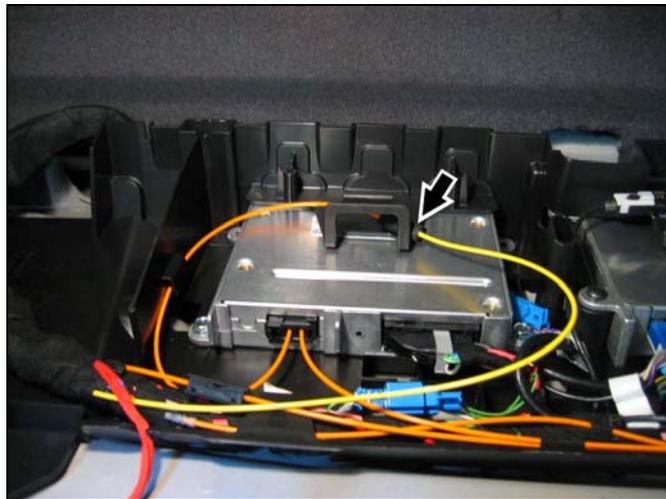


Figure 12

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6. Remove the jumper with looped green and white wire (A, Figure 13) from the Tele Aid microphone connector (B, Figure 13).

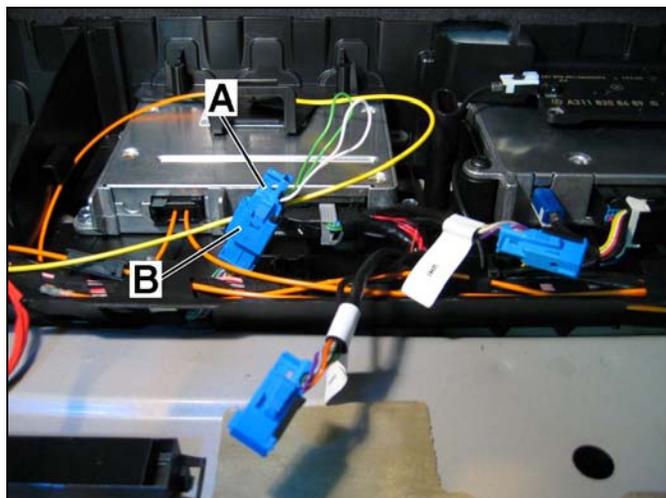
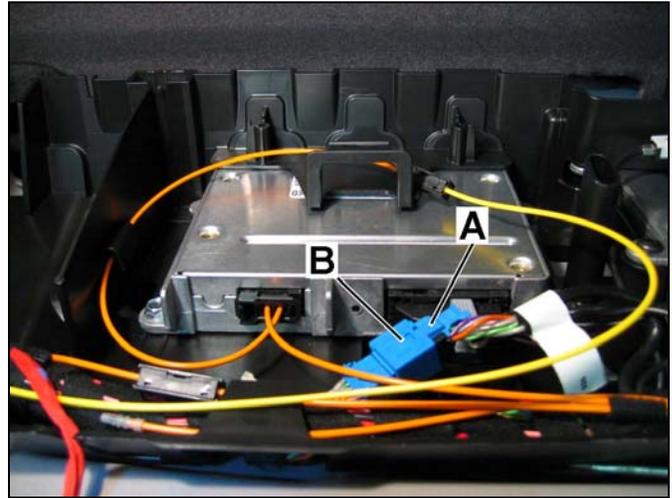


Figure 13

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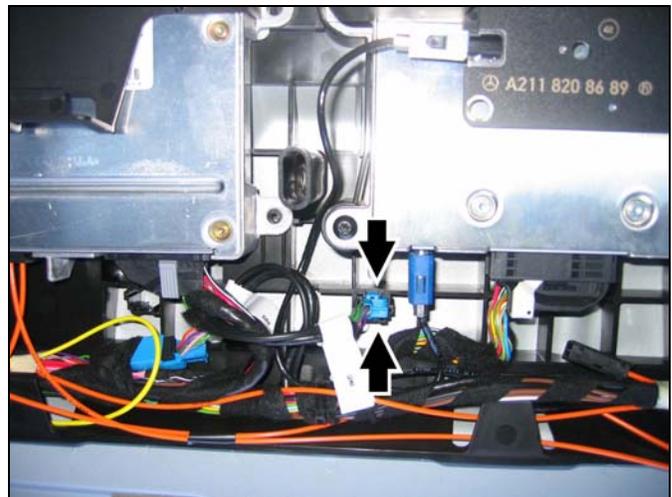
7. Connect the VCS microphone connector (A, Figure 14) labeled “SDS” to the Tele Aid microphone connector (B, Figure 14).



**Figure 14**

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8. Insert the unused MHI microphone connector (Figure 15) labeled “UHI” into the embedded holder on the floor of the carrier plate, front and right of the MHI control module.



