



**Installation Instructions**

Date: October 2005  
Order No.: P-I-82.70/416B  
Supersedes: P-I-82.70/416A  
Group: 82

**Update:** Step 2, Section K, page 13; Step 1, second check, Section M, page 14  
**SUBJECT:** MODEL 171.454/456/473  
MODEL YEAR 2005-2006  
CELLULAR TELEPHONE INSTALLATION

*We are interested in your comments and suggestions—please email them to:*  
[StarTekInfo@MBUSA.com](mailto:StarTekInfo@MBUSA.com)

**⚠ WARNING**

**Do not disconnect the negative battery cable. Extensive reprogramming requirements will otherwise be necessary. Wiring harnesses will therefore be electrically active.**

**Severe vehicle damage, personal injury, or death from electrical shock could result.**

**Exercise extreme caution while executing these installation instructions. Keep the ignition and radio powered OFF through the final test.**

**Notes on MOST optical fibers**

- Optical fibers damage easily—handle optical fibers with care to prevent cuts, nicks, abrasions, and crushing.
- 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 by their orange, semi-rigid insulation.
- Electromagnetic interference (EMI) from bundled vehicle electrical harnesses does not affect optical fibers.

**NOTICE!**

**Incorrect installation of connectors can result in damaged, bent pins.**

**Damaged, bent pins will result in component malfunction or failure.**

**Inspect connectors before and after installation.**

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. Preparing for the installation

1. Read these installation instructions in their entirety before beginning.
2. Unpack and compare the installation kit contents against the Parts Information list—Section N, page 15.
3. Place the operating guides and customer accessories in the glove box or appropriate storage or stowage compartment.
4. Remove the bottom, center trunk paneling, and dismount the equipment carrier.
  - Refer to WIS document AR68.30-P-4810V, “Remove/install center trunk paneling”
5. Lay down the equipment carrier on its backside to expose the attached components on its front (Figure 1).

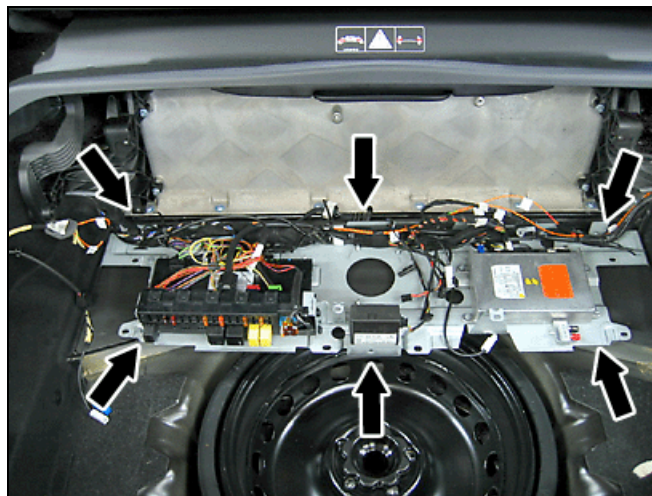


Figure 1

P82.70-5660-71

**Note:** If the vehicle is equipped with the CAR NAVIGATION processor, carefully cut the wire tie securing the equipment carrier to the CAR NAVIGATION compartment.

## B. Locating and identifying the cables

1. On the right side of the equipment carrier, carefully cut the wire ties bundling the telephone cables to the wiring harness running along the Tele Aid control module, and then separate and lay out (Figure 2) the cable connectors for easier identification.

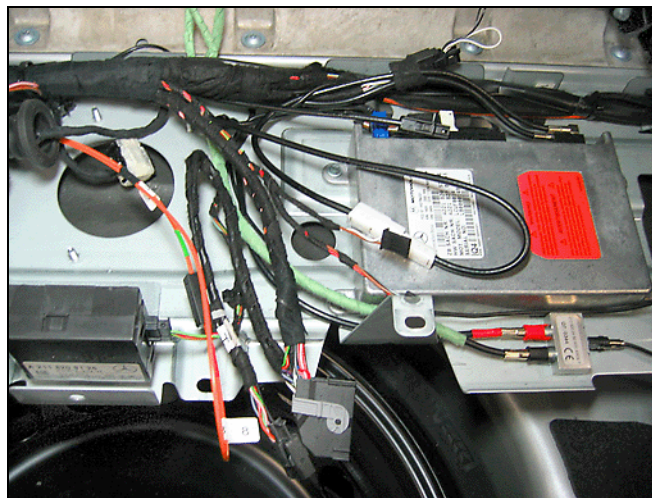
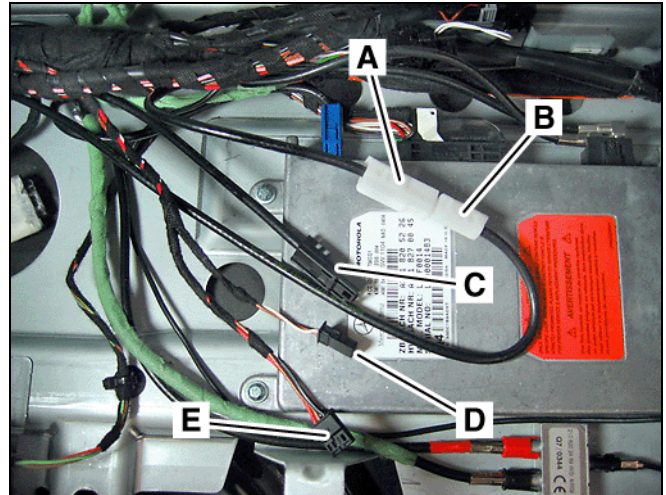


