Mercedes-Benz

star bulletin

Installation Instructions

Date: August 2005

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

Supersedes:

Group: 82

SUBJECT: MODEL 171.454/456/473

MODEL YEAR 2006

SATELLITE RADIO INSTALLATION

WARNING

Do not disconnect the negative battery cable. Extensive reprogramming requirements are otherwise necessary. Wiring harnesses are therefore 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.

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

A. Preparation for the installation

1. Read these installation instructions in their entirety before proceeding.
2. Unpack and compare the installation kit contents against the Parts Information list—Section K.
3. Place the operating guides and customer accessories in the glove box or appropriate storage compartment.
4. Remove the trunk lid paneling.
   - Refer to *WIS document*: AR68.30-P-8150 V, “Remove/install trunk lid paneling”
5. Remove the center trunk paneling.
   - Refer to WIS *document*: AR68.30-P-4810V, “Remove/install center trunk paneling”
6. Cover the trunk floor to catch metal chips from drilling

B. Drilling the hole for the *2nd generation* SDARS antenna (Single connector)

1. Mask the outside of the trunk lid with masking tape (approx 8” x 8” area) in the area where the hole will be drilled. (Figure 1).
2. Open trunk lid.

Figure 1 P82.60-xxxx-71

3. Mark the center of the hole (B) in the trunk lid panel.

   Note: The hole (B) must be marked 5mm under the existing hole in the reinforcement panel of the trunk lid (A) – See Figure 2. The centerline of the hole (A) is the same as the centerline of the new hole (B).

4. Drill a 3 mm diameter pilot hole at the mark indicated in step 3 (B, Figure 2).

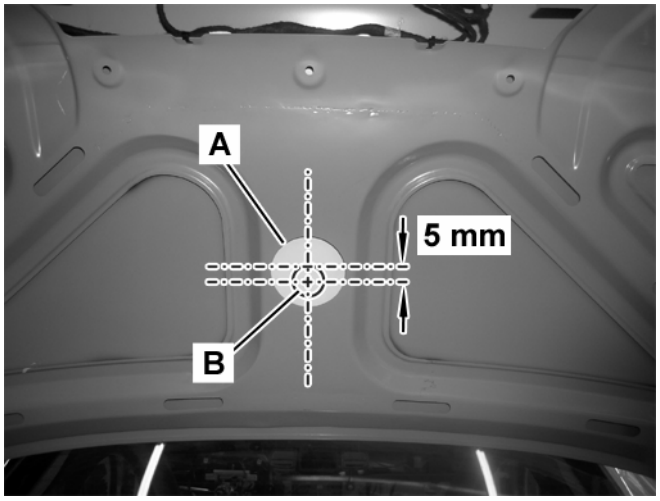

Figure 2 P82.60-xxxx-71

CAUTION

Drilling metal can cause airborne metal chips.

Airborne metal chips can cause serious injury to the eyes.

Use protective eyewear.

NOTICE!
Using a hole saw will damage the trunk lid.
Do not use a hole saw.

5. Drill the 3 mm pilot hole to an enlarged 6 mm diameter pilot hole.
6. Drill the 6 mm pilot hole to an enlarged **14 mm diameter** hole using a UniBit®
7. Remove the burrs around the hole edge and carefully clean away the metal chips from the trunk lid with a vacuum cleaner or compressed air.
8. Remove the masking tape from the trunk lid and remove the cover with metal chips from the trunk floor.
9. Thoroughly coat the 14 mm hole edge with primer and follow the approved manufacturer's recommended drying time.

C. Installing the *2nd generation* SDARS antenna (Single connector)

➢ **If upgrading the *1st generation* SDARS antenna to the *2nd generation* SDARS antenna, start with step 1. Otherwise, skip to step 3.**

NOTICE!
Upgrading a *1st generation* antenna to a *2nd generation* antenna involves using the kit-included "copper" washer for grounding.
The 2nd generation antenna will not perform optimally using the plastic washer.

1. Remove the paper backing from the self-adhesive side of the "thicker" "copper" washer.
2. Affix the adhesive side of the washer (A, Figure 5) around the 20 mm hole of the trunk lid underside.
3. Loosen the T25 Torx screw (A, Figure 3) in the antenna sleeve.
4. Feed the antenna lead (B, Figure 3), from the topside of the trunk lid, through the 14 mm hole.
5. Carefully insert the SDARS antenna sleeve into the hole, or washer if upgrading, until it audibly engages.

NOTICE!
Applying force to body panels can result in damage.
Excessive force will dent the trunk lid.
Do not use excessive force when inserting antenna sleeve into the washer.