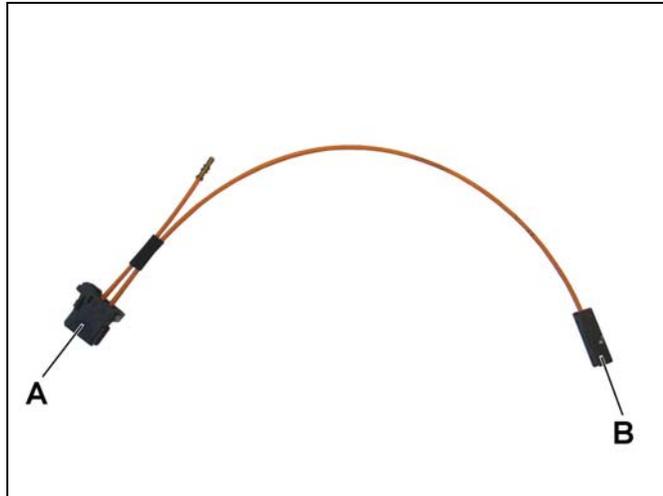
**Figure 15**

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**G. Installing the MOST adapter cable, connecting the microphone array connectors, and configuring the MOST ring (without Voice Control System [VCS])**

1. Find the MOST adapter cable (Figure 16) for CTEL only in the kit.

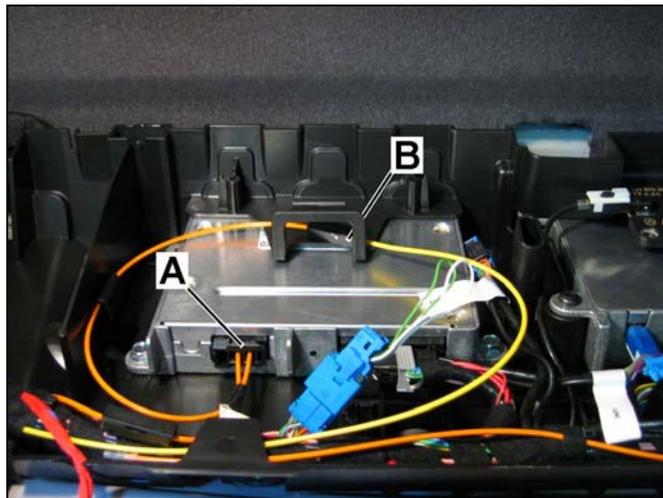
**Note:** Identify the MOST adapter cable for CTEL only by its one connector (A, Figure 16) and one coupling (B, Figure 16).



**Figure 16**

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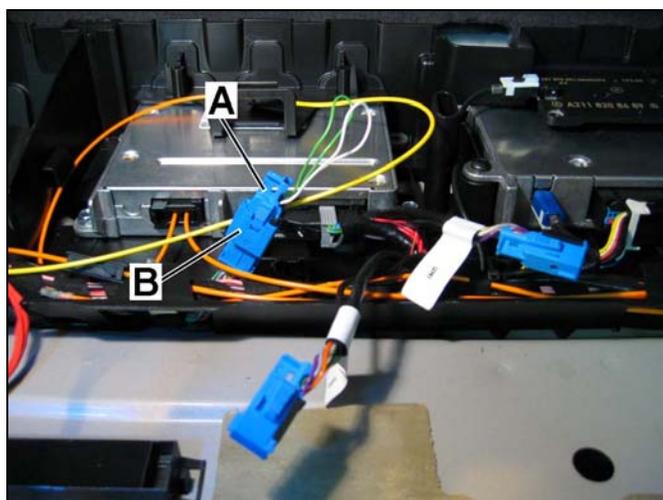
2. Connect the MOST adapter connector (A, Figure 16) to the MHI control module (A, Figure 17).
3. Remove the fiber end of the yellow optical fiber from the coupling and connect it to the coupling of the MOST adapter cable (B, Figure 17).



**Figure 17**

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4. Remove the jumper with looped green and white wire (A, Figure 18) from the Tele Aid microphone connector (B, Figure 18).



**Figure 18**

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5. Connect the MHI microphone connector (A, Figure 19) labeled "UHI" to the Tele Aid microphone connector (B, Figure 19).

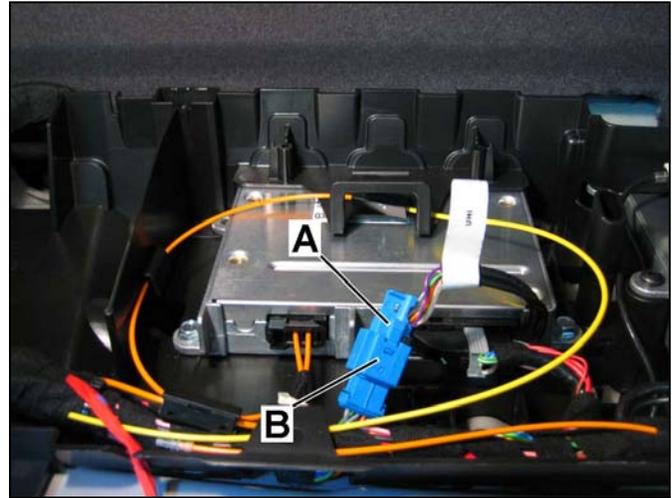


Figure 19

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6. Insert the unused VCS microphone connector (Figure 20) labeled with "SDS" into the embedded holder on the floor of the carrier plate, front and right of the MHI control module.