Figure 2

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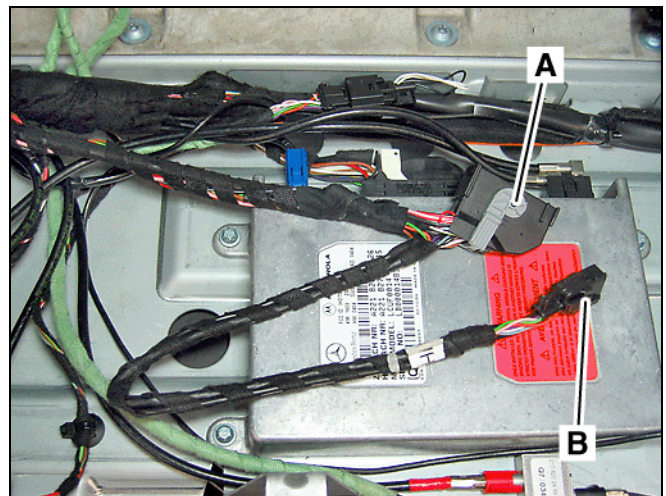
2. On the right side of the equipment carrier, disconnect the Tele Aid leads (A and B, Figure 3) from one another and identify the:
  - Tele Aid FAKRA female, white connector (A, Figure 3)
  - Main antenna FAKRA male, white connector (B, Figure 3)
3. On the right side of the equipment carrier, identify the:
  - Telephone FAKRA female, black connector (C, Figure 3)
  - Antenna switch 2-pin power supply connector (D, Figure 3)
  - Linear compensator 4-pin power supply connector (E, Figure 3)



**Figure 3**

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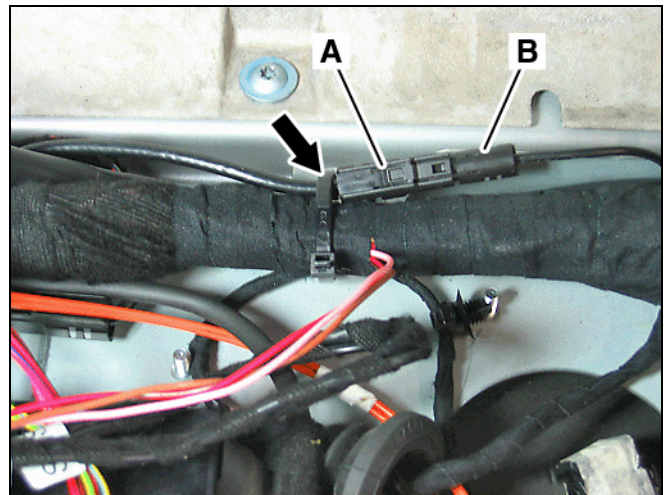
4. On the right side of the equipment carrier, identify the:
  - MHI power supply connector (A, Figure 4)
  - MHI microphone array connector (B, Figure 4)



**Figure 4**

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5. Along the bottom, center of the equipment carrier, find the coupled antenna leads (A and B, Figure 5) and carefully cut the wire tie (Arrow, Figure 5) to release them.
6. Disconnect the antenna connectors (A and B, Figure 5) from one another and identify the:
  - Antenna FAKRA female, black connector (A, Figure 5)
  - Antenna FAKRA male, black connector (B, Figure 5)



**Figure 5**

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7. On the right side of the equipment carrier, find the:
  - Tele Aid microphone connector (A, Figure 6) and connected jumper (B, Figure 6) with black and white looped wires
8. Disconnect the jumper (B, Figure 6) with black and white looped wires from the Tele Aid microphone connector (A, Figure 6) and discard the jumper.

**Note:** Voice Control System (VCS) is not an option, therefore neatly organize and wire tie the VCS power supply and microphone array cables along wiring harness of the equipment carrier.

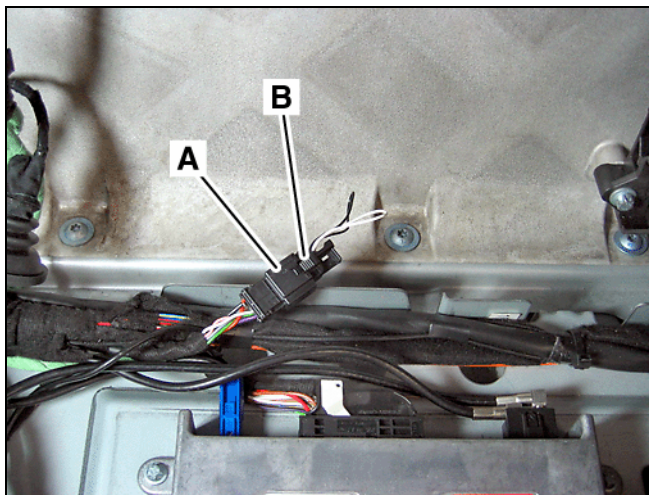


Figure 6

P82.70-5666-71

### C. Mounting the MHI control module and antenna switch to the bracket

1. Mount the MHI control module to the threaded studs on the bracket front with four 8 mm nuts (Figure 7).

**Note:** The MHI control module will mount to the bracket threaded studs only one way (i.e. there is no way to incorrectly mount the MHI control module to the bracket).

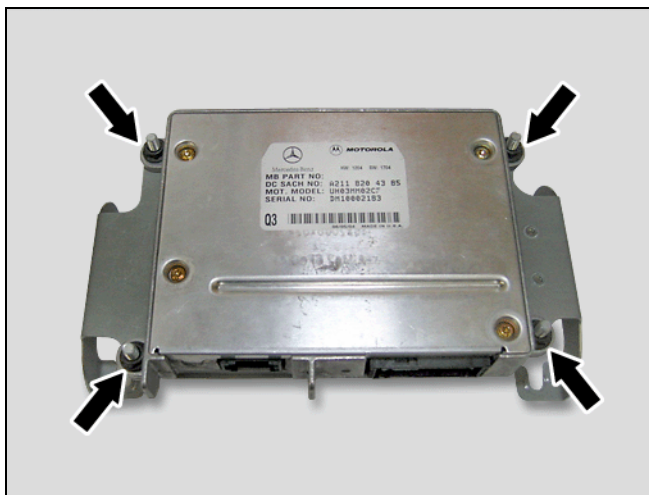


Figure 7

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2. Mount the antenna switch to the pre-tapped screw holes in the bracket front—right of the mounted MHI control module—with two Phillips head machine screws (Figure 8).