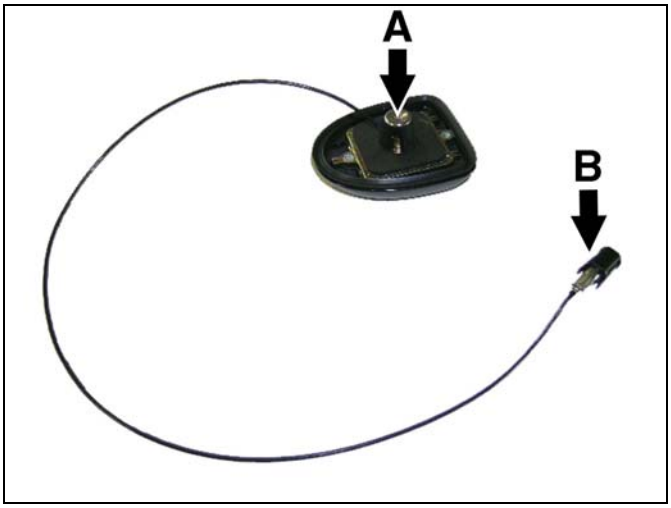

Figure 3 P82.60-xxxx-71

6. Align the SDARS antenna straight with the vertical end (A, Figure 4) facing the vehicle front and the beveled end (B, Figure 4) facing the vehicle rear.
7. Apply light downward pressure to the SDARS antenna so to the gasket fully seats flush against the trunk lid.

NOTICE!
Applying force to body panels can result in damage.
Excessive force will dent the trunk lid.
Do not use excessive force when seating the gasket to the trunk lid.

8. Tighten, but do not over tighten, the T25 Torx screw (A, Figure 3) in the SDARS antenna sleeve while holding the antenna from above to prevent it from turning.

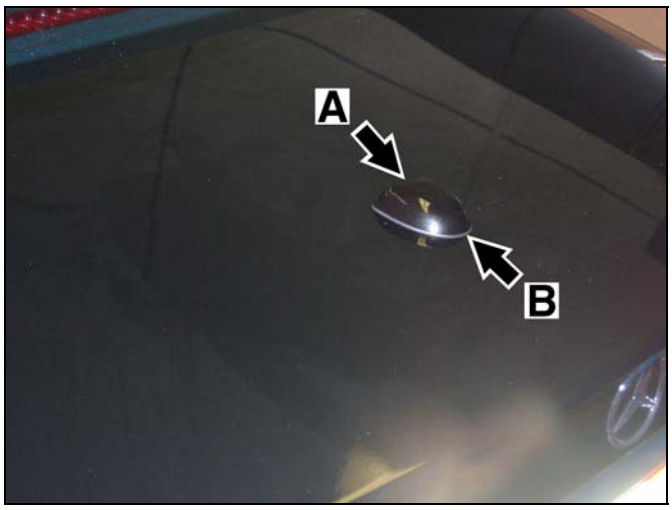

Figure 4 P82.60-xxxx-71

9. Find the preinstalled, foam-covered antenna leads at the trunk-panel collar (A, Figure 5).
10. Route the SDARS antenna cables through the tunnel at the trunk lid underside.
11. Connect the SDARS antenna lead to the preinstalled antenna lead.

Note: Make sure the connector lock into the plastic retainer clip. There is no use for the male preinstalled antenna lead with the *2nd generation* antenna.

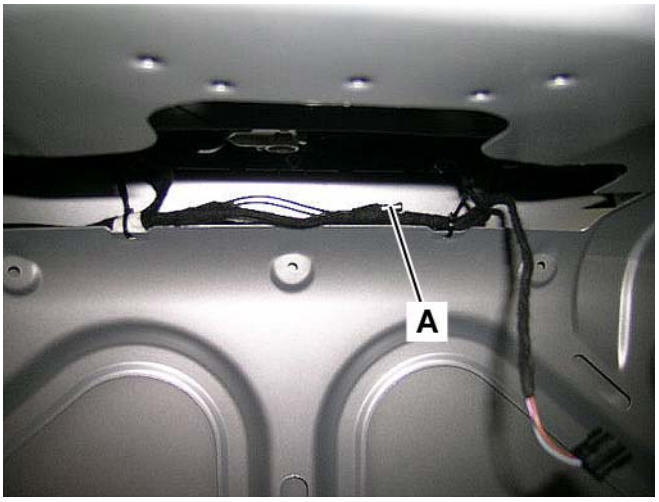

Figure 5 P82.60-xxxx-71

12. Secure the coupled connectors to the preinstalled harness along the panel collar of the trunk lid with three wire ties (Figure 6).