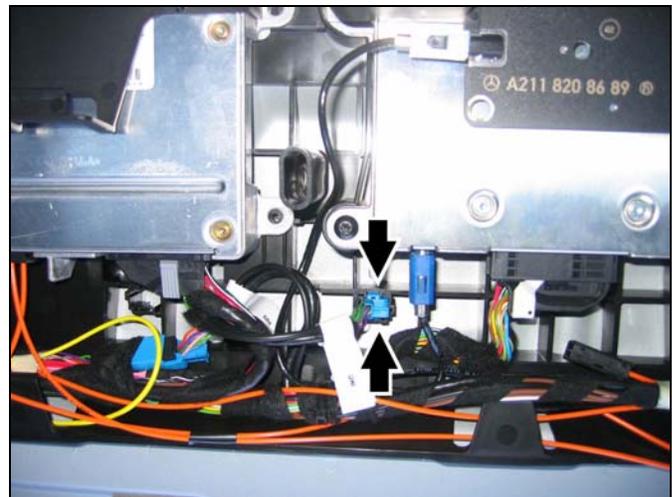


Figure 20

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#### H. Locating and identifying the linear compensator cables and connectors

1. On the exposed wheel well on the right side of the trunk, carefully cut the wire ties securing the cables for the linear compensator (Figure 21).

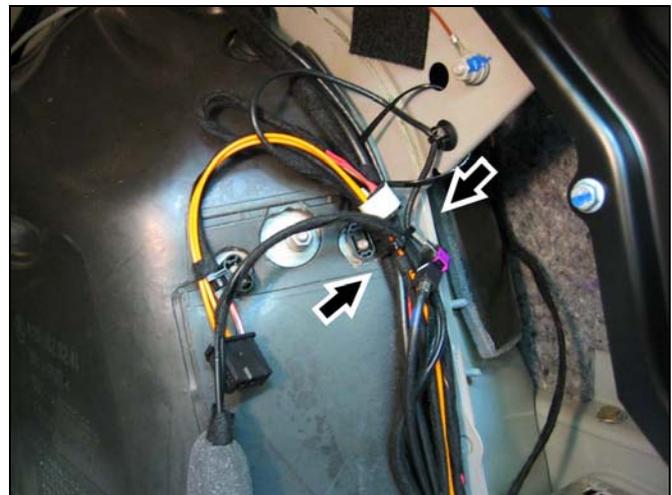


Figure 21

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2. Disconnect the coupled antenna connectors and identify:
  - FAKRA antenna male connector (A, Figure 22)
  - FAKRA antenna female connector (B, Figure 22)
3. Identify the:
  - Linear compensator power supply connector (C, Figure 22)

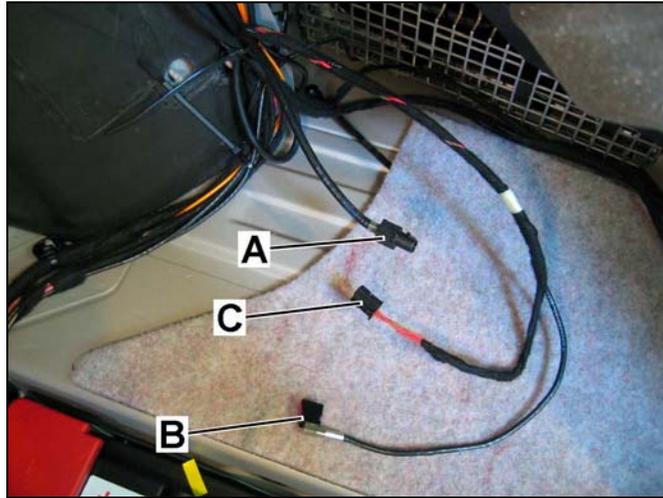


Figure 22

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**I. Mounting the linear compensator to the bracket, connecting the linear compensator, and installing the bracket assembly**

