Mercedes-Benz

star bulletin

Installation Instructions

Date: August 2004

Order No.: ***PRELIMINARY DRAFT***

Supersedes:

Group: 82

SUBJECT: MODEL 209.365/375/376
MODEL YEAR 2005
CELLULAR TELEPHONE INSTALLATION

We are interested in your comments and/or suggestions regarding these installation instructions—please e-mail them to 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.

Notes on MOST:

- Fibers easily damage—handle fibers with care to prevent cuts, nicks, abrasions, kinks, and crushing.
- Minimum bend radius for fibers is 25 mm.
- Fiber optics “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 cables by their orange, semi-rigid insulation.
- Electromagnetic interference (EMI) from bundled vehicle electrical harnesses does not affect 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.

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1-800-FOR-MERCedes

A. Preparing for the installation

1. Read these installation instructions in their entirety before proceeding.
2. Install the following relays and fuses if not installed:
   - N10/1kP relay located in the front SAM (N10/1)
   - N10/2kF relay located in the rear SAM (N10/2)
   - N10/1f44, 5-amp fuse located in the front SAM (N10/1)
   - N10/2f13, 5-amp fuse located in the rear SAM (N10/2)
   - N10/2f16, 7.5-amp fuse located in the rear SAM (N10/2)
   - F34f40, 7.5-amp fuse located in the interior fuse box (F34)
3. Unpack and compare the installation kit contents against the Parts Information list—Section M.
4. Place the operating guides and customer accessories in the glove box or appropriate storage compartment.
5. In the trunk, remove the floor paneling, cover behind the rear seat, and right side paneling.
   - Refer to *WIS* document AR68.30-P-4600PB, “Remove/install paneling in trunk”
6. Remove the antenna splitter/bracket assembly from the upper area of the exposed right side quarter panel interior by removing the 8-mm hex head, self-tapping screw (A, Figure 1), unhooking the support clip (B, Figure 1), and disconnecting the connectors (Arrows, Figure 1).

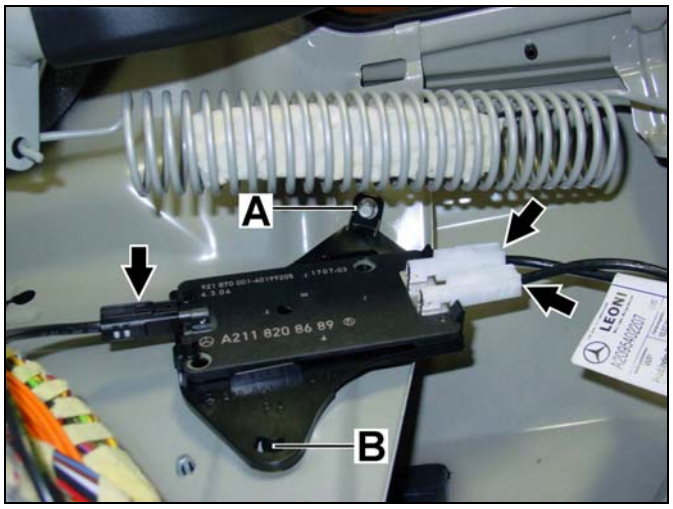

Figure 1 P82.70-xxxx-71

7. Remove the antenna splitter from the bracket by pulling back the two tabs (A, Figure 2) and lifting the antenna splitter while simultaneously sliding the opposite end out of the clips (B, Figure 2).
8. Discard the antenna splitter bracket.

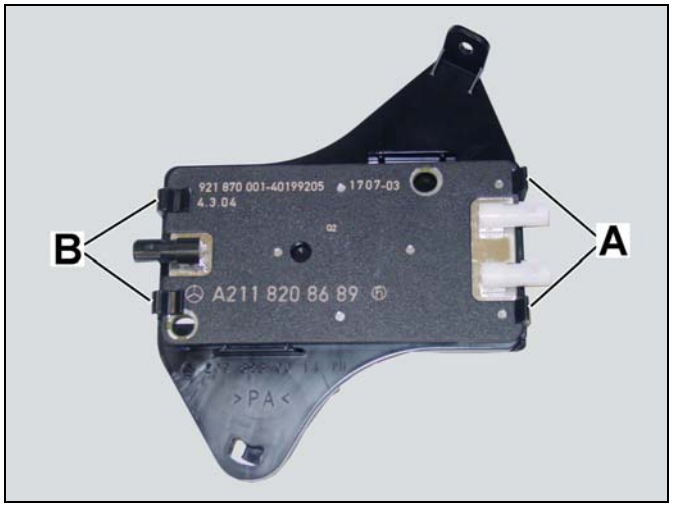

Figure 2 P82.70-xxxx-71

9. In the exposed right side well in the trunk, remove the amplifier/bracket assembly, if sound system equipped, by removing the 8-mm collar nut (A, Figure 3), 8-mm hex head bolt (B, Figure 3), and disconnecting the power supply connector and MOST connector from the amplifier underside.

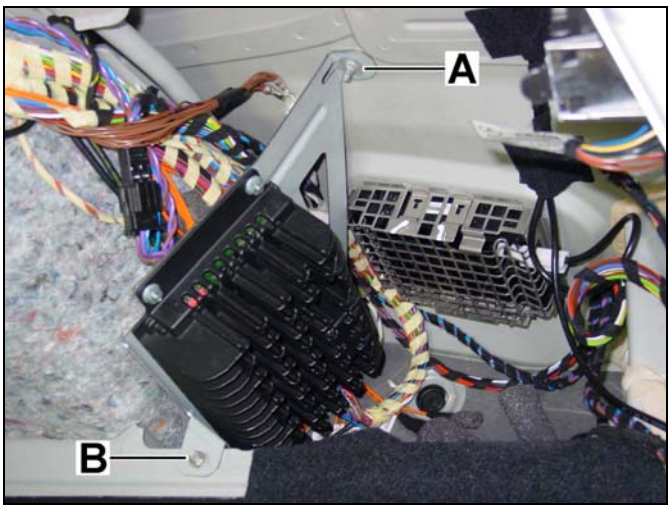

Figure 3 P82.70-xxxx-71

B. Identifying the cables

1. In the exposed right side well in the trunk, find the foam-sleeve-covered cable connectors for the linear compensator and UHI control module.
2. Fold back the foam sleeves to expose the connectors and identify the:
   - Linear compensator power supply connector (A, Figure 4)
   - Male FAKRA antenna lead (B, Figure 4)
   - Female FAKRA antenna lead (C, Figure 4)
   - UHI power supply connector (D, Figure 4)
   - UHI MOST connector (E, Figure 4)

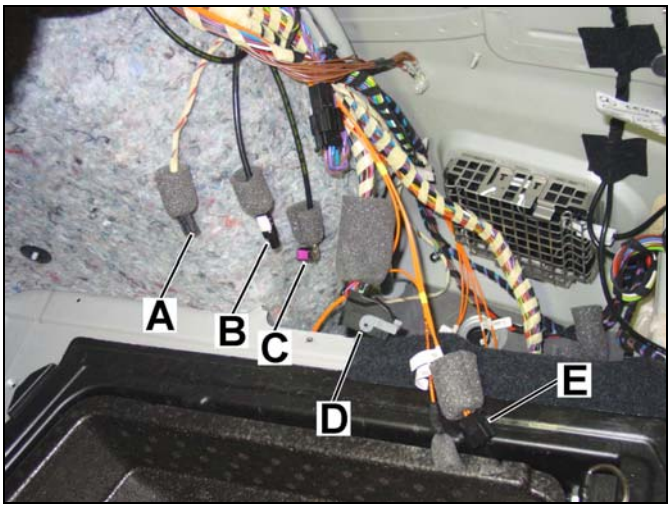

Figure 4 P82.70-xxxx-71

C. Mounting the linear compensator, antenna splitter, and UHI control module to the bracket

1. Mount the linear compensator to the bracket front with four T15 Torx self-tapping screws (Arrows, Figure 5).

   Note: Orient the connector receptacles for the linear compensator facing the bracket end with the longer mounting arm (Figure 5).