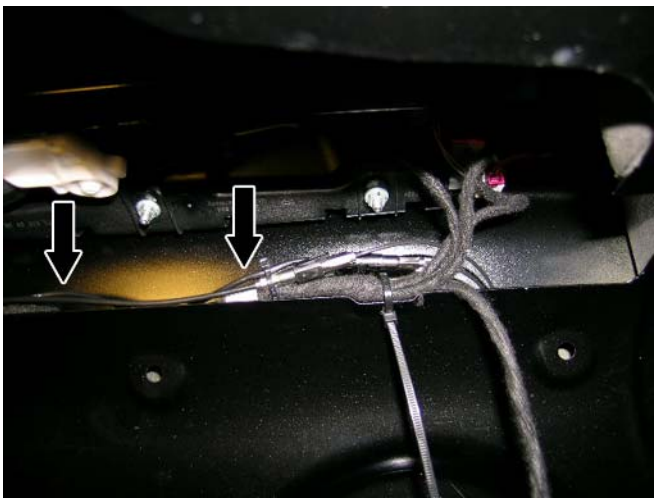

Figure 6 P82.60-xxxx-71

D. Installing the SDARS control module (part 1)

1. Remove the plastic cover in the left paneling of the trunk (A, Figure 7).

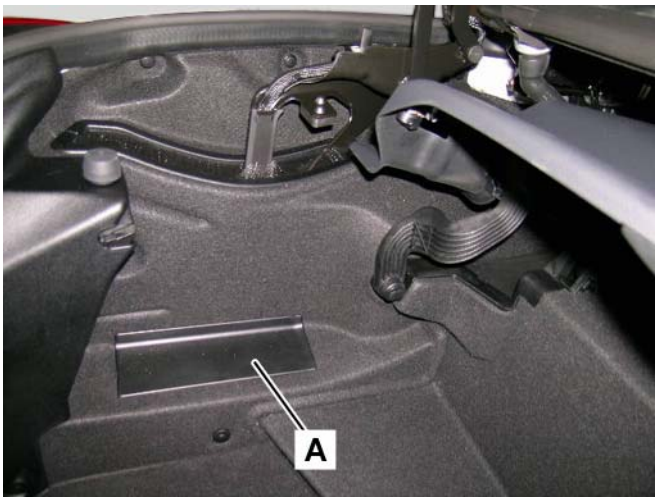

Figure 7 P82.60-xxxx-71

2. In the left side of the load compartment, find and identify:
    - Power supply (A, Figure 8)
    - SDARS MOST connector (B, Figure 8)
    - Antenna connectors (C, Figure 8)
3. Carefully cut the wire tie securing the preinstalled harness (D, Figure 8) and remove the wire tie anchor from the hole (D, Figure 8).

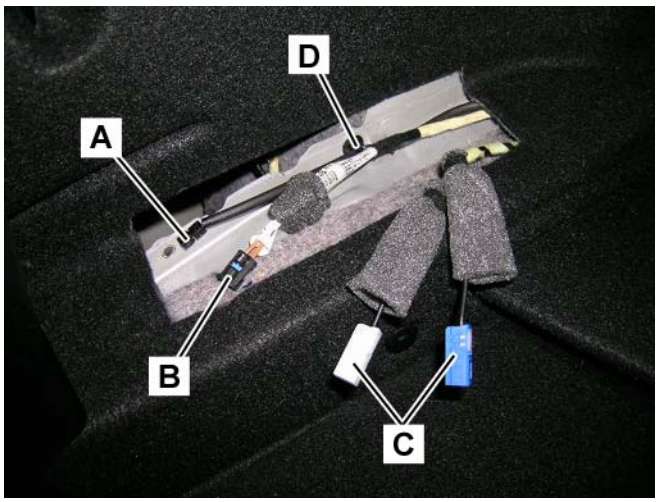

Figure 8 P82.60-xxxx-71

4. The SDARS bracket assembly consists of two parts (A and B, Figure 9).

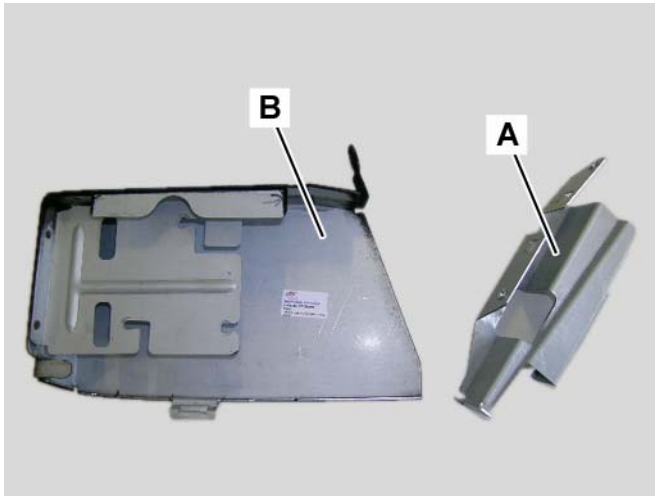

Figure 9 P82.60-xxxx-71

5. Mount the part A of the SDARS bracket (A, Figure 9 and A, Figure 10) over the body paneling with the two provided screws M5 (B, Figure 10).
Hint: The bracket must be behind the body paneling.

    Note: Be careful not to pinch any wires between the bracket and floor when installing the bracket assembly.