1. Mount the linear compensator to the bracket with three Phillips head machine screws (Figure 23).

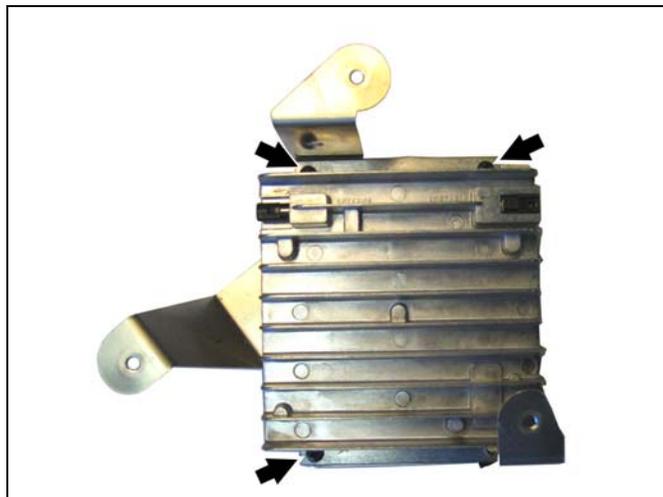
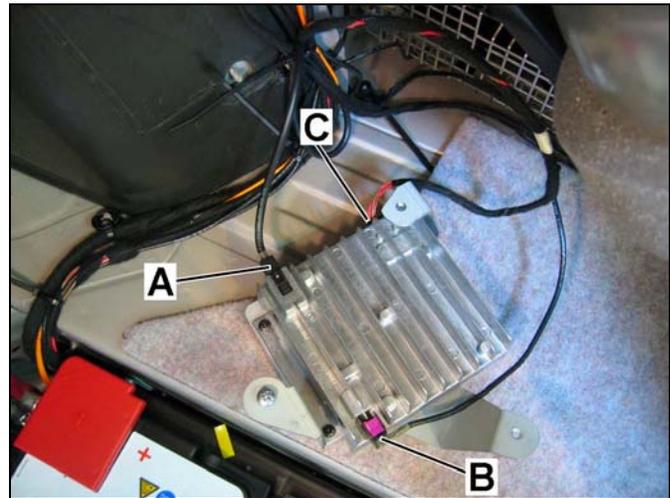


Figure 23

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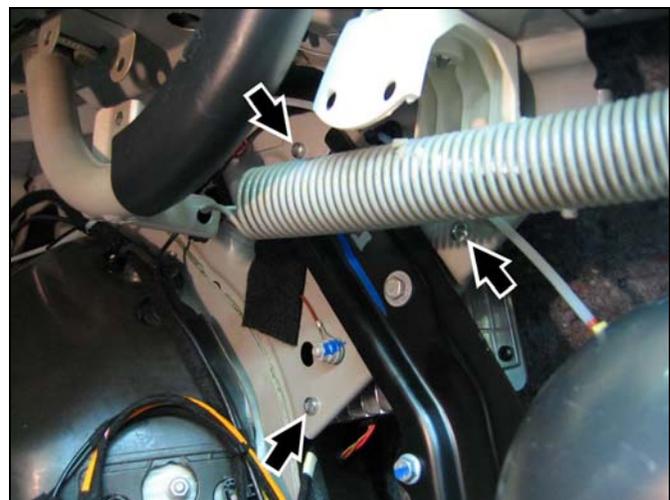
2. Place the linear compensator/bracket assembly within reach of its cable connectors (Figure 24).
3. Connect the FAKRA antenna male connector to the linear compensator jack labeled "PORTABLE" (A, Figure 24).
4. Connect the FAKRA antenna female connector to the linear compensator jack labeled "ANTENNA" (B, Figure 24).
5. Connect the power supply connector to the linear compensator (C, Figure 24).



**Figure 24**

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6. Mount the linear compensator/bracket assembly behind the reinforcement panel facing the trunk lid tension spring with three 8 mm Phillips head machine screws (Figure 25).



**Figure 25**

P82-70-xxxx-71

**J. Installing the contact plate (VINs prior to WDBUF83J85X170073 and WDBUF65J25A659086)**

1. Open the upper compartment of the center console and remove the two T8 Torx screws (Figure 26) securing the rear of the false floor.



**Figure 26**

P82-70-xxxx-71

2. Open the lower compartment of the center console and remove the two T8 Torx screws (Figure 27) on the underside of the upper compartment.

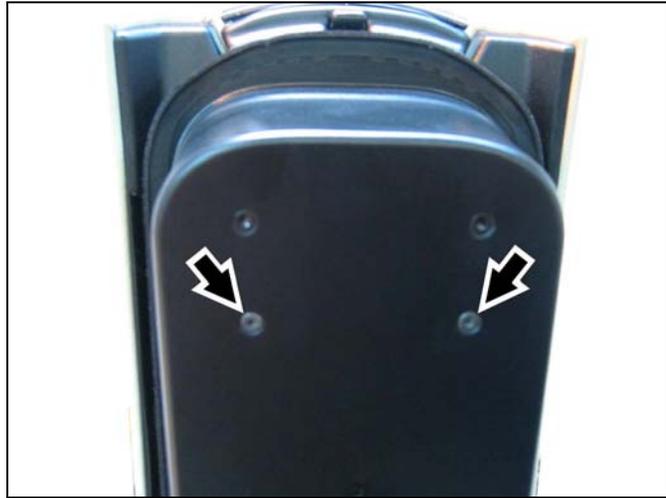


Figure 27

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3. Lift up the false floor with attached carriage from the upper compartment of the center console (Figure 28).
4. Detach the false floor by releasing the two clips (Arrows, Figure 28) from the underside of the carriage.



Figure 28

P82-70-xxxx-71

5. Remove the knockout (Figure 29) from the false floor by applying pressure from underneath.

**NOTICE**

**Excessive force while removing the knockout can crack or break the false floor.**

**Do not apply excessive force while removing the knockout.**



Figure 29

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- Find the kit-included contact plate (A, Figure 30) and identify the FAKRA antenna male connector (B, Figure 30) and the power supply male connector (C, Figure 30).