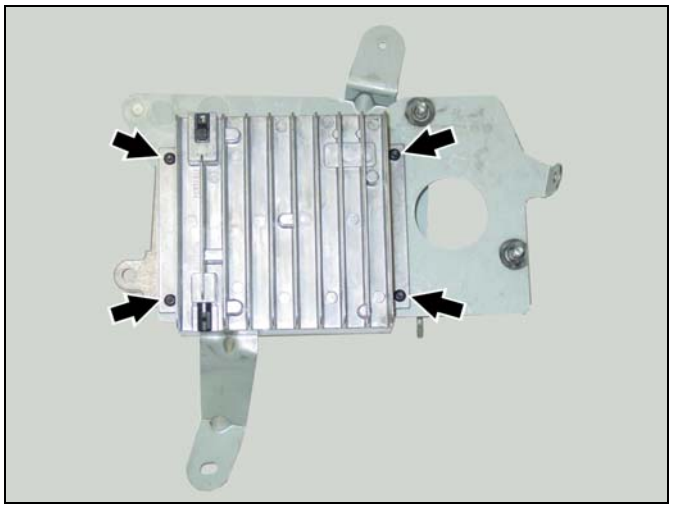

Figure 5 P82-70-xxxx-71

2. Mount the antenna splitter removed in Section A, step 8 to the bracket with two kit-included, M10 plastic nuts (Figure 6).

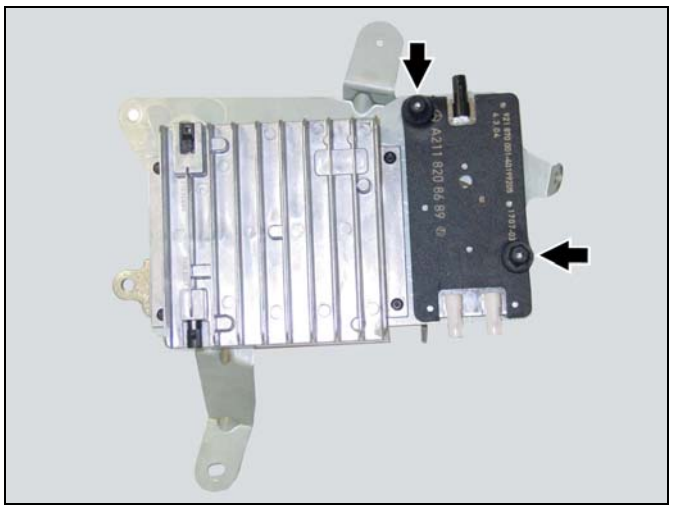

Figure 6 P82-70-xxxx-71

3. Mount the UHI control module to the threaded studs on the bracket backside with three M5 hex nuts (Figure 7).

   Note: The UHI control module fits the keyed threaded studs only one way (i.e. it is not possible to mount the UHI control module to the bracket incorrectly).

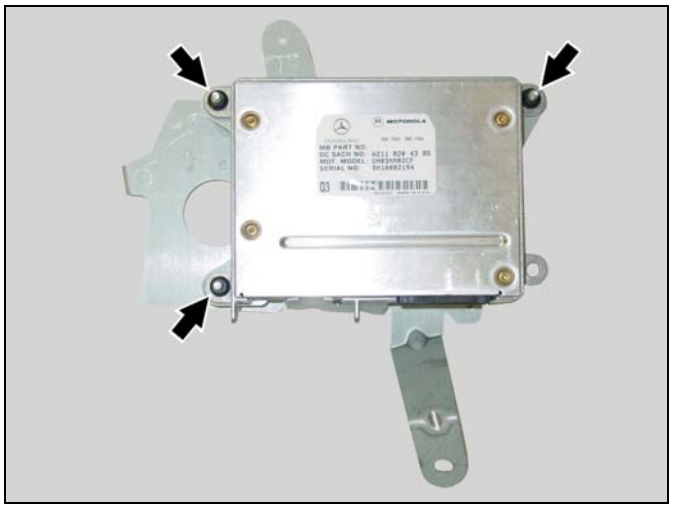

Figure 7 P82-70-xxxx-71

D. Configuring the MOST ring

1. Determine which of four possible component combinations the vehicle has and proceed to the corresponding subsection.
   - **i. satellite radio *and* sound system**
   - **ii. *no* sound system, *no* satellite radio**
   - **iii. satellite radio, *no* sound system**
   - **iv. sound system, *no* satellite radio**

NOTICE

Do not kink optical fibers, route them over sharp edges, or bend them in radii smaller than 25 mm.

i. satellite radio *and* sound system

2. At the SDAR control module (Figure 8) in the right well of the trunk, configure the MOST ring according to Figure 51 (see below).

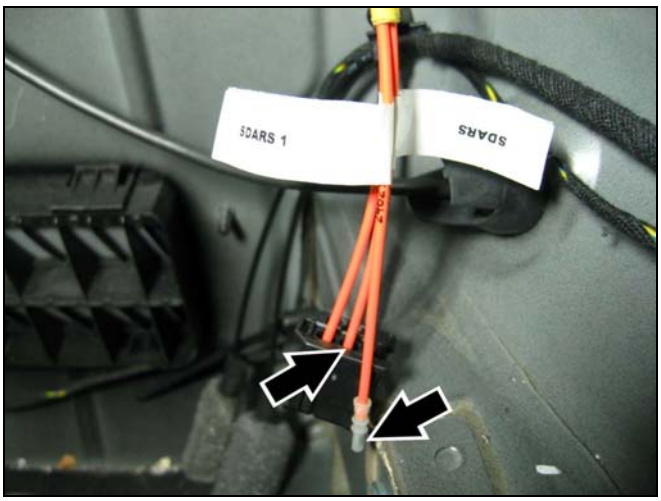

Figure 8 P82.70-xxxx-71

- Remove the fiber labeled “SDARS” from slot 1 (A, Figure 9) of the MOST connector and insert the fiber labeled “SDARS 1” in its place

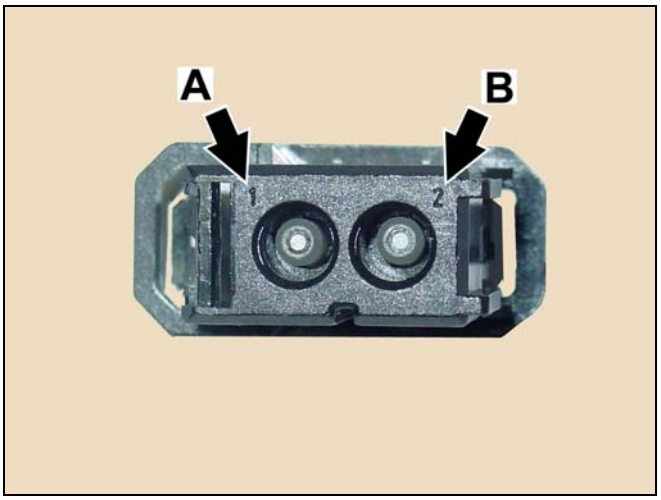

Figure 9 P82.70-xxxx-71

3. At the telephone control module (Figure 10) in the right well of the trunk, configure the MOST ring according to Figure 51.
   - Remove the fiber labeled “TEL” from slot 2 (B, Figure 9) of the MOST connector and insert the fiber labeled “TEL 1” in its place

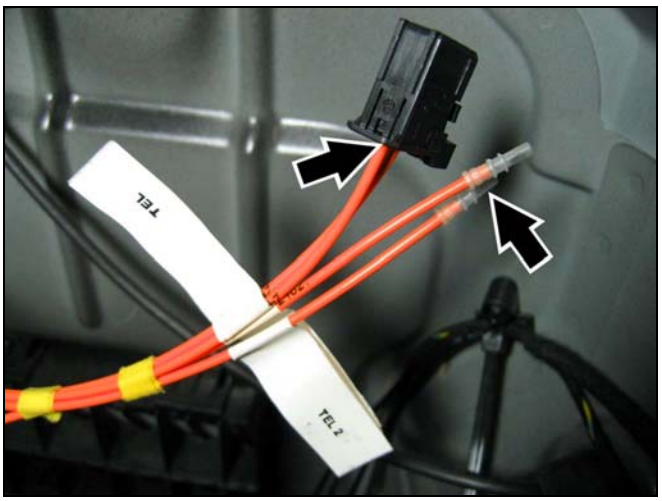

Figure 10 P82.70-xxxx-71

4. At the sound system control module (Figure 11) in the right well of the trunk, configure the MOST ring according to Figure 51.
   - Remove the fiber labeled “SOUND” from slot 2 (B, Figure 9) of the MOST connector and insert the fiber labeled “SOUND 1” in its place