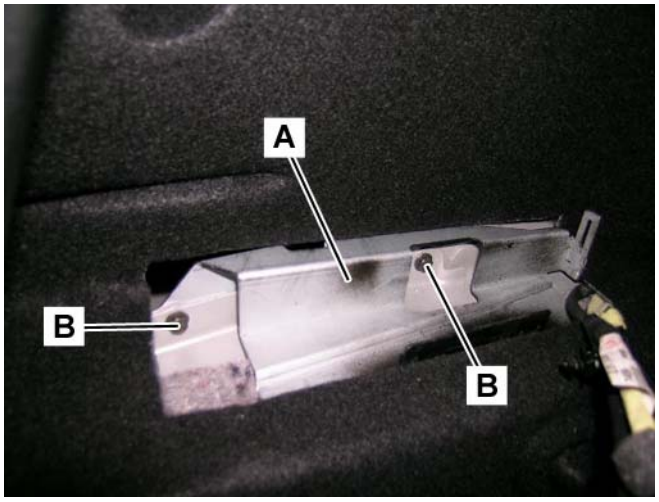

Figure 10 P82.60-xxxx-71

6. Push back the insulating material in front of the SDARS bracket (A, Figure 11) as shown in Figure 11.

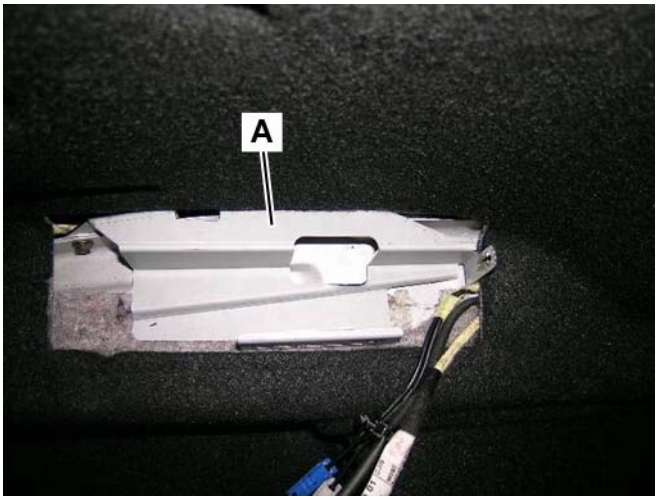

Figure 11 P82.60-xxxx-71

7. Affix two felt pieces (35x25 mm) on the bracket over the sharp edges as shown (Arrows, Figure 12)

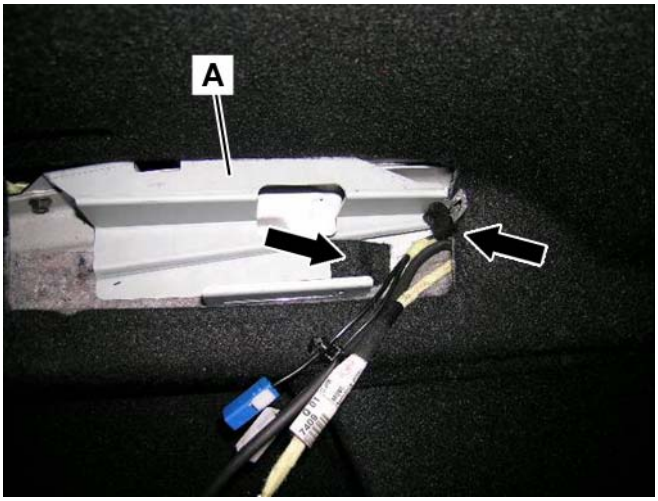

Figure 12 P82.60-xxxx-71

8. Fasten the MOST harness and the power supply cable (B, Figure 13) by the Omega tie-clip (Arrow, Figure 13) to the hole in the bracket (A, Figure 13).

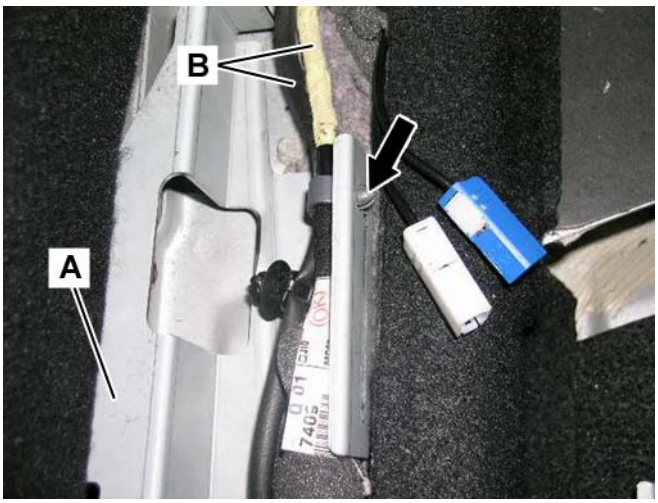

Figure 13 P82.60-xxxx-71

9. Affix felt (150x70 mm) (Arrow, Figure 14) on part B of the SDAR bracket (B, Figure 14) as shown in Figure 14.

Figure 14 P82.60-xxxx-71

10. Mount the SDARS control module (A, Figure 15) to part B of the bracket (B, Figure 15) with three M5 hex nuts (Arrows, Figure 15).

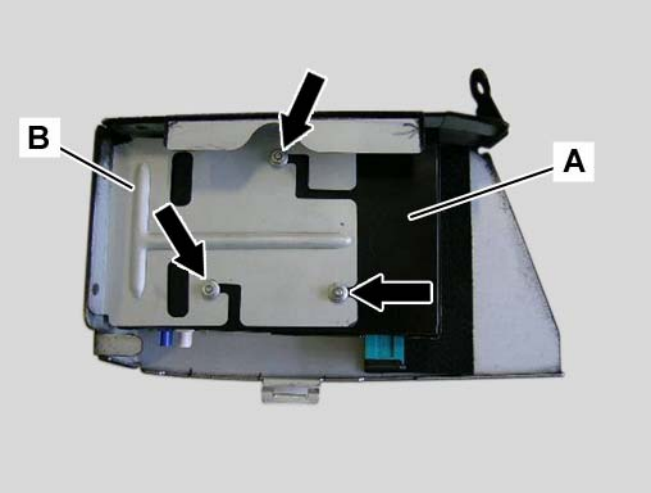

Figure 15 P82.60-xxxx-71

E. Connecting the *1st generation* SDARS control module with the *2nd generation* SDARS antenna

Note: Before attaching the SDARS splitter, clean up the bracket surface.