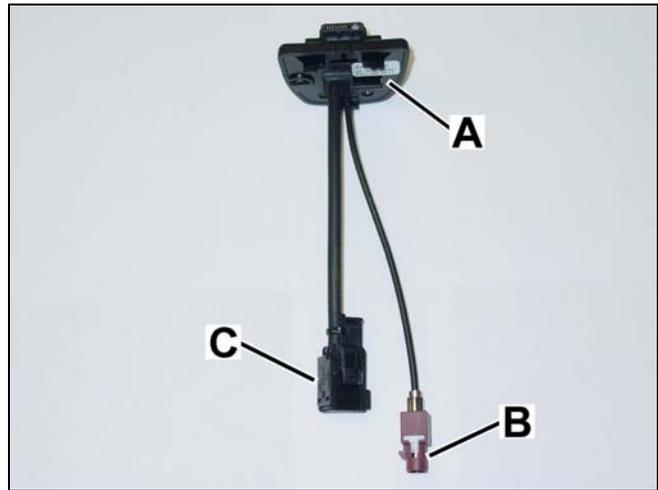


Figure 30

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- Feed the power supply cable and FAKRA cable of the contact plate through the knockout hole from the top side of the false floor (Figure 31).



Figure 31

P82.70-xxxx-71

- Carefully snap the contact plate (Figure 32) into the false floor knockout hole by applying pressure from the top.

**NOTICE**

**Excessive force while snapping in the contact plate can crack or break the false floor.**

**Do not apply excessive force while snapping in the contact plate.**

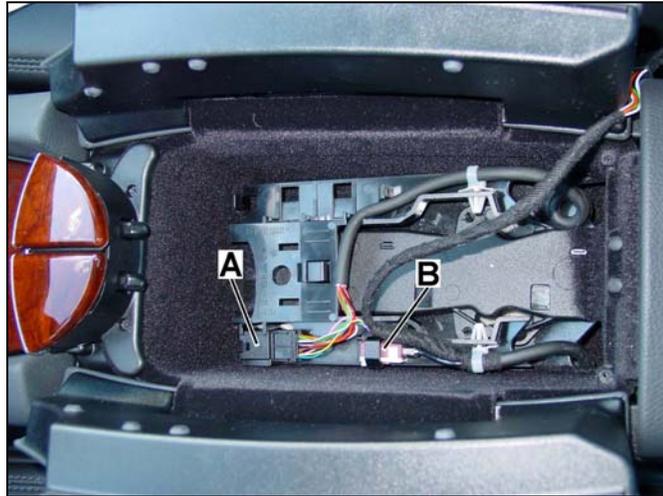


Figure 32

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9. Lower the detached carriage back into the console compartment and find on its topside, the:

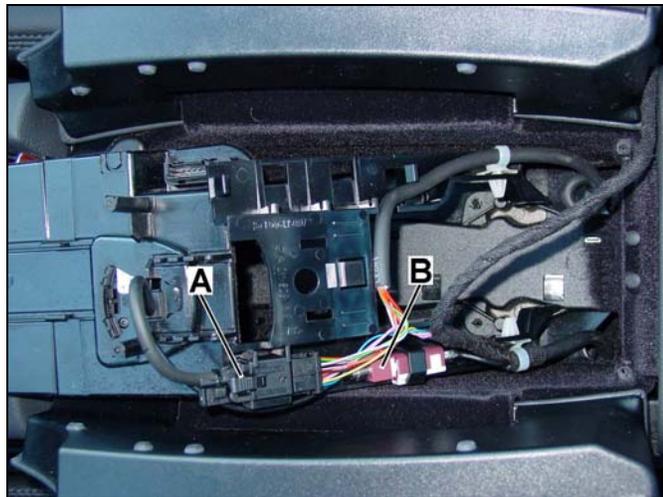
- Power supply female connector (A, Figure 33)
- FAKRA antenna female connector (B, Figure 33)



**Figure 33**

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10. Connect the power supply male connector from the contact plate to the power supply female connector from the console harness (A, Figure 34).
11. Connect the FAKRA antenna male connector from the contact plate to the FAKRA female connector from the console harness (B, Figure 34).
12. Reinstall the coupled connectors in their respective clips in the carriage.



**Figure 34**

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13. Lift up the carriage, reattach the false floor, and route the cables through the cable manager (Figure 35).



**Figure 35**

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14. Reinstall the false floor with attached carriage with the previously removed four T8 Torx screws on the upper compartment underside and two T8 Torx screws at the rear of the false floor (Figure 36).
15. Attach the cradle—according to telephone type—to the contact plate by placing it atop and slightly behind the contact plate, and then sliding it forward until an audible click sounds.
16. Insert the telephone into the cradle.



**Figure 36**

P82.70-xxxx-71

**K. Installing the contact plate (VINs as of WDBUF83J85X170073 and WDBUF65J25A659086)**

1. Roll back the compartment cover of the center console and remove the cup holder assembly (Figure 37).



**Figure 37**

P82.70-xxxx-71

2. Remove the T20 Torx screw (Figure 38) at the rear of the Tele Aid/Roadside Assistance button assembly.



**Figure 38**

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3. Find the foam sleeve (Figure 39) containing connectors in the area exposed by the removed Tele Aid/Roadside Assistance button assembly.

