



Installation Instructions

Date: November 2005

Order No.: **PRELIMINARY DRAFT**

Supersedes:

Group: 82

**SUBJECT: MODEL 171.456/473
MODEL YEAR 2005
SATELLITE RADIO INSTALLATION**

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

⚠ 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.

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. Preparation for the installation

1. Read this installation instruction in its entirety before proceeding.
2. Unpack and compare the installation kit contents against the Parts Information list—Section M, pages 17 and 18.
3. Remove the trunk lid paneling.
 - Refer to *W/S* document: AR68.30-P-1180T, "Remove/install trunk lid paneling"
4. Cover the trunk floor to catch debris resulting from drilling.

B. Drilling the hole for the 1st generation SDARS antenna (Dual lead) and the 2nd generation SDARS antenna (Single lead)

1. Tape off with masking tape (Figure 1) the area—approximately 8" x 8"—on the trunk lid exterior surface where the SDARS antenna will mount.

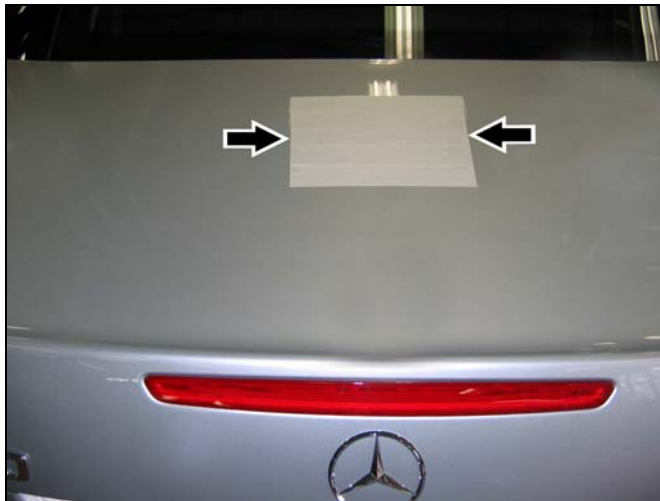


Figure 1

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2. Open the trunk and insert the plastic "drilling template" (Figure 2) into the hole in the center of the raised reinforcement panel on the trunk lid underside.
3. Drill a 3 mm diameter pilot hole in the trunk lid using the hole in the center of the drilling template as a guide.

⚠ CAUTION
Drilling metal can cause airborne metal chips.
Airborne metal chips can cause serious injury to the eyes.
Wear protective eyewear.



Figure 2

P82.60-xxxx-71

NOTICE!

Improper or careless drilling can damage metal surfaces.

Paint or body damage to the trunk lid can result.

Exercise care and accuracy when drilling.

4. Remove the plastic drilling template from the trunk lid.
5. Drill the 3 mm pilot hole to an enlarged 6 mm diameter pilot hole.

6. Drill the 6 mm diameter pilot hole to a:
 - **20 mm** diameter hole using a UniBit® (for the 1st Generation antenna)
 - **14 mm** diameter hole using a UniBit® (for the 2nd Generation antenna)

NOTICE!

Using a hole saw is not suitable for drilling the hole in the trunk lid.

Using a hole saw will damage the trunk lid.

Do not use a hole saw to drill the trunk lid.

7. Remove the burs around the hole edge and carefully clean the debris left on the trunk lid from drilling.
8. Remove the masking tape from the trunk lid and remove the cover with debris from the trunk floor.
9. Thoroughly coat the 20 mm hole edge with primer and follow the approved manufacturer's recommended drying time.

C. Installing the 1st generation SDARS antenna (Dual lead)

1. Find the preinstalled, foam-covered antenna leads (A, Figure 3) at the top of the trunk lid underside.
2. Free up the preinstalled antenna connectors from the harness.