1. Peel off the protective backing from the adhesive side of the SDARS splitter (A, Figure 16).
2. Affix the SDARS splitter (A, Figure 16) to the face of the bracket (B, Figure 16) at the position as seen in (A, Figure 16).
3. Connect the white and blue connectors of the SDARS splitter (A, Figure 16) to the like-color connectors of the SDARS control module (C, Figure 16).
4. Secure the cables of the SDARS splitter (A, Figure 16) with felt tape (Arrow, Figure 16) on the bracket (B, Figure 16)
5. Connect the 90° angled connector of the adapter cable included in the kit to the SDARS splitter (A, Figure 17).

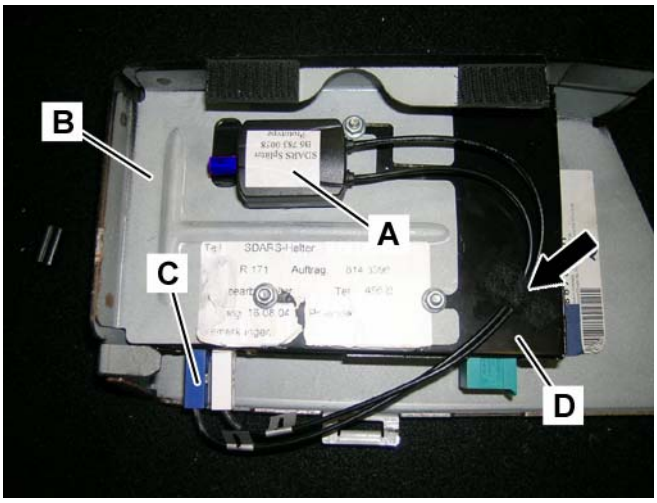

Figure 16 P82.60-xxxx-71

Figure 17 P82.60-xxxx-71

6. Fold back the foam sleeve to expose the blue antenna lead connector.
7. Connect the preinstalled blue antenna lead connector to the adapter cable (B, Figure 18) of the SDARS splitter (A, Figure 18).

NOTE!
There is no use for the white antenna connector from the preinstalled antenna leads with the *2nd generation* antenna.

8. Pull over the foam sleeves to the connectors for protection.

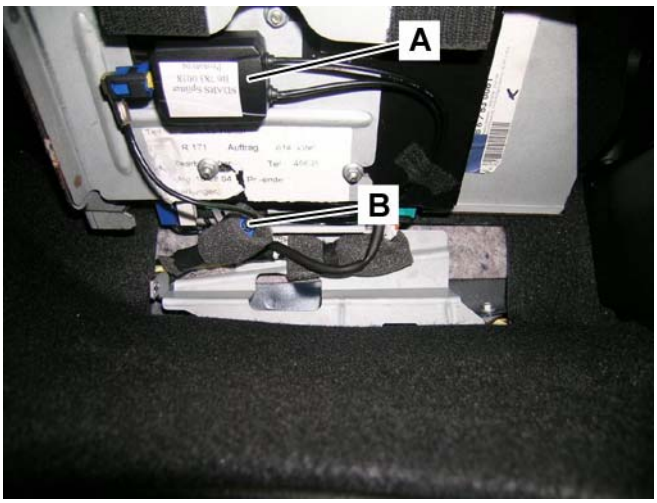

Figure 18 P82.60-xxxx-71

F. Installing SDARS control module (part 2)

1. Remove the expanding rivet from the back side of the left trunk area (A, Figure 19).

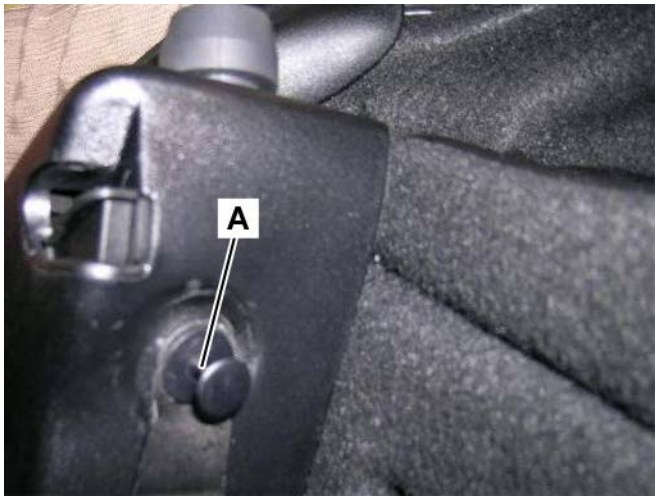

Figure 19 P82.60-xxxx-71

2. Bring the latch of part B of the SDARS bracket (B, Figure 20) into the correct position, in order to insert into the slot of part A of the mounted bracket (A, Figure 20).
3. Route the SDARS antenna cable under the trunk cover (Arrow, Figure 20).

   Note: Be careful not to pinch any wires when installing the bracket assembly.

4. Turn up part B of the SDARS bracket (C, Figure 20) and join the latch into the slot of part A of the mounted SDARS bracket (A, Figure 20).