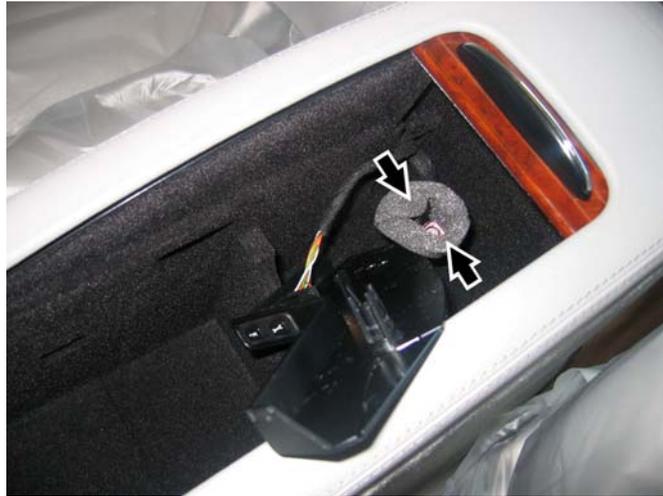


Figure 39

P82-70-xxxx-71

4. Disconnect remove the Tele Aid/Roadside Assistance button assembly.
5. Pull out the foam sleeve and fold it back to expose the power supply female connector (A, Figure 40) and FAKRA antenna female connector (B, Figure 40).

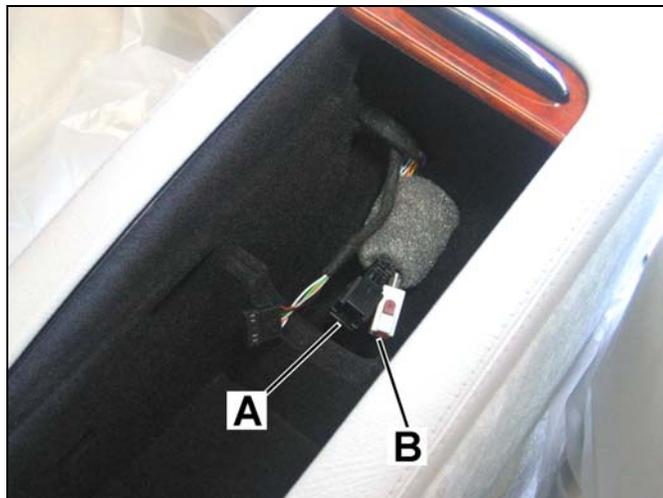


Figure 40

P82-70-xxxx-71

6. Use a utility knife and pliers, or equivalent, to remove the cutout (Figure 41) along the rear of the plastic panel for the Tele Aid/Roadside Assistance button assembly.

### **CAUTION**

Working with sharp tools can cause serious injury.

Exercise care to prevent injury when handling sharp tools.

### **NOTICE**

Excessive force while cutting out the panel piece can crack or break the panel. Do not apply excessive force while cutting out the panel piece.



Figure 41

P82-70-xxxx-71

7. File down the rough edges on the panel cutout (Arrows, Figure 41).

- Reconnect the Tele Aid/Roadside Assistance button assembly and reinstall the assembly exposing the power supply and FAKRA connectors through the cutout (Figure 42).

**NOTICE**

The Tele Aid panel will pinch the cables if not fed through the cutout.

Pinched cables can cause component malfunction or failure.

Do not pinch the power supply and FAKRA cables while installing the panel for the Tele Aid/Roadside Assistance button assembly.



Figure 42

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- Find the false floor (Figure 43) for the contact plate in the kit.



Figure 43

P82-70-xxxx-71

- Feed the power supply and FAKRA cables from the contact plate through the knockout hole from the top side of the false floor (Arrows, Figure 44) and then carefully snap the contact plate into the false floor knockout hole by pressing down from the top.

**NOTICE**

Excessive force while snapping in the contact plate can crack or break the plastic false floor.

Do not apply excessive force while snapping in the contact plate.

- Secure the contact plate cabling to the false floor underside with two kit-included clips (A, Figure 44).

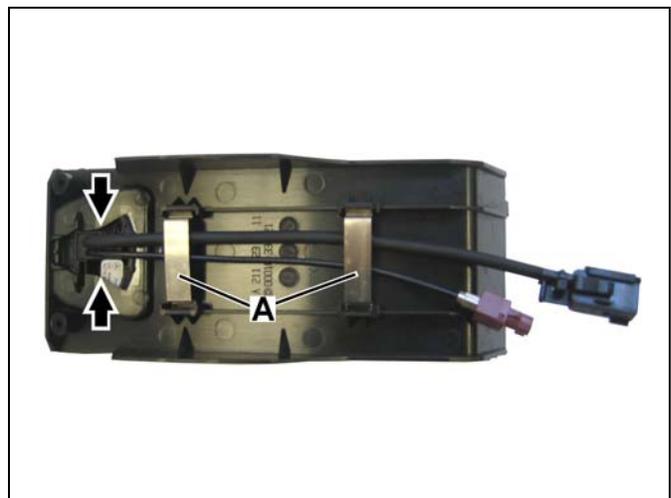


Figure 44

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12. Connect the FAKRA antenna male connector from the contact plate to the FAKRA female connector from the console harness (A, Figure 45).
13. Connect the power supply male connector from the contact plate to the power supply female connector from the console harness (B, Figure 45).
14. Insert the tabs at the bottom of the false floor (Arrows, Figure 43) into the two cavities (Arrows, Figure 45) in the floor, rear of the partition in the center console compartment.