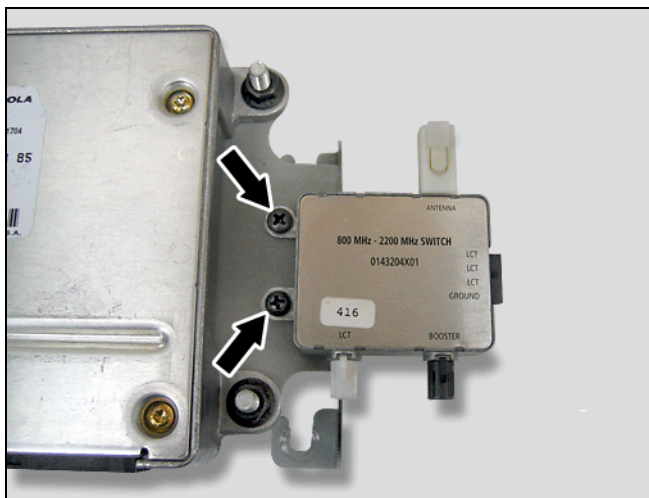


Figure 8

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#### D. Mounting the linear compensator to the bracket

1. Mount the linear compensator to the pre-tapped screw holes in the bracket for the linear compensator with four Phillips head machine screws (Figure 9).

**Note:** Align the connector receptacles of the linear compensator with the bracket end with the two mounting tabs (Figure 9).

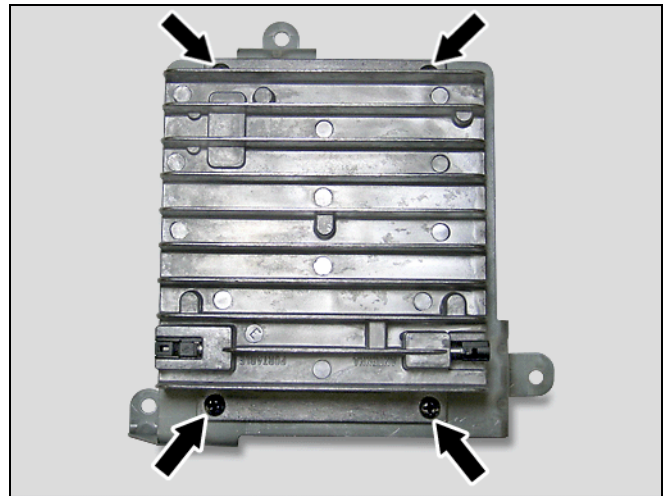


Figure 9

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#### E. Configuring the MOST optical fiber ring

##### NOTICE!

Improper handling of optical fibers can damage the fibers.

Damaged optical fibers can cause component malfunction.

Handle optical fibers with care to prevent cuts, nicks, abrasions, and crushing.

1. Find the MOST adapter cable (Figure 10) for the MHI control module in the kit.

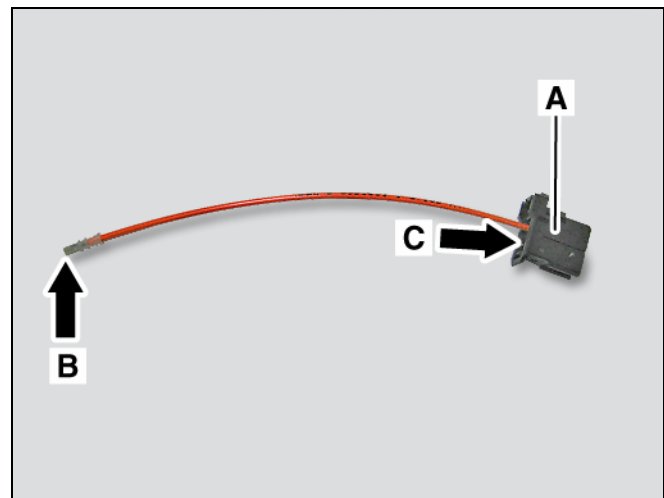
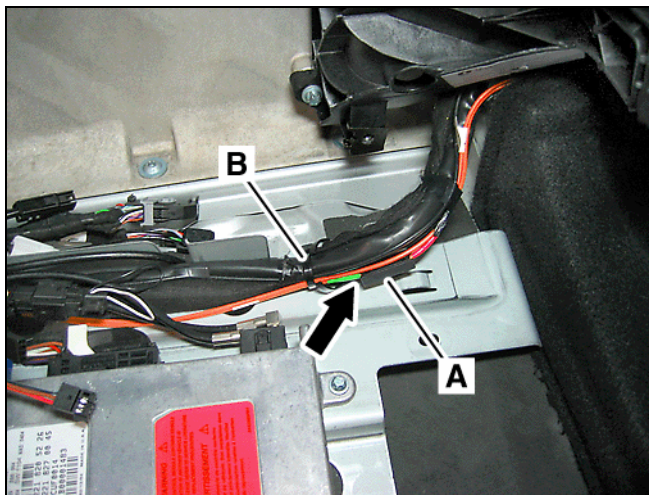


Figure 10

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➤ **COMAND equipped vehicles without satellite radio:**