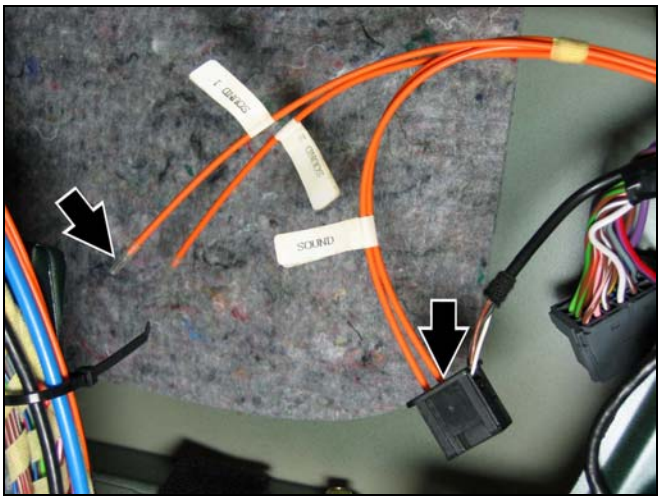

Figure 11 P82.70-xxxx-71

5. At the exposed transmission tunnel area, find the MOST couplings and configure the MOST ring (Figure 12) according to Figure 51.
   - **SDARS OUT > HU/CDC IN**

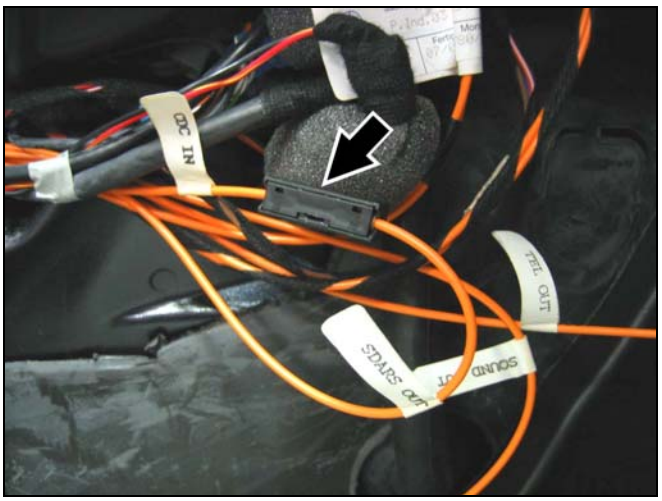

Figure 12 P82.70-xxxx-71

ii. *no* sound system, *no* satellite radio

2. At the exposed transmission tunnel area, find the MOST couplings and configure the MOST ring (Figure 13) according to Figure 51.
   - **HU OUT > TEL IN**
   - **TEL OUT > HU/CDC IN**

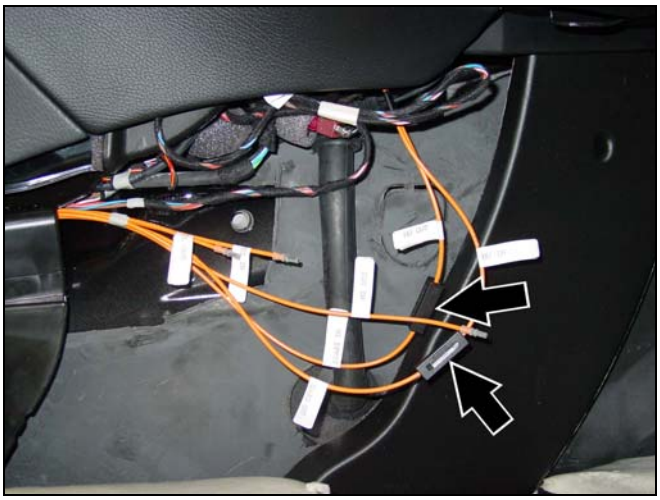

Figure 13 P82.70-xxxx-71

iii. satellite radio, *no* sound system

2. At the SDAR control module (Figure 14) in the right well of the trunk, configure the MOST ring according to Figure 51 (see below).

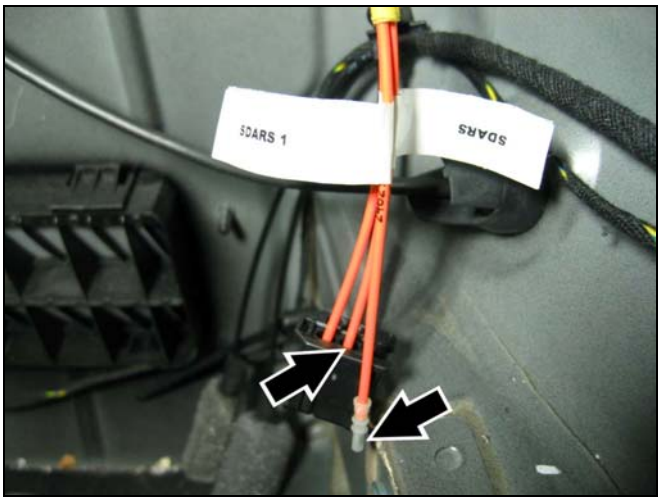

Figure 14 P82.70-xxxx-71

   - Remove the fiber labeled “SDARS” from slot 1 (A, Figure 15) of the MOST connector and insert the fiber labeled “SDARS 1” in its place

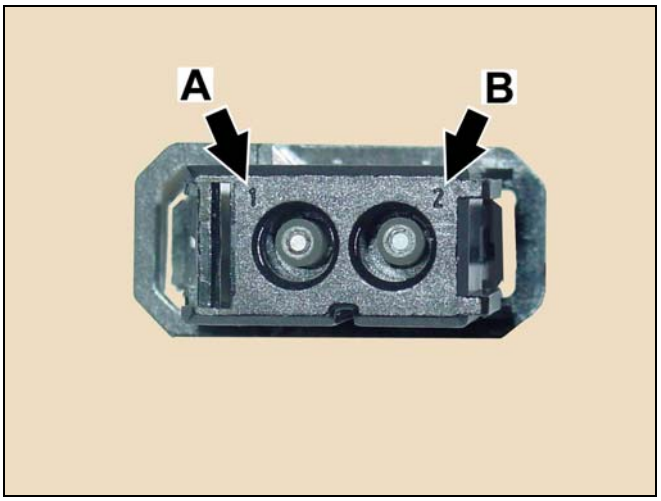

Figure 15 P82.70-xxxx-71

3. At the telephone control module (Figure 16) in the right well of the trunk, configure the MOST ring according to Figure 51.
   - Remove the fiber labeled “TEL” from slot 2 (B, Figure 15) of the MOST connector and insert the fiber labeled “TEL 1” in its place

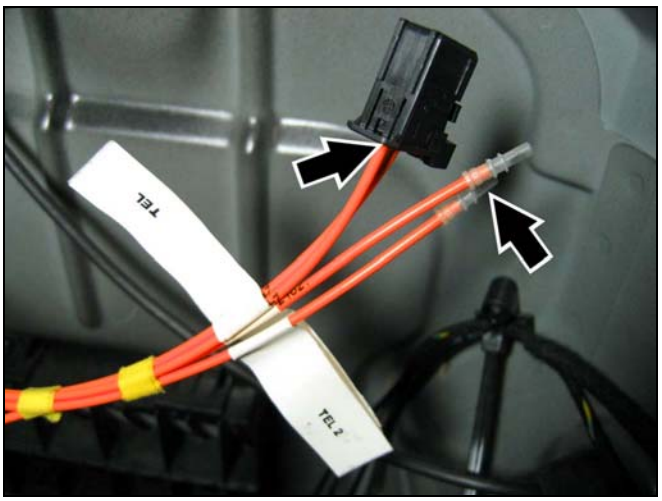

Figure 16 P82.70-xxxx-71

4. At the exposed transmission tunnel area, find the MOST couplings and configure the MOST ring (Figure 17) according to Figure 51.
   - **HU OUT > TEL IN**
   - **SDARS OUT > HU/CDC IN**

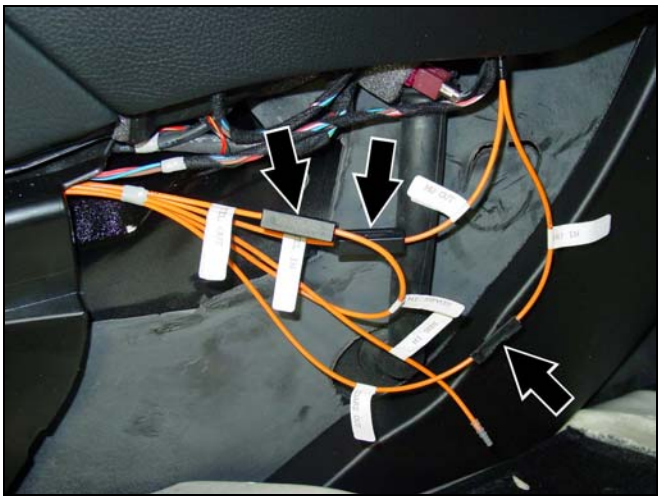

Figure 17 P82.70-xxxx-71

iv. sound system, *no* satellite radio

2. At the sound system control module (Figure 18) in the right well of the trunk, configure the MOST ring according to Figure 51 (see below).