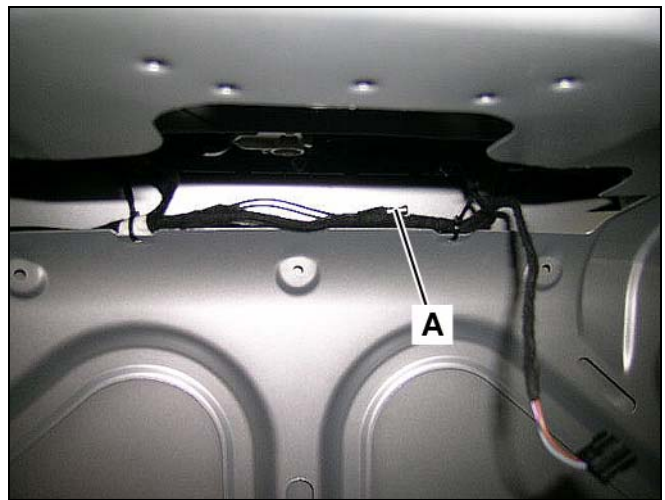


Figure 3

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3. Peel off the protective backing from the adhesive side of the “thicker” plastic washer (Inset, Figure 4).
4. From the trunk lid interior surface, affix the adhesive side of the washer around the 20 mm hole (A, Figure 4).

Note: Seat the washer so the top of the inside lip is flush or protruding, never recessed, from the exterior surface of the trunk lid.

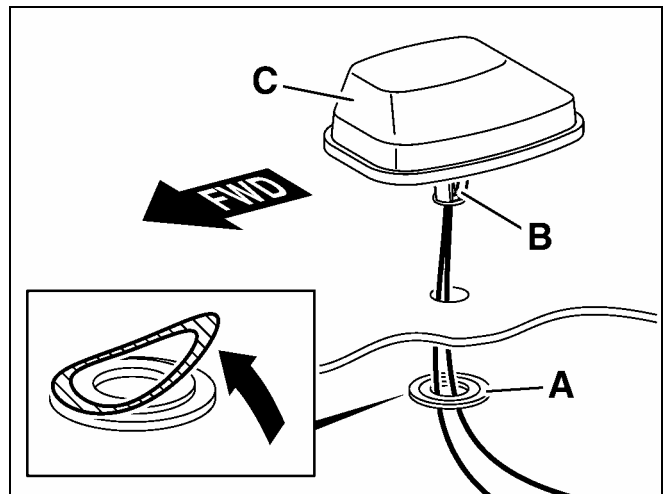


Figure 4

P82.60-4510-01

5. Loosen the T25 Torx screw in the SDARS antenna sleeve (Figure 5).
6. Feed the SDARS antenna leads, from the trunk lid exterior, through the 20 mm hole with affixed washer (A, Figure 4).
7. Carefully insert the SDARS antenna sleeve (B, Figure 4) into the washer (A, Figure 4) until it audibly engages.

Note: Hold the washer from beneath while inserting the SDARS antenna sleeve to prevent it from pushing out of the trunk lid. (Hint: Use a 22 mm deep socket to hold the washer in place.)

NOTICE!

Applying force to body panels can result in damage.

Excessive force will dent the trunk lid.

Do not use excessive force when inserting the antenna sleeve into the washer.

8. Align the SDARS antenna straight with the vertical end facing the vehicle front (A, Figure 6) and the beveled end facing the vehicle rear (B, Figure 6).
9. Apply light downward pressure to the SDARS antenna so 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.

10. Tighten, but do not over tighten, the T25 Torx screw in the SDARS antenna sleeve (Arrow, Figure 5) while holding the antenna from above to keep it from turning.



Figure 5

P82.60-4511-71



Figure 6

P82.60-xxxx-71

11. Route the SDARS antenna leads (A and B, Figure 7) up through the hollow support beam running along the center of the trunk lid underside so the connectors come out the opening up top.

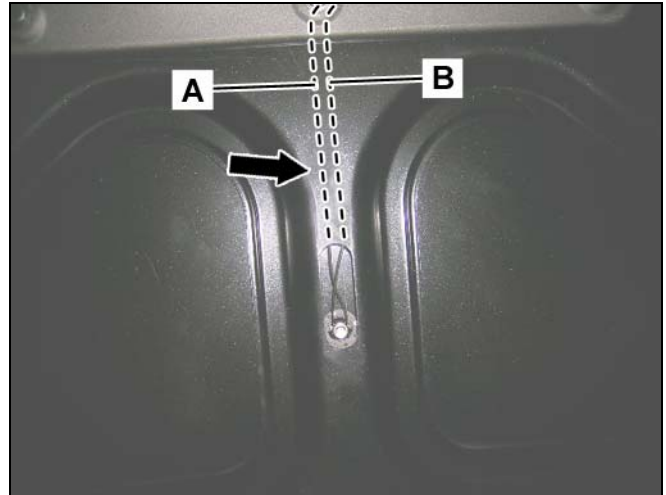


Figure 7

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12. Connect the SDARS antenna leads to the preinstalled antenna leads (Figure 8).