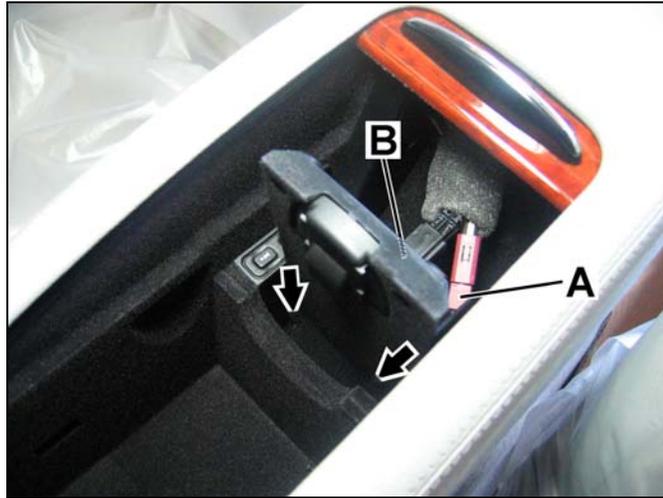


Figure 45

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15. Using the false floor tabs inserted into the console floor as a pivot, push the top of the false floor to the rear of the center console compartment and secure it with two T8 Torx screws (Figure 46).

**NOTICE**

**Installing the false floor/contact plate assembly can pinch the FAKRA and power supply cables.**

**Pinched cables can cause component malfunction or failure.**

**Position the coupled power supply and FAKRA cables and coupled connectors behind the false floor/contact plate assembly to allow for clearance during the installation.**

16. Attach the cradle—according to telephone type—to the contact plate by placing it atop and slightly behind the contact plate and then sliding it forward until an audible click sounds (Figure 47).



Figure 46

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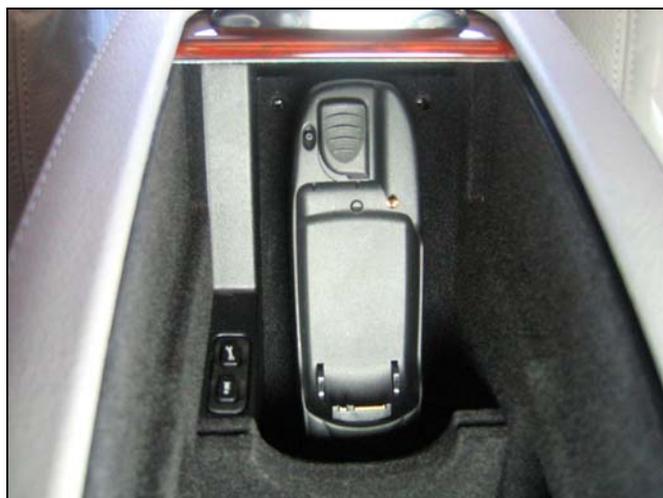


Figure 47

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17. Insert the telephone into the cradle (Figure 48).



Figure 48

P82-70-xxxx-71

#### L. Installing the push-to-talk (PTT) lever for the optional VCS

1. Remove the plastic plug covering the mounting hole for the PTT lever on the right side of the steering column by carefully inserting a small flathead screwdriver into the slot and prying it out (Figure 49).



Figure 49

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2. Insert the PTT lever into the mounting hole rotating it until its grooves interlock with the teeth in the mounting hole, and then push the lever completely into the mounting hole (Figure 50).



Figure 50

P82.70-4715-71

## M. Version coding

1. Connect the Star Diagnosis System to the vehicle.
2. Set the MOST ring configuration to match Figure 51 using path:

**Control units > Information and communication > Audio, video, navigation and telematics > AGW – Audio gateway > Retrofitting of MOST components > F2: Restart of optical ring > F2: Actual configuration of MOST components > Verify that “Telecommunications” and “Voice control system” (depending on installation) is listed under Actual Value and configuration of the MOST components matches that of Figure 51 > F2: To continue > F3: Yes, to write the current actual configuration to MOST master > F2: Erase fault memory**

**Note:** The MOST ring configuration in Figure 51 is an example of a configuration including all possible components. Some installations will not include all the components shown in the example. If a component is not present, connect the preceding component to the component following the one not present.