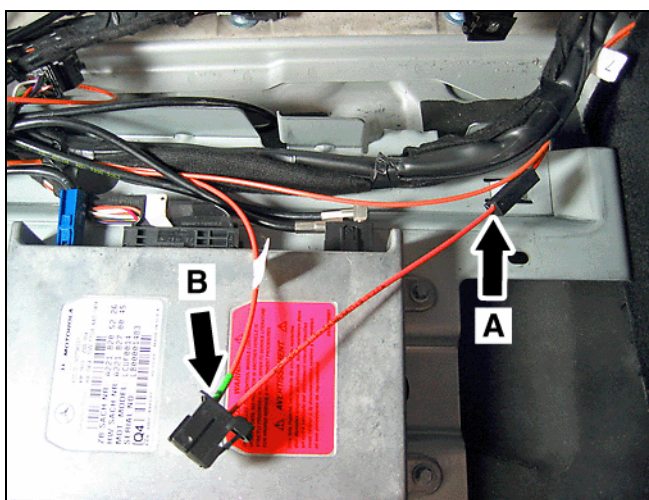
2. Find the MOST coupling (A, Figure 11) in the optical fiber routed to the CAR NAVIGATION processor wire tied to the bottom, right of the equipment carrier.
3. Carefully cut the wire tie (B, Figure 11) securing the MOST optical fibers to the equipment carrier.
4. Disassemble the MOST coupling and carefully remove the fiber end (Arrow, Figure 11).



**Figure 11**

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5. Install the MOST adapter cable:
  - a. Insert the fiber end (B, Figure 10) of the MOST adapter cable into the vacant chamber (A, Figure 12) of the disassembled coupling and reassemble the coupling.
  - b. Insert the fiber end removed from the coupling (Arrow, Figure 11) into the vacant chamber (C, Figure 10) of the MOST adapter connector (B, Figure 12).

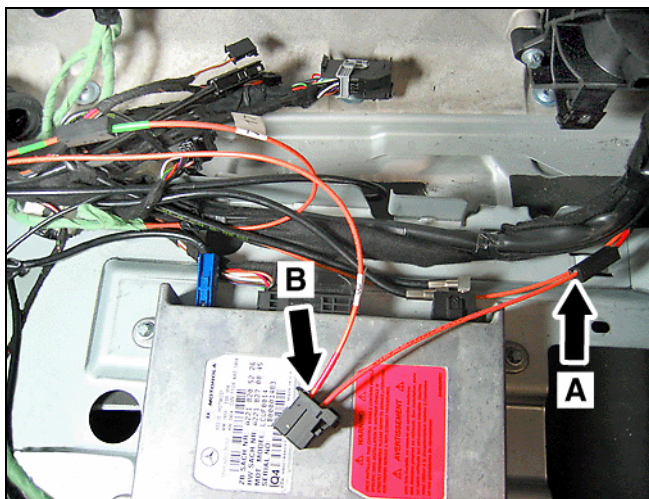


**Figure 12**

P82.70-5672-71

➤ **Satellite radio equipped vehicles:**

2. Find the MOST optical fiber routed to the satellite radio, disassemble the MOST coupling, and remove the fiber end.
3. Install the MOST adapter cable:
  - a. Insert the fiber end (B, Figure 10) of the MOST adapter cable into the vacant chamber of the disassembled coupling (A, Figure 13) and reassemble the coupling.
  - b. Insert the fiber end removed from the coupling into the vacant chamber (C, Figure 10) of the MOST adapter connector (B, Figure 13).



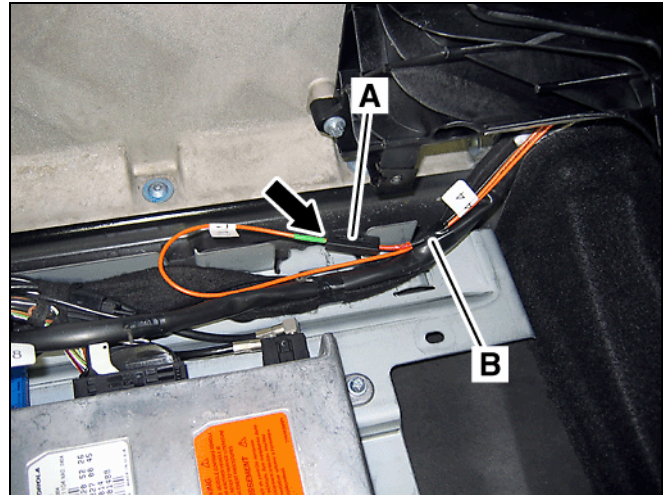
**Figure 13**

P82.70-5673-71



➤ **AUDIO 20 equipped vehicles:**

2. Find the MOST coupling (A, Figure 14) in the looped optical fiber taped to the bottom, right of the equipment carrier.
3. Remove the tape (B, Figure 14) to free up the MOST optical fiber.
4. Disassemble the MOST coupling and carefully remove the fiber end (Arrow, Figure 14).
5. Install the MOST adapter cable:
  - a. Insert the fiber end (B, Figure 10) of the MOST adapter cable into the vacant chamber (A, Figure 14) of the disassembled MOST coupling and reassemble the coupling.
  - b. Insert the fiber end removed of the MOST coupling (Arrow, Figure 14) into the vacant chamber (C, Figure 10) of the MOST adapter connector.

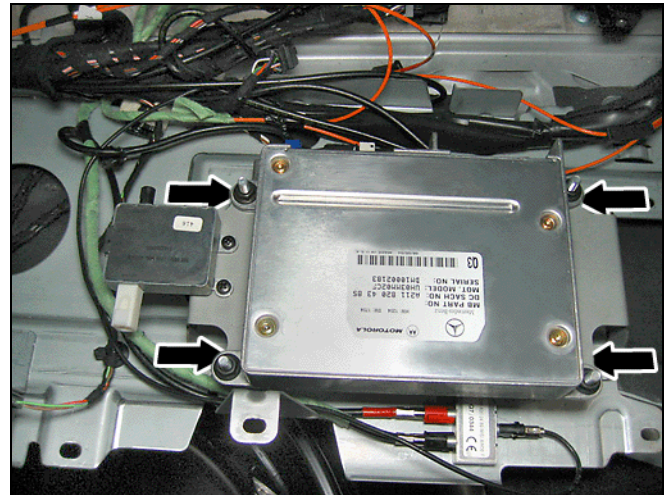


**Figure 14**

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**F. Installing the MHI control module/antenna switch bracket assembly and connecting the MHI control module and antenna switch**