Note: Make sure the connectors lock into the plastic connector locks.

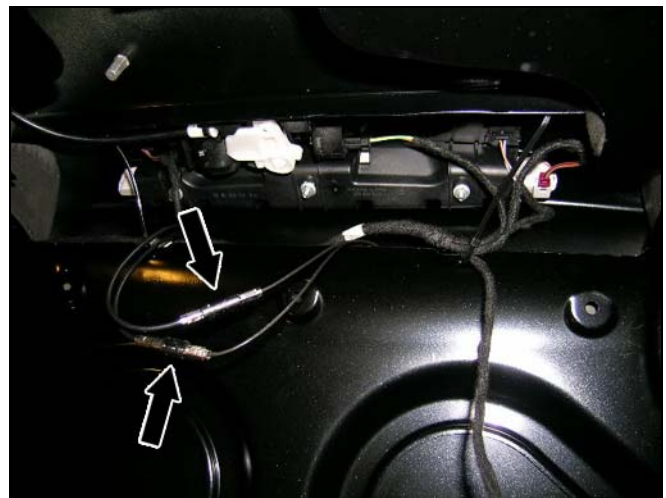


Figure 8

P82.60-xxxx-71

13. Use wire ties to secure the coupled antenna connectors to the preinstalled wiring harness running along the top of the trunk lid underside (Figure 9).



Figure 9

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D. Installing the 2nd generation SDARS antenna (Single lead)

- If upgrading from the 1st generation SDARS antenna to the 2nd generation SDARS antenna, start at step 1, otherwise skip to step 3.

Note: Upgrading the 1st generation SDARS antenna to the 2nd generation SDARS antenna involves using the kit-included metal (copper) washer for grounding.

NOTICE!

Insufficient grounding can result in poor antenna performance.

The 2nd generation antenna will not ground sufficiently using the plastic washer.

Use the metal (copper) washer when upgrading to the 2nd generation antenna.

1. Peel off the protective backing from the adhesive side of the “thicker” metal (copper) washer.
2. From the trunk lid interior surface, affix the adhesive side of the washer around the 20 mm hole.

Note: Seat the washer so the top of the inside lip is flush or protruding, never recessed, from the exterior surface of the trunk lid.

3. Loosen the T25 Torx screw in the SDARS antenna sleeve (Figure 10).
4. Feed the SDARS antenna lead (B, Figure 10), from the trunk lid exterior surface, through the 14 mm hole or, if applicable, the affixed metal washer.
5. Carefully insert the SDARS antenna sleeve (A, Figure 10) into the 14 mm hole, or washer if applicable, until it audibly engages.

Note: If upgrading antennas, hold the washer from beneath while inserting the SDARS antenna sleeve to prevent it from pushing out of the trunk lid. (Hint: Use a 22 mm deep socket to hold the washer in place.)

NOTICE!

Applying force to body panels can result in damage.

Excessive force will dent the trunk lid.

Do not use excessive force when inserting the antenna sleeve into the 14 mm hole, or washer if upgrading.

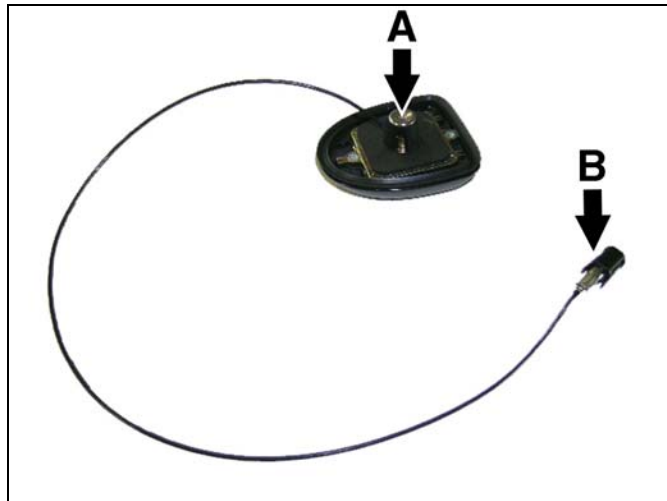


Figure 10

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6. Align the SDARS antenna straight with the vertical end facing the vehicle front (A, Figure 11) and the beveled end facing the vehicle rear (B, Figure 11).
7. Apply light downward pressure to the SDARS antenna so 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.