### NOTICE

**Failure to have the configuration match Figure 51 will result in erroneous system operation and/or intermittent malfunctioning of some or all components.**

**DO NOT alter the configuration in Figure 51 to match the vehicle configuration.**

3. Set the Tele Aid control module to recognize presence of the telephone using path:  
**Control units > Information and communication > Audio, video, navigation and telematics > TELE-AID > Control unit adaptations > Model series, telephone adapter for portable CTEL (UHI) > Set “Model series” to W211, Set “Telephone adapter” to FITTED, press F5 > F3: Yes/Coding > F2 to confirm the coding has been carried out**
4. Set the instrument cluster to activate memory and recognize presence of the telephone using path:  
**Control units > Information and communication > IC - instrument cluster > Control unit adaptations > Version coding > Optional equipment > Select “CTEL cellular telephone” > Set “CTEL cellular telephone” to PRESENT, then press F3 > Select “Memory” > Set “Memory” to PRESENT, then press F3 > F5: To save changes > F3: To transfer coding to control unit**
5. Check the DTC memory of all installed components and the head unit. Investigate and identify any present DTC(s). Once identified, correct the source of the DTC(s) and clear the DTC memory.  
**Note:** Powering up the newly installed system prior to version coding will set errors in the MOST ring configuration. Ignore these errors during the initial DTC check. If, after clearing the DTC(s), they return in the next step, a configuration error is present. Locate and correct the error.
6. Confirm no new DTC(s) are present in the MOST system group.

## N. MOST ring configuration

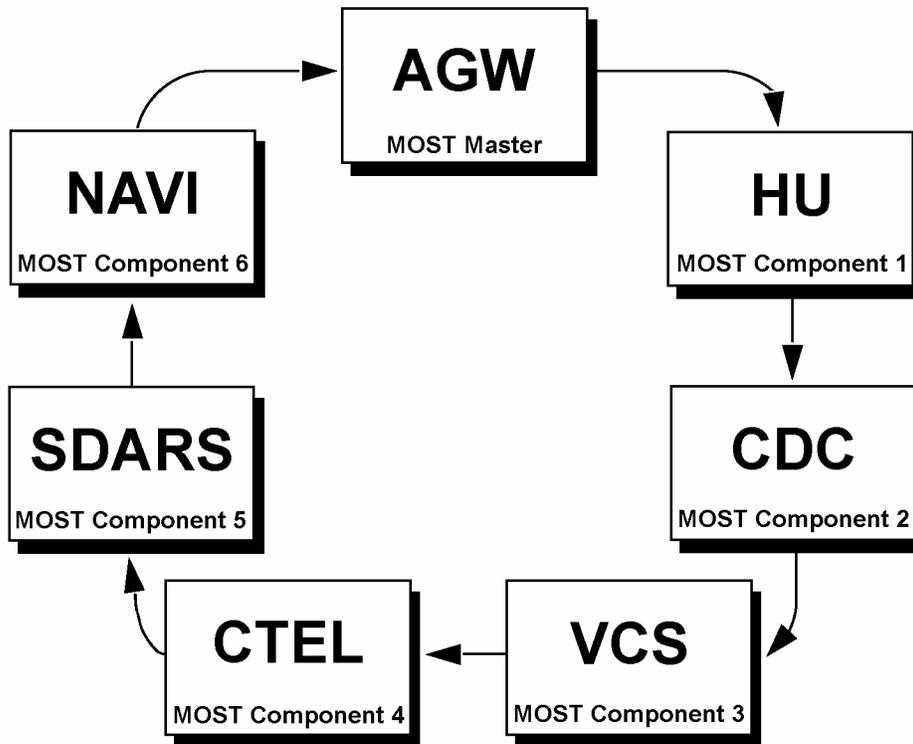


Figure 51

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## O. Final assembly and function testing

1. Verify proper telephone operation per the following checklist:
  - ✓ Handset dialing is functioning
  - ✓ Head unit dialing is functioning
  - ✓ Handset incoming/outgoing call audio is clear
  - ✓ Hands-free incoming/outgoing audio is clear
  - ✓ Automatic memory download is functioning<sup>1)</sup>
    - <sup>1)</sup>It may be necessary to store a test number in the telephone handset for this feature to operate. Stored numbers should be available for dialing from the head unit after automatic download.
2. Reinstall the carrier plate cover, trim on the rear center section, and right side trim panel in the trunk.
  - See *WIS* document AR68.30-P-4800T, "Remove/install side trim panel in trunk" MODEL 211.0 except CODE (287a) Through-loading feature
  - See *WIS* document AR68.30-P-4800TA, "Remove/install side trim panel in trunk" MODEL 211.0 with CODE (287a) Through-loading feature

**P. Parts Information**

<b>Qty.</b>	<b>Part Name</b>	<b>Part Number / Exchange</b>
<b>1</b>	<b>Vehicle core installation kit</b>	<b>BQ 682 0906</b>
<b>1</b>	<b>E-Class sedan vehicle completer kit</b>	<b>BQ 682 0950</b>
<b>1</b>	<b>E-Class sedan Voice Control System kit</b>	<b>BQ 682 0928</b>

**Note:** This installation cannot be claimed under warranty.