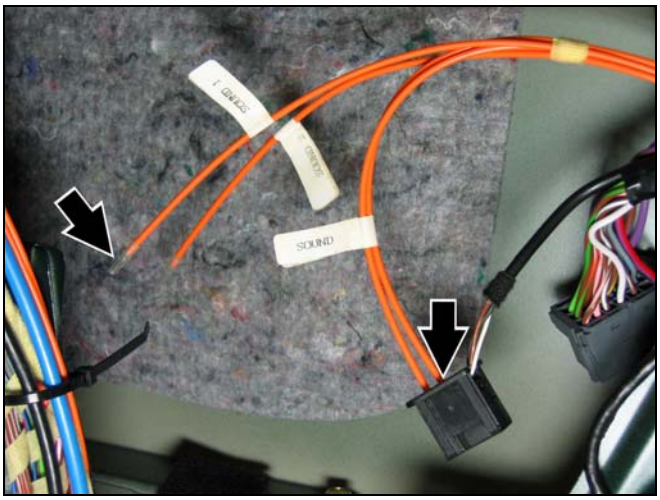

Figure 18 P82.70-xxxx-71

- Remove the fiber labeled “SOUND” from slot 2 (B, Figure 19) of the MOST connector and insert the fiber labeled “SOUND 2” in its place

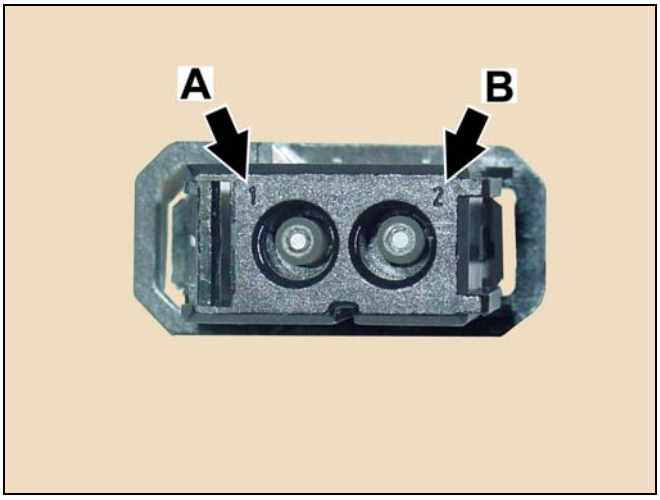

Figure 19 P82.70-xxxx-71

3. At the exposed transmission tunnel area, find the MOST couplings and configure the MOST ring (Figure 20) according to Figure 51.
   - **TEL OUT > HU/CDC IN**

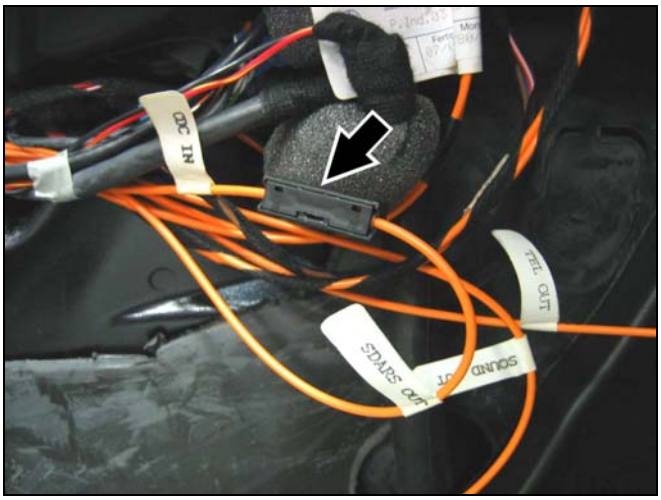

Figure 20 P82.70-xxxx-71

E. Mounting the bracket assembly and connecting the UHI control module, linear compensator and antenna splitter

1. If sound system equipped, reconnect and reinstall the amplifier/bracket assembly, by connecting the power supply connector and MOST connector to the amplifier underside and reusing the 8-mm collar nut (A, Figure 3), 8-mm hex head bolt (B, Figure 3) to fasten the bracket.
2. Place the UHI/linear compensator/antenna splitter bracket assembly near its mounting place (Figure 21).
3. Connect the UHI power supply connector to the UHI control module (A, Figure 21).
4. Connect the UHI MOST connector to the UHI control module (B, Figure 21).

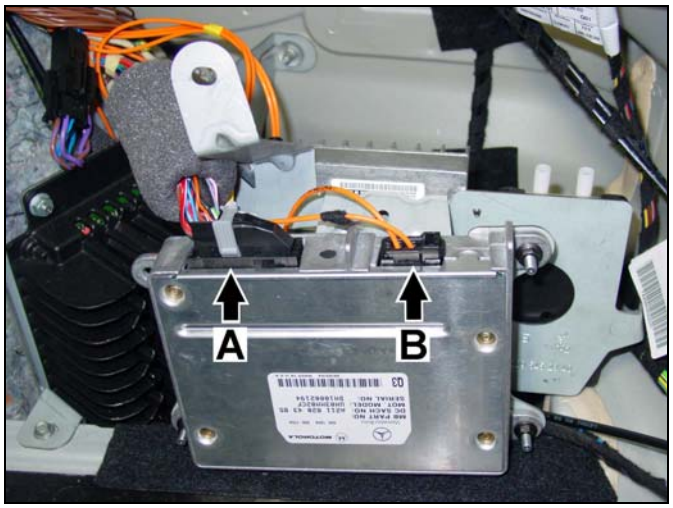

Figure 21 P82-70-xxxx-71

5. Mount the bracket assembly, with the linear compensator facing out, to the upper area of the exposed quarter panel interior with an 8-mm hex head, self-tapping screw at the upper and lower, front arms of the bracket (A, Figure 22), and the existing 10-mm flange nut at the lower, rear arm of the bracket (B, Figure 22).

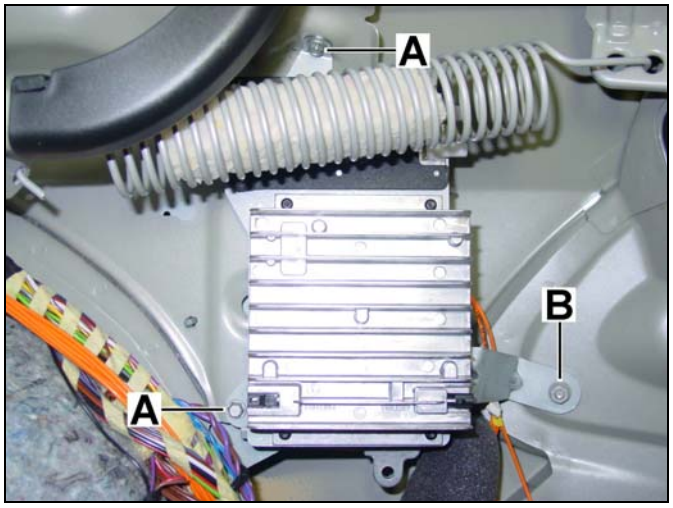

Figure 22 P82-70-xxxx-71

6. Connect the Female FAKRA antenna lead to the linear compensator jack labeled “ANTENNA” (A, Figure 23).
7. Connect the male FAKRA antenna lead to the linear compensator jack labeled “PORTABLE” (B, Figure 23).
8. Connect the power supply to the linear compensator (C, Figure 23).