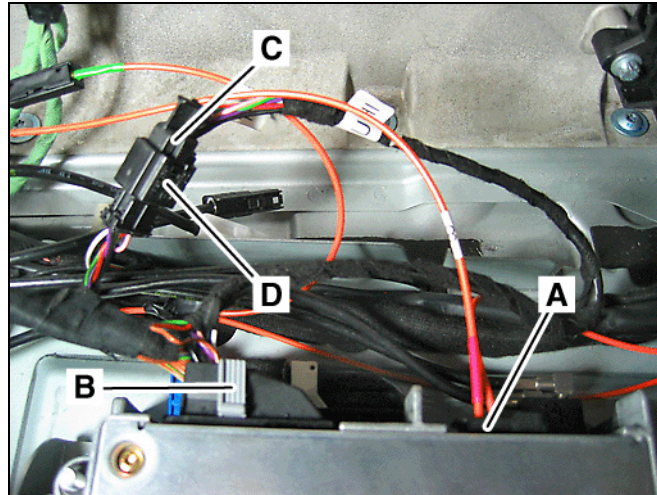
1. Loosen the four E8 inverted Torx screws securing the Tele Aid control module to the right side of the equipment carrier.
2. Slide the screw slots in the bottom of the bracket for the MHI control module and antenna switch over the screws loosened in step 1, slide the bracket assembly forward until it hits the screws, and then tighten the screws to secure the bracket assembly (Figure 15).



**Figure 15**

P82.70-5675-71

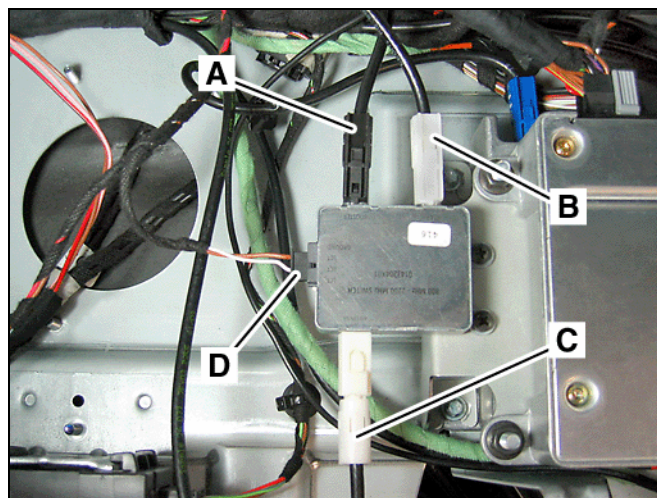
3. Connect the MOST adapter connector to the MHI control module (A, Figure 16).
4. Connect the MHI power supply connector to the MHI control module (B, Figure 16).
5. Connect the MHI microphone array connector (C, Figure 16) to the Tele Aid microphone connector (D, Figure 16).
6. Organize and wire tie loose cabling.



**Figure 16**

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7. Connect the telephone FAKRA female, black connector to the antenna switch jack labeled "BOOSTER" (A, Figure 17).
8. Connect the Tele Aid FAKRA female, white connector to the antenna switch jack labeled "LCT" (B, Figure 17).
9. Connect the main antenna FAKRA male, white connector to the antenna switch jack labeled "ANTENNA" (C, Figure 17).
10. Connect the 2-pin power supply connector to the antenna switch (D, Figure 17).



**Figure 17**

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## G. Installing the linear compensator bracket assembly and connecting the linear compensator

1. Mount the linear compensator/bracket assembly to the three threaded studs (Figure 18) on the equipment carrier—left of the mounted MHI/antenna switch bracket assembly—with three 8 mm nuts.

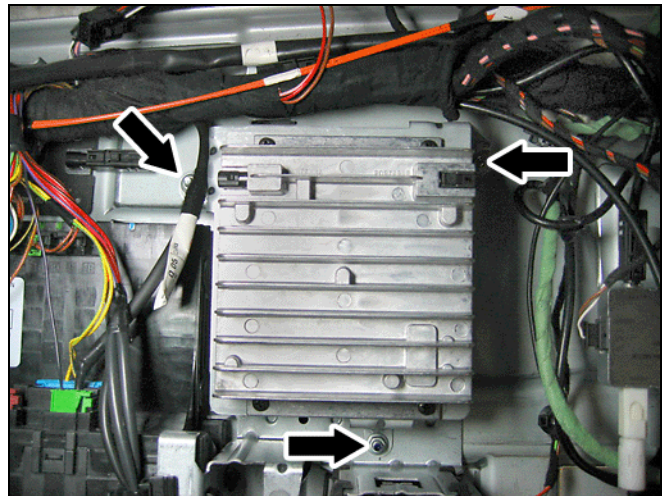


Figure 18

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2. Connect the FAKRA antenna female connector to the linear compensator jack labeled “ANTENNA” (A, Figure 19).
3. Connect the FAKRA antenna male connector to the linear compensator jack labeled “PORTABLE” (B, Figure 19).
4. Connect the 4-pin power supply connector to the linear compensator (C, Figure 19).