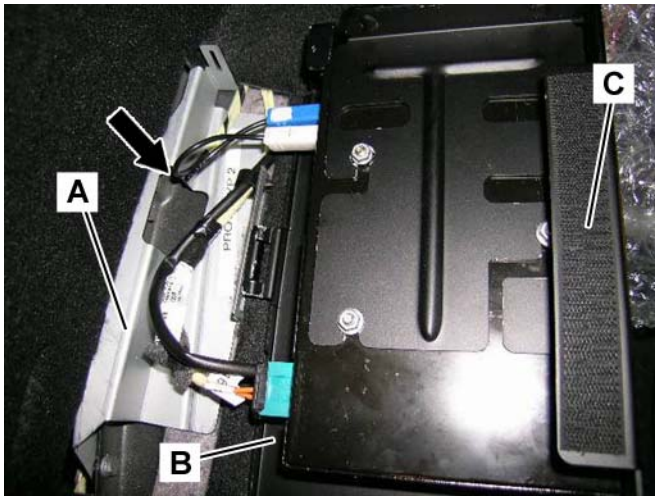

Figure 20 P82.60-xxxx-71

5. Push the SDARS bracket carefully to the rear position and thread them into the latch (arrow, Figure 21), so the cables are not damaged.

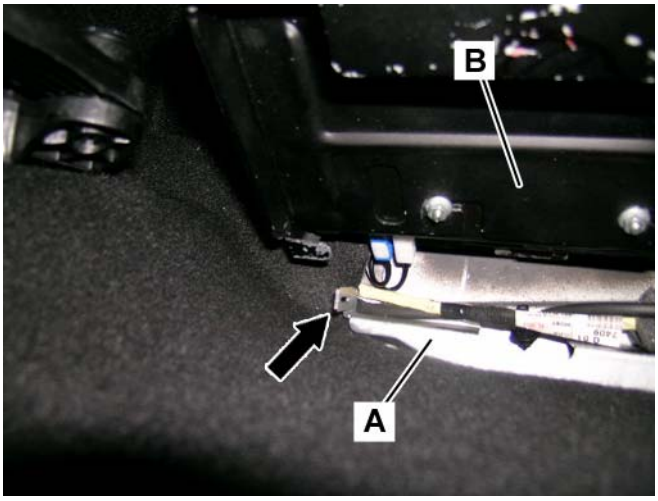

Figure 21 P82.60-xxxx-71

6. Pull back on the SDARS bracket part B until it touches the paneling. (Figure 22)
   Hint:
   To prevent bonding, hold the paper between the Velcro on the SDARS bracket (B, Figure 22) and the trunk paneling while pulling back.
   Push down the bracket assembly during the mounting.