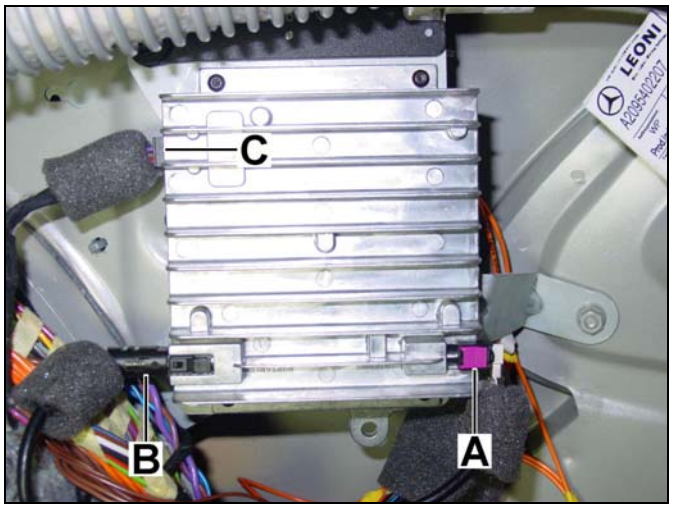

Figure 23 P82-70-xxxx-71

9. Reconnect the antenna leads to the antenna splitter (Figure 24).

Figure 24 P82-70-xxxx-71

F. Installing and connecting the antenna switch

1. On the right side of the exposed trunk electronics compartment behind the rear seat, locate the mounting place for the antenna switch and foam-sleeve-covered cable connectors (Arrows, Figure 25).
2. Carefully cut the wire tie bundling the cables and wiring harness together (A, Figure 25).

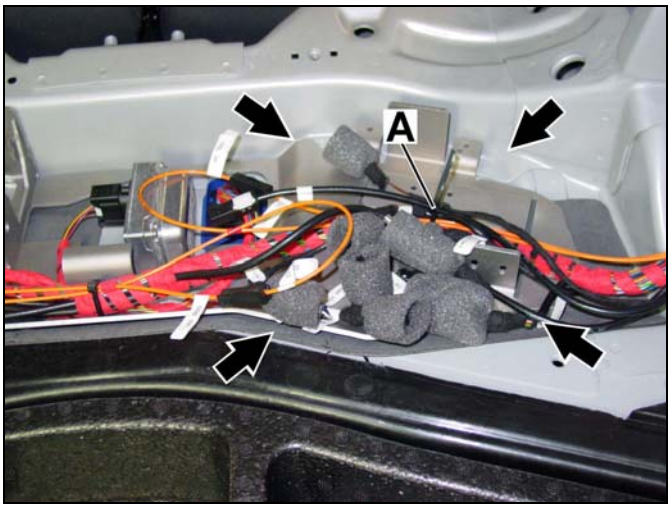

Figure 25 P82.70-xxxx-71

3. On the right side of the exposed trunk electronics compartment behind the rear seat, locate the foam-sleeve-covered connectors for the antenna switch (Figure 26).
4. Fold back the foam sleeves to expose the connectors and identify the:
   - Coupled Tele Aid lead (white, female FAKRA) (A, Figure 26) and main antenna lead (white, male FAKRA) (B, Figure 26)
   - 2-pin power supply connector (C, Figure 26)
   - Telephone lead (black, female FAKRA) (D, Figure 26)

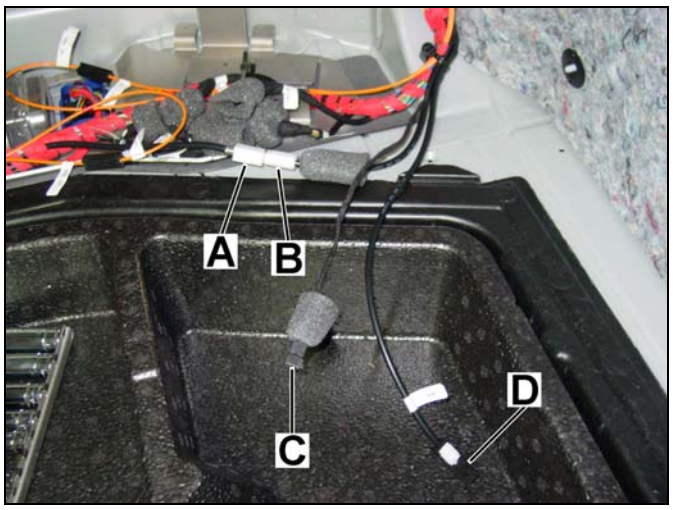

Figure 26 P82.70-xxxx-71

5. Disconnect the Tele Aid lead (white, female FAKRA) (A, Figure 27) from the main antenna lead (white, male FAKRA) (B, Figure 27).

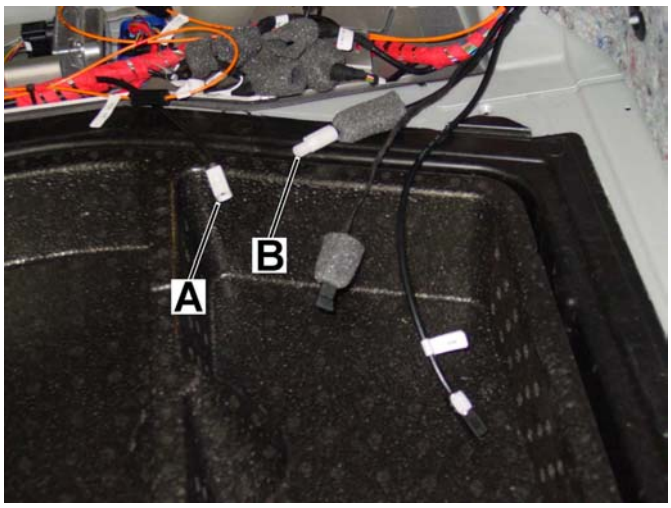

Figure 27 P82.70-xxxx-71

6. At the right side of the exposed trunk electronics compartment behind the rear seat, mount the antenna switch to the floor with two 8-mm self-tapping screws (Figure 28).

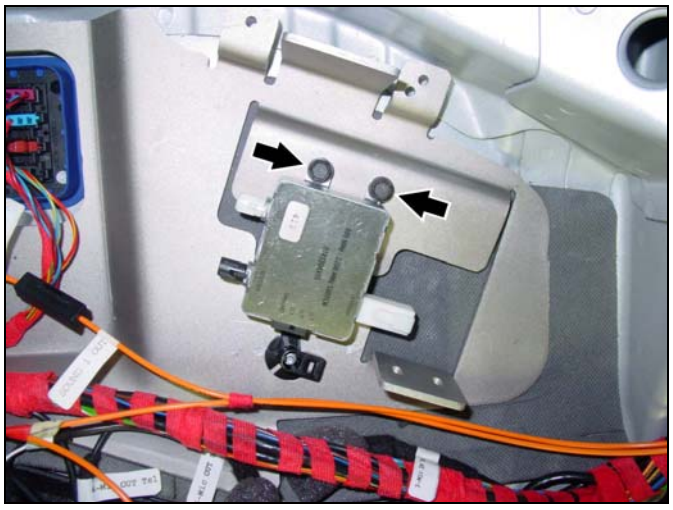

Figure 28 P82.70-xxxx-71

7. Connect the telephone lead (black, female FAKRA) to the antenna switch jack labeled “BOOSTER” (A, Figure 29).
8. Connect the Tele Aid lead (white, female FAKRA) to the antenna switch jack labeled “LCT” (B, Figure 29).
9. Connect the main antenna lead (white, male FAKRA) to the antenna switch jack labeled “ANTENNA” (C, Figure 29).
10. Connect the 2-pin power supply connector to the antenna switch (D, Figure 29).

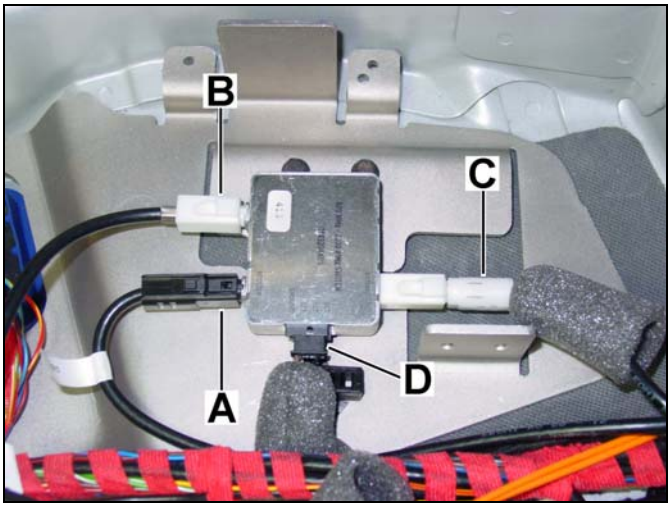

Figure 29 P82.70-xxxx-71

11. Bundle the loose cables and wiring harness together and secure them to the electronics compartment floor with a wire tie (Figure 30).