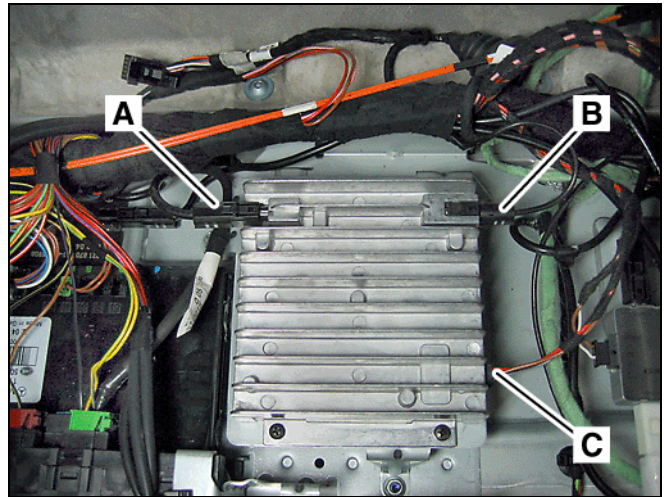


Figure 19

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5. Organize and wire tie loose cabling (Figure 20) and remount the equipment carrier.
  - Refer to WIS document AR68.30-P-4810V, “Remove/install center trunk paneling”



Figure 20

P82.70-5681-71

## H. Installing the cradle contact plate and telephone cradle

1. Open the lower compartment of the center console and remove the four T8 Torx screws (Figure 21) from the upper compartment underside to release the false floor.

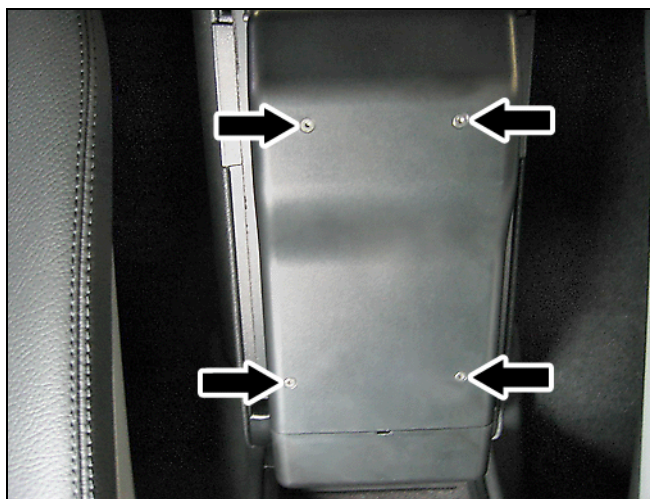


Figure 21

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2. At the bottom of the upper compartment of the center console, open the compartment cover (Figure 22) for the contact plate female FAKRA and power supply connectors.

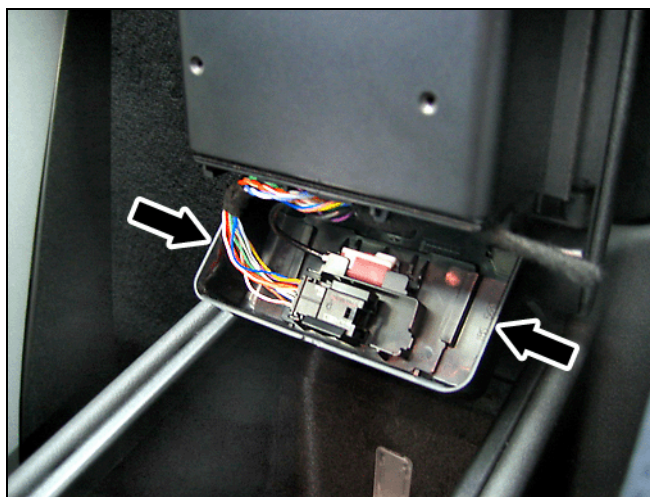


Figure 22

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3. Lift out the false floor from the upper compartment of the center console (Figure 23).
4. Remove the knockout (Arrows, Figure 23) from the false floor by pressing it out from underneath.

### NOTICE!

**Excessive force will crack or break plastic.**

**Applying excessive force while removing the knockout can crack or break the plastic false floor.**

**Do not apply excessive force when removing the false floor knockout.**

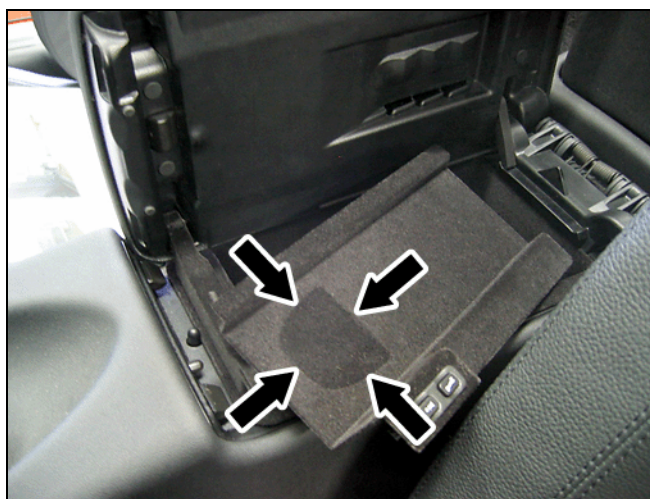
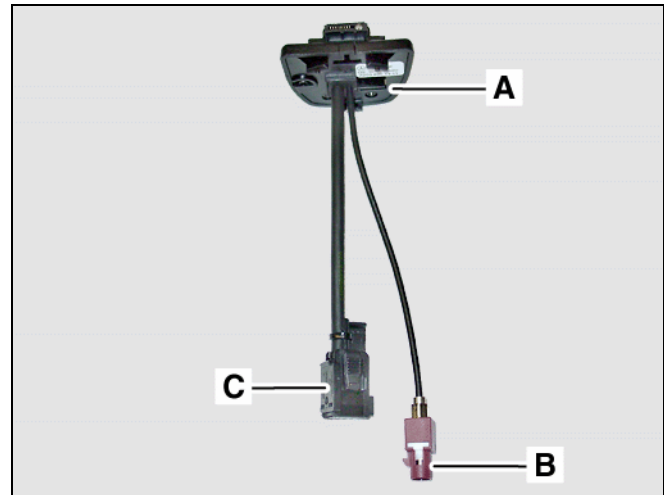


Figure 23

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5. Find the kit-included contact plate (A, Figure 24) and identify the FAKRA antenna male connector (B, Figure 24) and the power supply male connector (C, Figure 24).