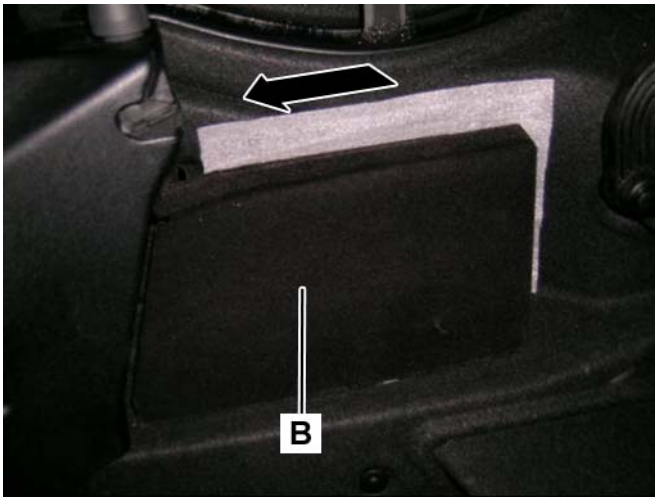

Figure 22 P82.60-xxxx-71

7. Fasten the SDARS bracket (B, Figure 23) with the removed expanding rivet (A, Figure 23).

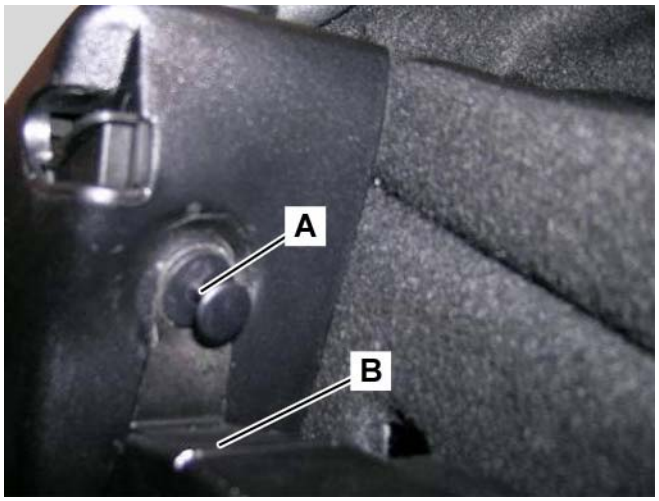

Figure 23 P82.60-xxxx-71

8. Remove the paper and press the trunk paneling from behind on the SDARS bracket assembly (B, Figure 24)

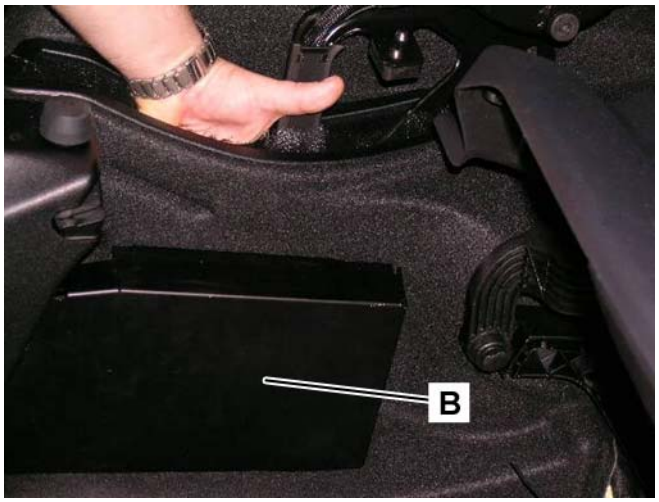

Figure 24 P82.60-xxxx-71

G. Installing the MOST optical fiber adapter and configuring the MOST optical fiber ring

1. Remove the 13 M6 Torx bolts securing the equipment carrier (A, Figure 25).
2. Move equipment carrier (A, Figure 25) toward rear.

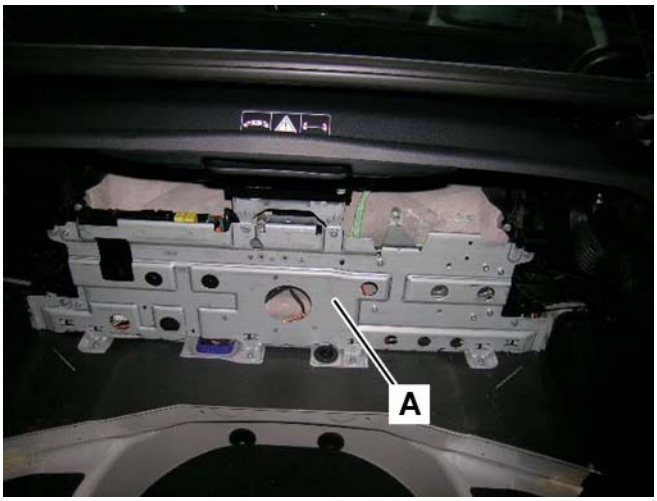

Figure 25 P82.60-xxxx-71

3. Find and disassemble the SDARS optical fiber couplings (A and B, Figure 26) and configure the MOST ring according to Figure 28.

Note:
SDARS out: Connector "B" to NAVI or HU
SDARS in: From connector "A" or from MHI/VCS