Figure 30 P82.70-xxxx-71

G. Connecting the microphone array

1. At the right side of the exposed trunk electronics compartment behind the rear seat, locate the foam-sleeve-covered connectors for the microphone array (Figures 31).
2. Fold back the foam sleeves to expose the connectors and identify the:
   - 6-pin female connector labeled “1 - MIC.ARRAY OUT” (A, Figure 32)
   - 6-pin male connector labeled “3 - MIC IN TEL” (B, Figure 32)
   - 2-pin female connector labeled “4 - MIC.OUT TEL” (A, Figure 33)
   - 2-pin male connector labeled “8 - MIC.IN Teleaid”) (B, Figure 33)

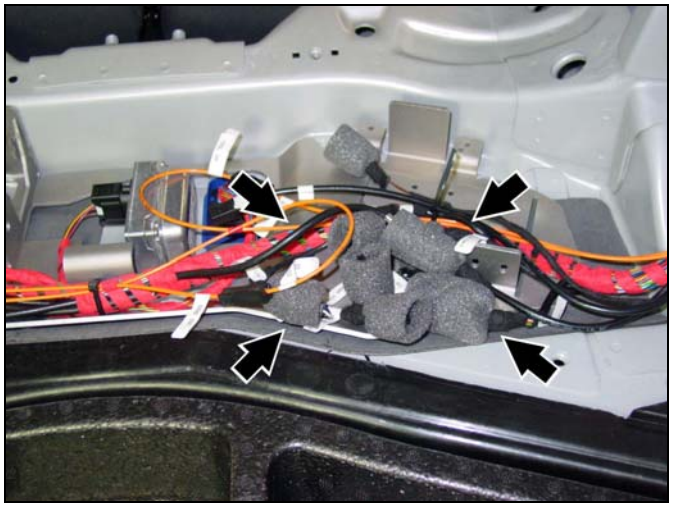

Figure 31 P82-70-xxxx-71

3. Connect the 6-pin female connector labeled “1 - MIC.ARRAY OUT” (A, Figure 32) to the 6-pin male connector labeled “3 - MIC IN TEL” (B, Figure 32).

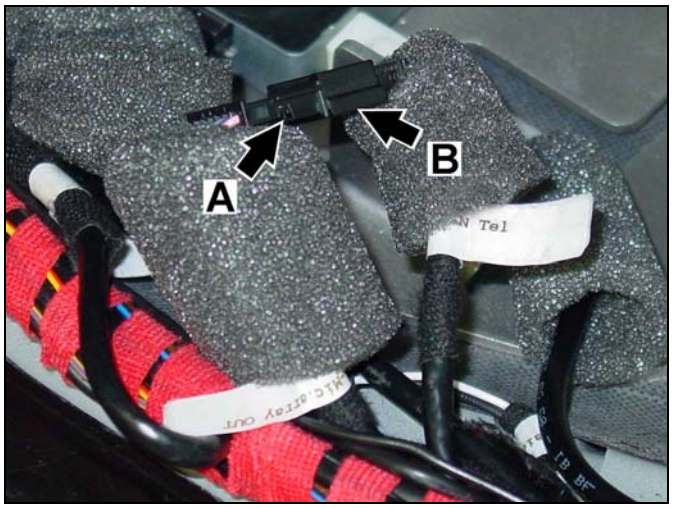

Figure 32 P82-70-xxxx-71

4. Connect the 2-pin female connector labeled “4 - MIC.OUT TEL” (A, Figure 33) to the 2-pin male connector labeled “8 - MIC.IN Teleaid”) (B, Figure 33).

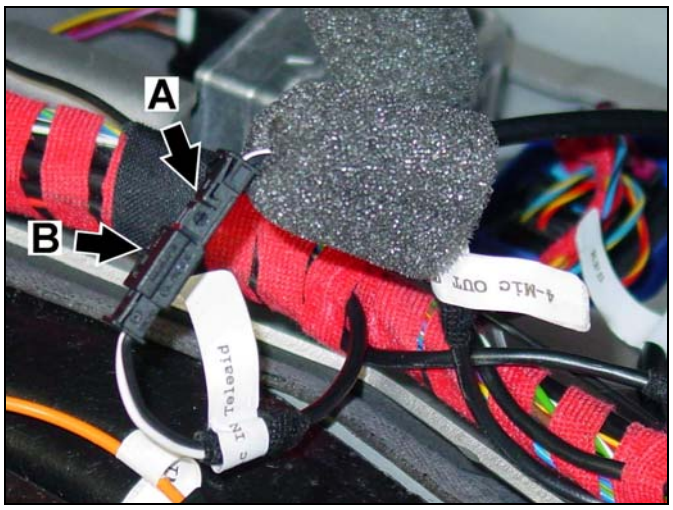

Figure 33 P82-70-xxxx-71

H. Modifying the wiring harness for the Tele Aid control module

1. Disconnect the Tele Aid power supply connector from the Tele Aid control module (Figure 34).

Figure 34 P82.70-xxxx-71

2. Remove the locking cover from the Tele Aid power supply connector to expose the pin housing (Figure 35).
3. If pin slot #14 is vacant (Arrow, Figure 35), proceed to step 6.

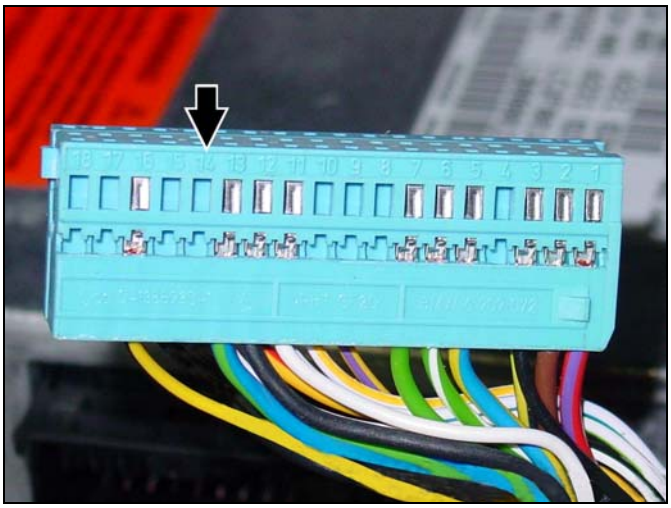

Figure 35 P82.70-xxxx-71

4. If occupied (Arrows, Figure 36), verify the violet-color wire coming from pin slot #14 goes to:
   - Pin slot #3 of the power supply connector for the linear compensator
   - Pin slot #28 of the power supply connector for the UHI control module
5. If so, proceed to step 19.

   Note: If the wire coming from pin slot #14 does not go to pin slot #3 and pin slot #28 of the power supply connectors for the linear compensator and UHI control module respectively, contact *TAC*/*EDAC* for diagnostic assistance.

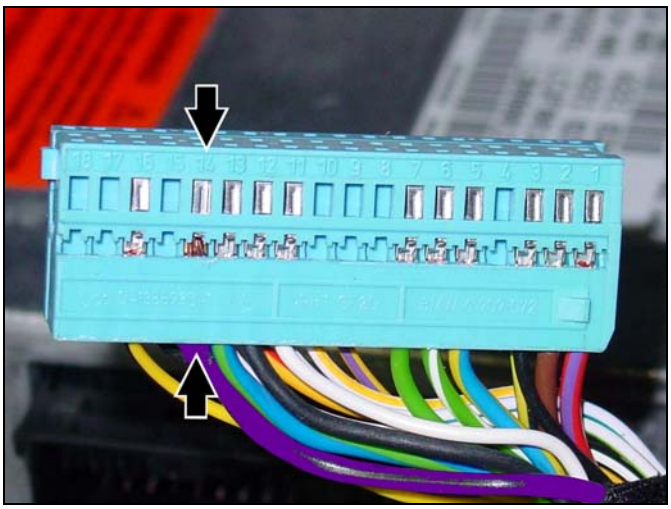

Figure 36 P82.70-xxxx-71

6. Crimp the pin onto an end of the 6-foot section of 20-gauge, violet-color wire.

   Note: Refer to Section M—Parts Information—for pin distinction information.