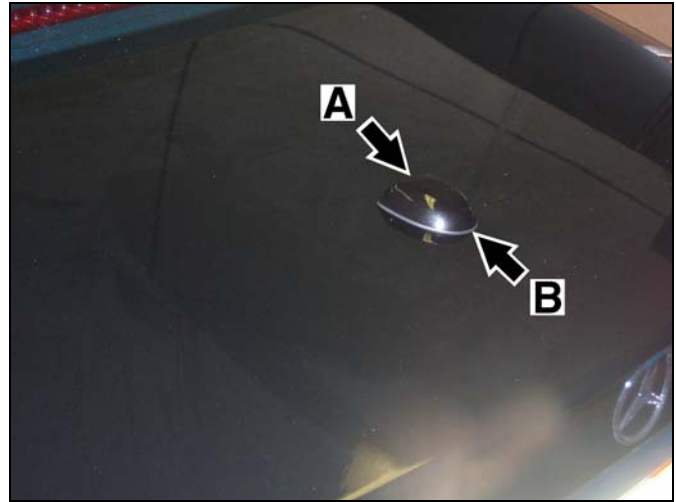


Figure 11

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8. Tighten, but do not over tighten, the T25 Torx screw in the SDARS antenna sleeve (A, Figure 10) while holding the antenna from above to keep it from turning.
7. Find the preinstalled, foam-covered antenna leads (A, Figure 3) at the top of the trunk lid underside.
8. Route the SDARS antenna lead (A, Figure 7) up through the hollow support beam running along the center of the trunk lid underside so the connector come out the opening up top.
9. Connect the SDARS antenna lead to the preinstalled antenna lead.

Note: Make sure the SDARS antenna connector locks into the plastic connector lock.

Note: There is no use for the preinstalled male antenna lead with the 2nd generation antenna.

10. Use wire ties to secure the coupled antenna connectors and unused preinstalled male antenna lead to the preinstalled wiring harness running along the top of the trunk lid underside (Figure 9).

E. Installing the SDARS control module (Part 1)

1. Remove the plastic cover (A, Figure 12) in the left side paneling in the trunk.

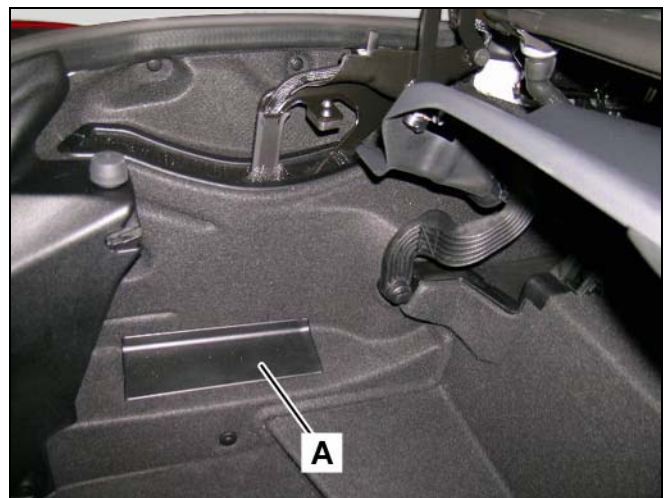


Figure 12

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2. In the cavity exposed by the removed plastic cover in the left side paneling in the trunk, find and identify the:
 - SDARS power supply connector (A, Figure 13)
 - SDARS MOST optical fiber connector (B, Figure 13)
 - SDARS antenna connectors (C, Figure 13)
 3. Carefully cut the wire tie anchoring the preinstalled wiring harness and remove the wire tie anchor (D, Figure 13).
 4. Pull back the foam sleeves to expose the connectors (A, B and C, Figure 13)
5. Find Part A of the SDARS bracket (A, Figure 14) and Part B of the SDARS bracket (B, Figure 14) in the kit.