**Figure 24**

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6. Feed the contact plate leads through the knockout hole from the false floor top side (Figure 25).

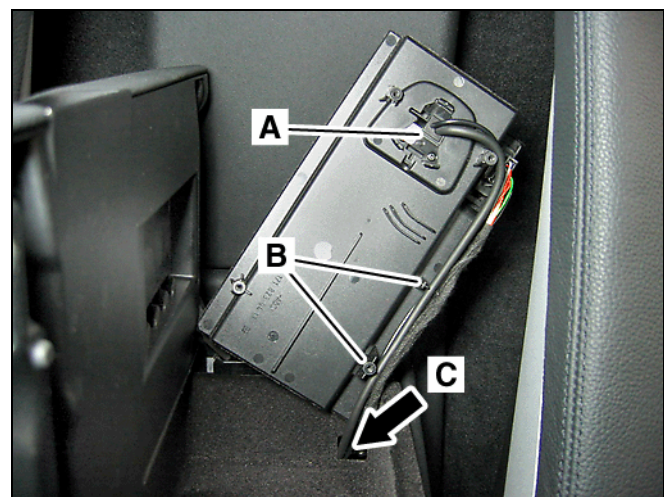


**Figure 25**

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7. Snap the contact plate (A, Figure 26) into the false floor by firmly pressing down from the top side until it audibly engages.
8. Route the contact plate leads through the cable manager (B, Figure 26) on the false floor underside.
9. Feed the male FAKRA and power supply connectors of the contact plate through the hole (C, Figure 26) inside the upper compartment, to the housing for the female FAKRA and power supply connectors at the outside bottom of the upper compartment.

**Note:** The wiring harness for the Tele Aid/Roadside Assistance button assembly runs through the hole in the upper compartment.

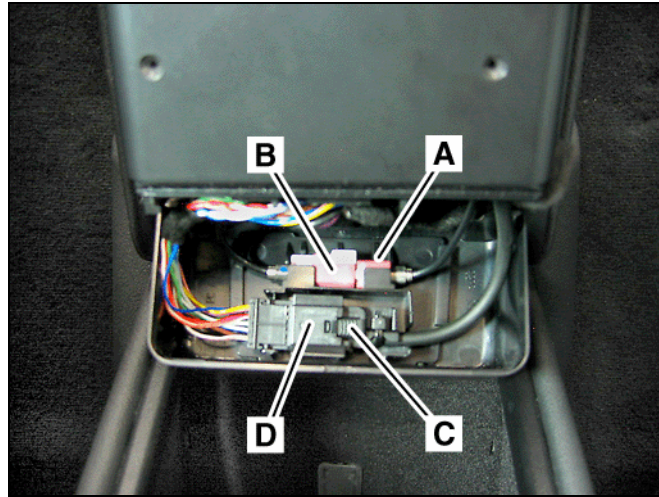


**Figure 26**

P82.70-5686-71



10. Remove the female FAKRA and power supply connectors from the clips in the compartment at the bottom of the upper compartment of the center console.
11. Connect the male FAKRA connector (A, Figure 27) of the contact plate to the female FAKRA connector (B, Figure 27).
12. Connect the male power supply connector (C, Figure 27) from the contact plate to the female power supply connector (D, Figure 27).
13. Reinstall the coupled connectors into their respective clips in the compartment and close the compartment cover for the FAKRA and power supply connectors.
14. Reinstall the false floor with mounted contact plate (Figure 28) with the previously removed four T8 Torx screws.
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 it audibly engages.
16. Insert the telephone into the cradle.



**Figure 27**

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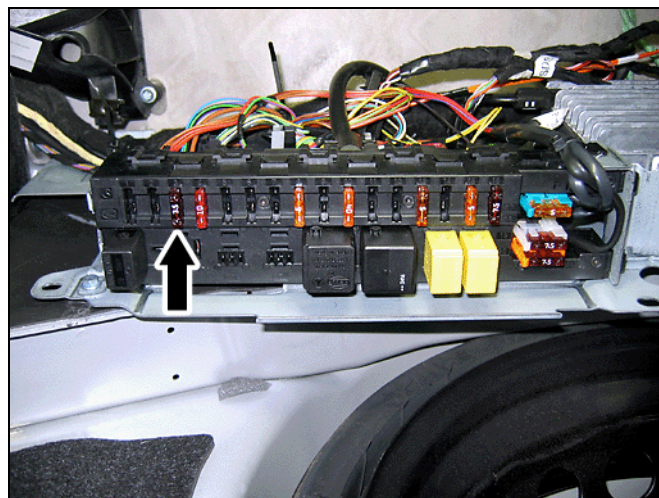


**Figure 28**

P82.70-5688-71

#### **I. Installing the fuse at the rear SAM control unit with fuse and relay module**

1. On the left side of the equipment carrier, find the rear SAM control unit with fuse and relay module and insert the 7.5 amp fuse in slot #3 (Figure 29).



**Figure 29**

P82.70-5689-71

## **J. Installing the microphone array**

1. Install the microphone array.
  - Refer to WIS document AR82.70-P-8969V, "Remove/install hands-free system microphone"

## **K. Version coding**

1. Connect Star Diagnosis to the vehicle.
2. Set the MOST ring configuration to match Figure 30 via path:  
**Control units > Information and communication > Audio, video, navigation and telematics > AGW – Audio Gateway > Retrofitting of MOST components or iPod > Retrofitting of MOST components > F2: Restart of optical ring > F2: Actual configuration > Verify that the configuration of the MOST components matches Figure 30 > 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 30 is an example of a configuration including all 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!**

**Match the MOST ring configuration to Figure 30.**

**Failure to match the MOST ring configuration to Figure 30 will result in erroneous system operation and/or intermittent malfunctioning of some or all components.**

**DO NOT alter the configuration in Figure 30 to match the vehicle configuration.**

3. Set the Tele Aid control module to recognize presence of the telephone via path:  
**Control units > Information and communication > Audio, video, navigation and telematics > TELE-AID > Control unit adaptations > Model series, telephone adapter for portable CTCL (UHI) > Set "Model series" to R171, Set "Telephone adapter" to FITTED, press F5 > F3: Yes/Coding > F2 to confirm the coding was carried out**
4. Set the instrument cluster in accordance with *STAR Bulletin* P-B-54.30/141, "Instrument Cluster SCN Coding for Component Replacement or Dealer Installed Accessories" to recognize presence of the cellular telephone control module.
5. Check the DTC memory of all installed components and the head unit. Investigate and identify any present DTCs. Once identified, correct the source of the DTCs 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 the DTC return after clearing, a configuration error is present. Locate and correct the error.