7. Insert the pin into slot #14 of the pin housing of the power supply connector for the Tele Aid control module (Arrows, Figure 36).
8. Reinstall the locking cover on the pin housing of the power supply connector for the Tele Aid control module.
9. Route the 20-gauge, violet-color wire from pin #14 of the power supply connector for the Tele Aid control module along the main wiring harness leading to the linear compensator (Figure 37).

   Note: Secure the 20-gauge, violet-color wire to the main wiring harness with wire ties and electrical tape.

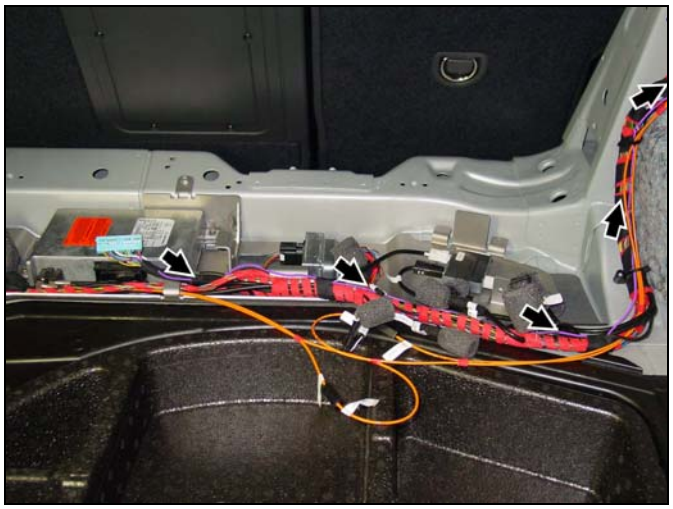

Figure 37 P82.70-xxxx-71

10. Disconnect the power supply connector from the linear compensator (A, Figure 38).
11. Remove the tape from the power supply wiring harness for the linear compensator from the connector to the point where it branches off the main wiring harness (Figure 38).
12. Separate the violet color wire of the power supply wiring harness for the linear compensator from the other wires (Figure 38).
13. Cut the violet color wire of the power supply wiring harness for the linear compensator half way between the connector and the point where it branches off the main wiring harness (B, Figure 38).

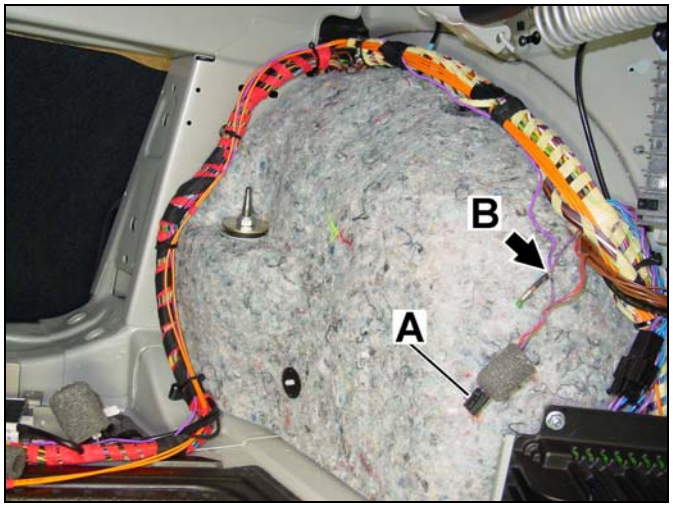

Figure 38 P82.70-xxxx-71

14. Strip ¼-inch insulation off both ends of the violet-color wire cut in step 12.
15. Strip ¼-inch insulation off the 20-gauge, violet-color wire routed to the linear compensator.

16. Solder splice the two cut ends of the violet color wire of the power supply wiring harness for the linear compensator to the end of the 20-gauge, violet-color wire routed from Tele Aid control module (Figure 39).
    - Twist the solder splice into the three wire ends
    - Use a heat gun at high setting to melt the solder over the twisted together wire ends and the glue over the wire insulation
17. Reapply tape to the power supply wiring harness for the linear compensator including the solder spice.
18. Reconnect the power supply connector to the linear compensator.

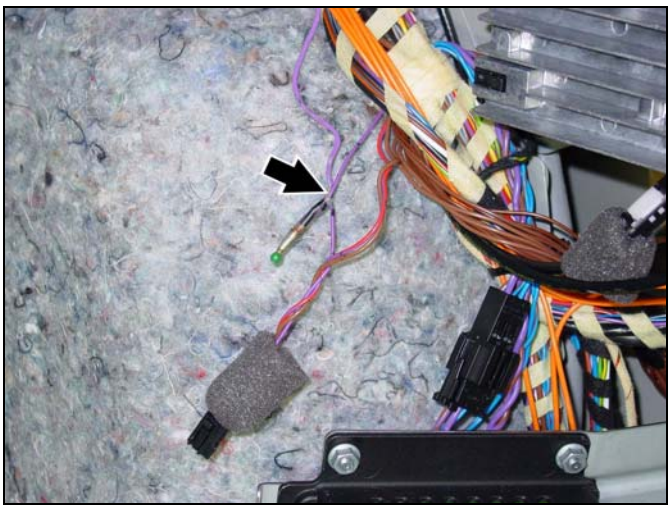

Figure 39 P82.70-xxxx-71

19. Test the modification.
    a) With the Tele Aid control module unplugged and the telephone in the cradle, set COMAND, or the Audio 20 head unit, to “TEL” mode. Notice the signal strength bars on the display.
    b) Turn off COMAND or the Audio 20 head unit.
    c) Connect the power supply connector to the Tele Aid control module.
    d) Turn on COMAND, or the Audio 20 head unit, and select “TEL” mode. Notice the level increase in the signal strength bars on the display.

    Note: There may be no increase in the signal strength bars on the display if too close to a cell tower.

I. Installing the telephone cradle

1. Open the lower compartment of the center console and remove the T8 Torx screw at the lower, right corner of the upper compartment underside (Figure 40).
2. Remove the cover by sliding it down and then pulling it out.

Figure 40 P82.70-xxxx-71

3. Remove the three T8 Torx screws from the exposed upper compartment underside (Figure 41).

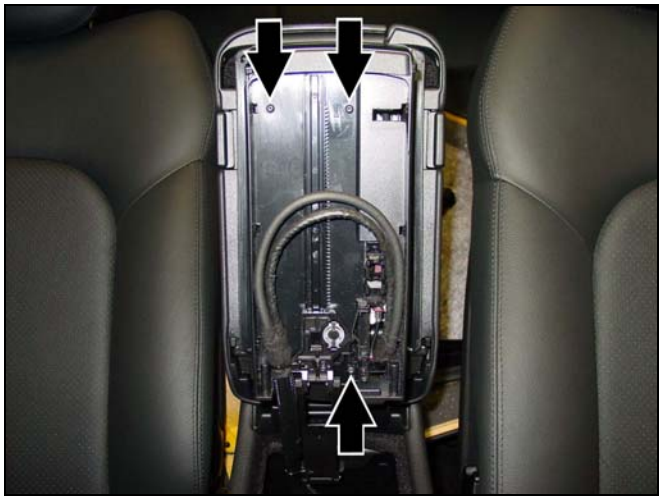

Figure 41 P82.70-xxxx-71

4. Open the upper compartment and lift out the false floor (Figure 42).
5. Remove the knockout from the false floor by applying pressure from underneath (Arrows, Figure 42).

NOTICE
Do not to crack or break the false floor by applying excessive force while removing the knockout.

Figure 42 P82.70-xxxx-71

6. Find the kit-included contact plate (A, Figure 43) and identify the male FAKRA antenna lead (B, Figure 43) and the power supply male connector (C, Figure 43).