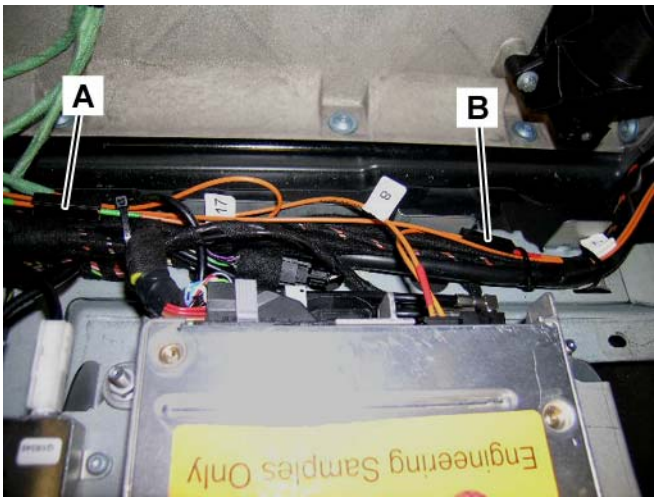

Figure 26 P82.60-xxxx-71

4. Check the fuse at slot 17 (Arrow, Figure 27) on rear SAM control unit with fuse and relay module (N10/2, Figure 27).

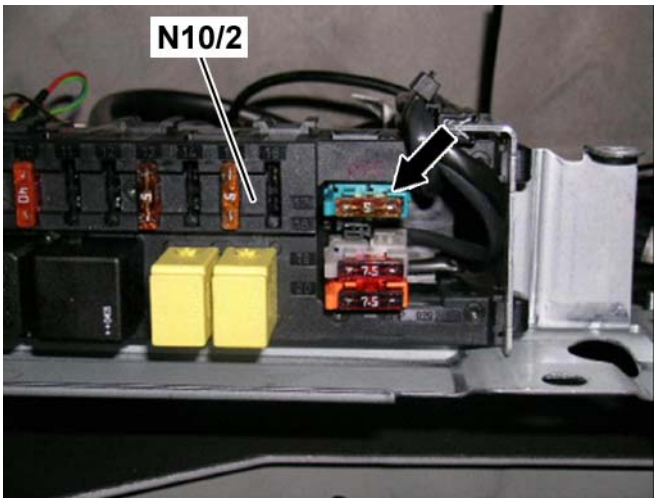

Figure 27 P82.60-xxxx-71

H. MOST ring configuration

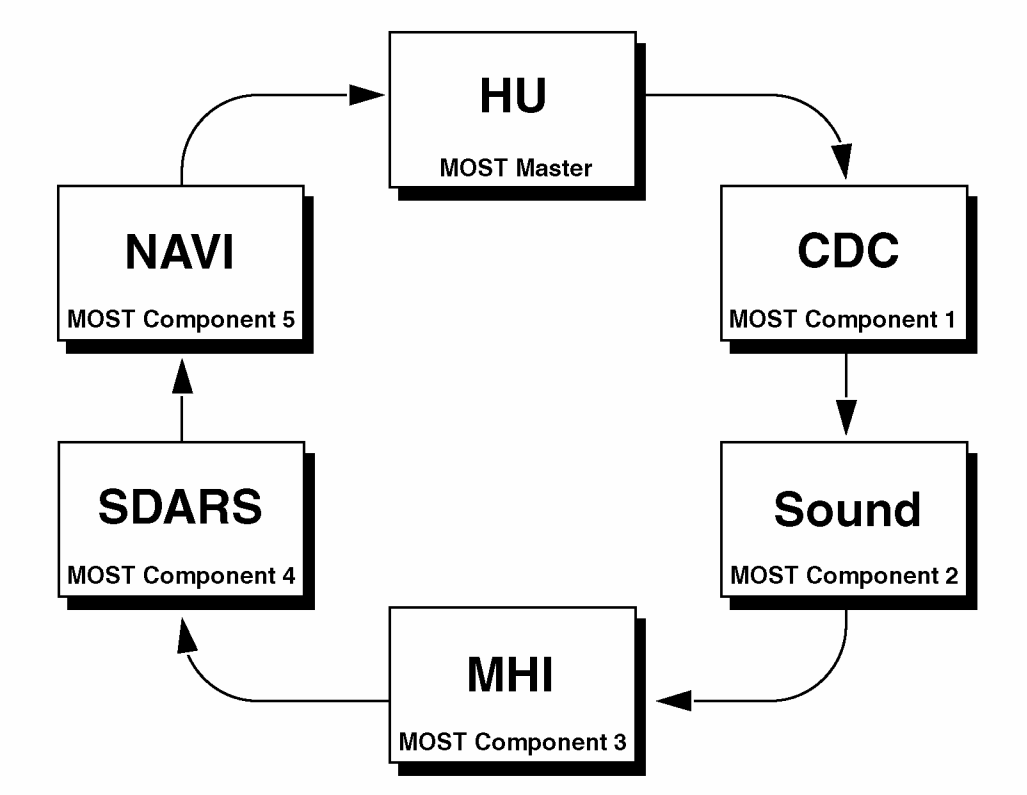

Figure 28 P82.60-xxxx-11

I. Version coding

1. Connect the Star Diagnosis to the vehicle and perform the version coding below.
2. Set the MOST ring configuration to match that of Figure 28 via path:

   Control units > Information and communication > Audio, video, navigation and telematics > AGW - Audio Gateway > Retrofitting of MOST components > F2: Restart of optical ring > Verify configuration of the MOST components, then press F2: Actual configuration of MOST components > F2: Continue > F3: Yes (To write the current actual configuration of the MOST components into the MOST master as the future specified configuration) > F2: Erase fault memory

   Note: The MOST ring configuration in Figure 28 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!
   Match the MOST ring configuration to Figure 28.
   Failure to have the configuration match Figure 28 will result in erroneous system operation and/or intermittent malfunctioning of some or all components in the ring.
   DO NOT alter the configuration in Figure 28 to match the vehicle configuration.

3. 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 DTCs return after clearing, a configuration error exists. Locate and correct the error.

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

J. Final assembly and function testing

1. Verify proper Satellite Radio operation:
   - ✓ Audio is functional (radio and CD changer)
   - ✓ Satellite Radio display is present on the head unit
   - ✓ Sirius preview message is heard when Satellite Function is selected on the head unit[1]

   [1] The vehicle must be in a geographic area that allows reception.

2. Reinstall the trunk lid paneling.
   - Refer to *WIS document*: AR68.30-P-8150 V, “Remove/install trunk lid paneling”

3. Reinstall the center trunk paneling.
   - Refer to WIS *document*: AR68.30-P-4810V, “Remove/install center trunk paneling”

K. Parts information

Qty.	Part Name	Part Number/Exchange
1	**Kit, satellite radio, (R171)**	**B6 783 00 78**
	Kit contents:	
1	Bracket receiver (Parts A and B)	B6 783 0061
3	Nut, M5X8	N910 112 005 000
2	Screw, M5	A203 990 0036
1	Female MOST Adapter, black	A 000 545 84 30
1	Omega-clip	A 000 995 54 44
1	Felt 150 x 70 mm	A 000 983 89 10
1	Felt 25 x 70 mm (to be devided in 2 peaces 25x35 mm)	A 000 983 89 10
1	Drill Template	B6 783 0059
	Parts not included in the kit:	
	Primer	A000 986 06 50
	Felt, 70 mm x 100 mm	A000 983 89 10

Additional Parts, additional order **Version 2**

Qty.	Part Name	Part Number/Exchange
1	Receiver (Dual connector)	B6 783 0085 (B6 783 0012)
1	Splitter	B6 783 0058
1	Antenna (Single connector) Black (040)	B6 783 0080 or
	Antenna (Single connector) Pewter (723)	B6 783 0081
	Antenna (Single connector) Iridium Silver (775)	B6 783 0082
	Antenna (Single connector) Alabaster White (960)	B6 783 0083
	Antenna (Single connector) primer-colored antenna	B6 783 0084
1	Adapter cable for Single connector antenna	B6 783 0079

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