6. Confirm no new DTCs are present in the MOST system group.

## L. MOST ring configuration

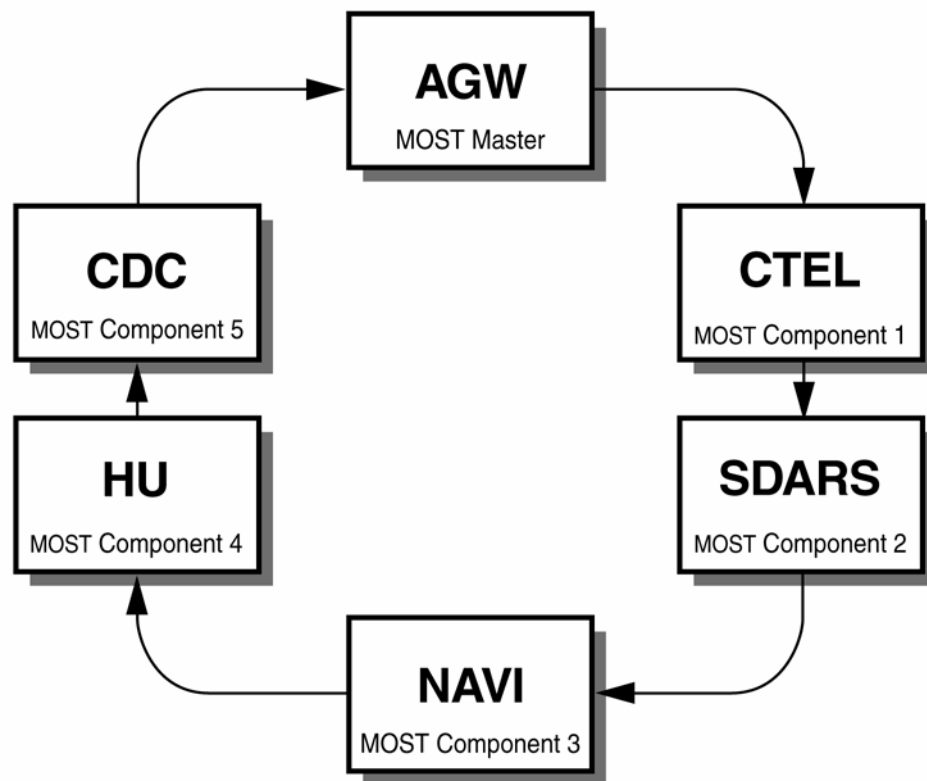


Figure 30

P82.70-5690-11

## M. Final assembly and function test

1. Verify proper telephone operation per the following checklist:
  - ✓ Handset dialing is functioning correctly—Use an active telephone to dial a valid telephone number. Listen for a dial tone and ring.
  - ✓ Head unit dialing is functioning correctly—Use an active telephone to dial a valid telephone number. Listen for a dial tone and ring over the vehicle audio system and then end the call via the steering wheel controls.
  - ✓ Handset incoming/outgoing call audio is clear—Use an active telephone to dial a telephone number, connect and either speak to a live person or leave a voicemail message.
  - ✓ Hands-free incoming/outgoing audio is clear—Use an active telephone to dial a telephone number, connect and either speak to a live person or leave a voicemail message.
  - ✓ Automatic memory download is functioning—Connect the telephone to the vehicle and wait 3 minutes for the download to complete. After 3 minutes, check several random phonebook locations and match the received and dialed call list to the telephone's list. (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.)
  - ✓ Signal strength—Note the telephone signal strength before and after connected to the vehicle. The signal strength should stay constant or increase when the telephone is connected to the vehicle. If the signal strength decreases, a problem exists.
2. Reinstall the bottom, center trunk paneling.
  - Refer to WIS document AR68.30-P-4810V, "Remove/install center trunk paneling"



**N. Parts Information**

Qty.	Part Name	Part Number/Exchange
<b>Vehicle core installation kit</b>		<b>BQ 682 0955</b>
1	Kit, hardware	BQ 682 0462
1	Linear compensator, dual band	BQ 682 0829
1	Control module, MHI	BQ 682 0956
<b>SLK-Class vehicle completer kit</b>		<b>BQ 682 0915</b>
1	Bracket, linear compensator	A 171 545 02 40
1	Bracket, MHI control module/antenna switch	A 171 545 26 40*
1	Antenna switch with FAKRA connections	A 220 827 18 42*
1	Contact plate	A 230 820 05 11
1	Cable, MOST adapter	304 345 8X 02*
<b>Cradle kits</b>		
1	Cradle, Motorola V600	BQ 682 0919
<u>or</u>		
1	Cradle, Motorola V710	BQ 682 0920
<u>or</u>		
1	Cradle, Motorola V60s	BQ 682 0925
<u>or</u>		
1	Cradle, Motorola V60i/x	BQ 682 0988
<b>Additional part</b>		
1	Microphone array	BQ 482 0122

\*Not available as a spare part number; shown for reference only

**Note:** This installation, and any subsequent related installation and/or workmanship issues, cannot be claimed under warranty.