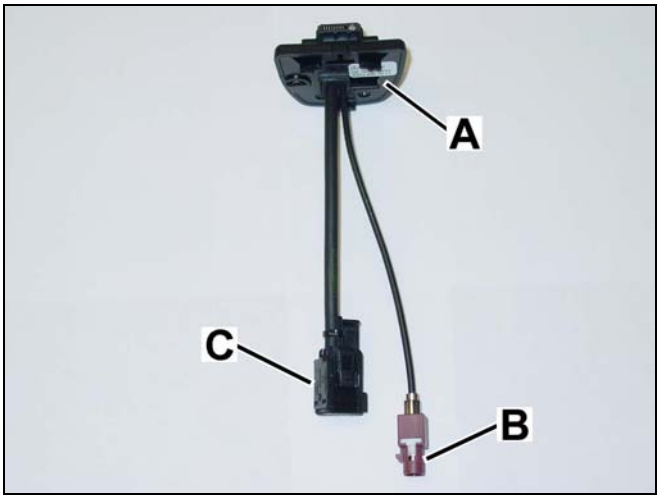

Figure 43 P82.70-xxxx-71

7. Feed the power supply cable and FAKRA cable through the knockout hole from the top side of the false floor (Figure 44).

Figure 44 P82.70-xxxx-71

8. Carefully snap the contact plate into the false floor knockout hole (Figure 45).

   NOTICE
   Do not to crack or break the false floor by applying excessive force while snapping in the contact plate.

Figure 45 P82.70-xxxx-71

9. Find the female power supply connector (A, Figure 46) and female FAKRA connector (B, Figure 46) within the console harness.

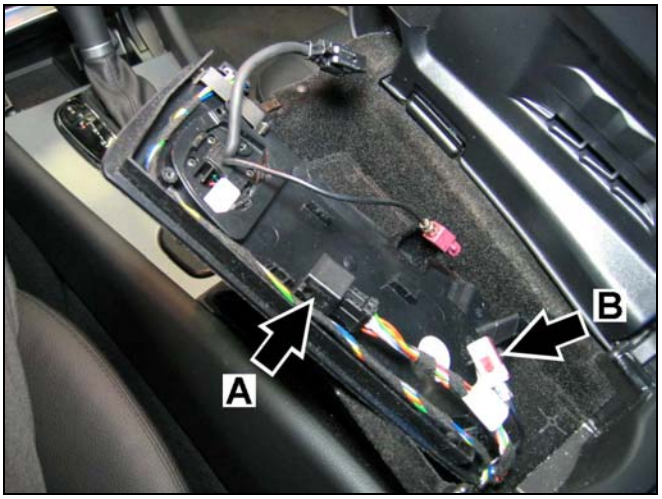

Figure 46 P82.70-xxxx-71

10. Connect the male FAKRA antenna lead from the contact plate to the female FAKRA connector from the console harness (A, Figure 47).
11. Connect the power supply male connector from the contact plate to the female power supply connector from the console harness (B, Figure 47).
12. Snap the coupled connectors into the channel clips (A and B, Figure 47), route the harness through the channel and under the existing clip (C, Figure 47).
13. Use the two kit-included clips (Arrows, Figure 47) to secure the remaining loose harness.

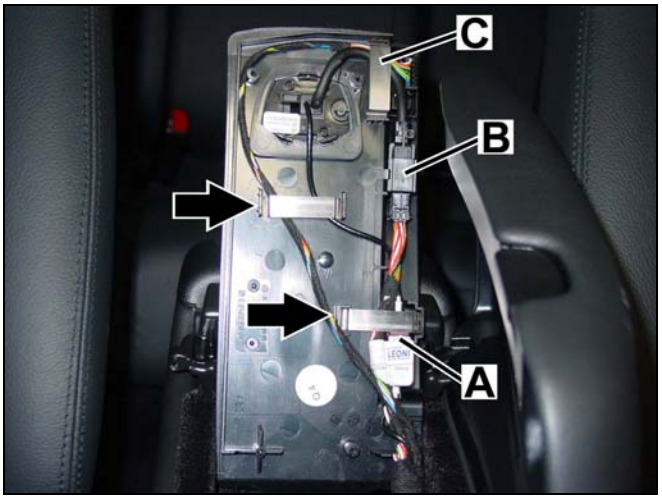

Figure 47 P82.70-xxxx-71

14. Reinstall the false floor and the underside cover of the console upper compartment (Figure 48).

Figure 48 P82.70-xxxx-71

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 is heard (Figure 49).

Figure 49 P82.70-xxxx-71

16. Insert the telephone into the cradle (Figure 50).

Figure 50 P82.70-xxxx-71

J. Version coding

1. Connect the Star Diagnosis System to the vehicle and perform the version coding outlined below.
2. Set the MOST ring configuration to match that of Figure 51 by using the path:

   Control units > Information and communication > Audio, video, navigation and telematics > COMAND with integrated Audio Gateway > Retrofitting of MOST components > F2: Restart of optical ring > F2: Actual configuration > Verify that "Telecommunications" 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 every component. 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 by 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 W203, Set "Telephone adapter" to FITTED, press F5 > F3: Yes/Coding > F2 to confirm the coding was carried out

4. Reset the control module using path:

   Control units > Information and communication > Audio, video, navigation and telematics > TELE-AID > Control unit adaptations > Reset control unit

5. Set the Tele Aid in the EIS using path:

   Control units > Body > EIS > Control unit adaptations > Read coding and change if necessary > Set status CAN bus > Set "CAN bus: Control unit TELE AID or E-CALL" to PRESENT, then press F3 > F3: Yes/Coding > F2 to confirm the coding was carried out

6. 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.

7. Confirm no new DTC(s) are present in the MOST system group.

K. MOST Ring Configuration

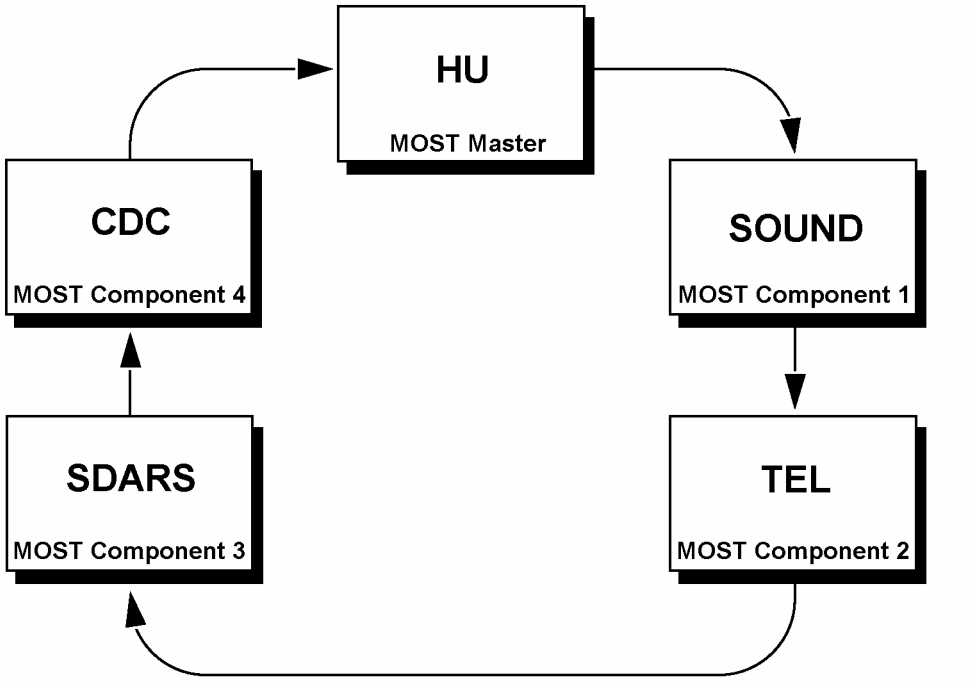

Figure 51 P82.70-xxxx-11

L. Final assembly and function test

1. In the trunk, reinstall the right side paneling, cover behind the rear seat, and floor paneling.
   - See *WIS* document AR68.30-P-4600PB, “Remove/install paneling in trunk”
2. 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[1)]

   [1)] 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.

M. Parts Information

Qty.	Part Name	Part Number/Exchange
1	**Vehicle core installation kit**	BQ 682 0906
1	**CLK-Class coupe vehicle completer kit**	BQ 682 0912
Wiring harness modification, Tele Aid control module		
1	Solder splice	A 001 546 99 41
1	Crimp pin, black pin housing	A 008 545 55 26
1	Crimp pin, blue pin housing	A 016 545 41 26
1	Tape	006 989 84 85 10
	20-gauge, violet-color wire	Local purchase
Separate line item		
2	Plastic nut (M10), antenna splitter	A 004 990 30 51

Note: This installation cannot be claimed under warranty.