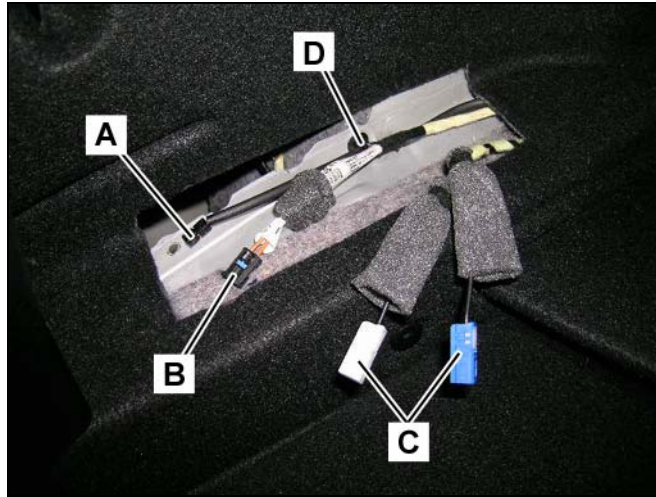


Figure 13

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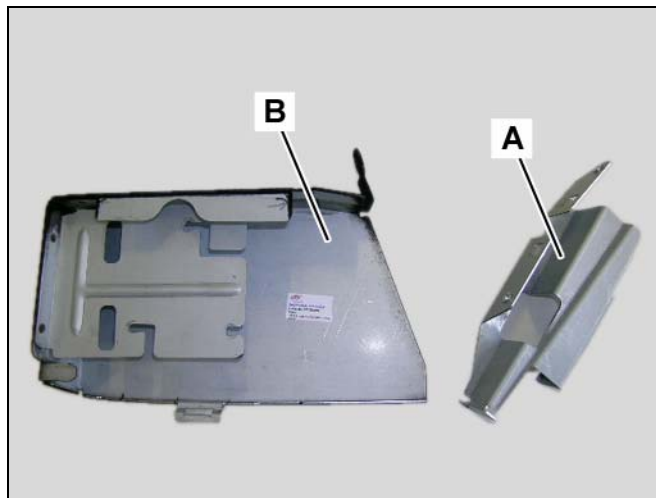


Figure 14

P82.60-xxxx-71

6. Mount Part A of the SDARS bracket (A, Figure 15) to the body paneling on the exposed left side in the trunk with the two kit-included M5 screws (B, Figure 15).

Note: Part A of the SDARS bracket must mount behind the body paneling.

NOTICE!

Routing wiring harnesses and cables over sharp edges, under components that cause crushing, or in a manner that causes stress or breakage, will result in damage.

Damaged wiring harnesses and cables can cause component malfunction or failure.

Route wiring harnesses and cables with care to prevent cuts, nicks, abrasions, and crushing.

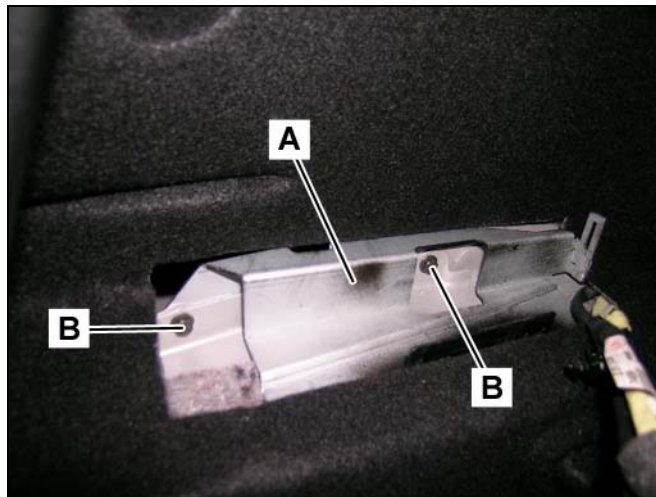


Figure 15

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7. Push back the insulation material (Figure 16) in front of Part A of the SDARS bracket (A, Figure 16).

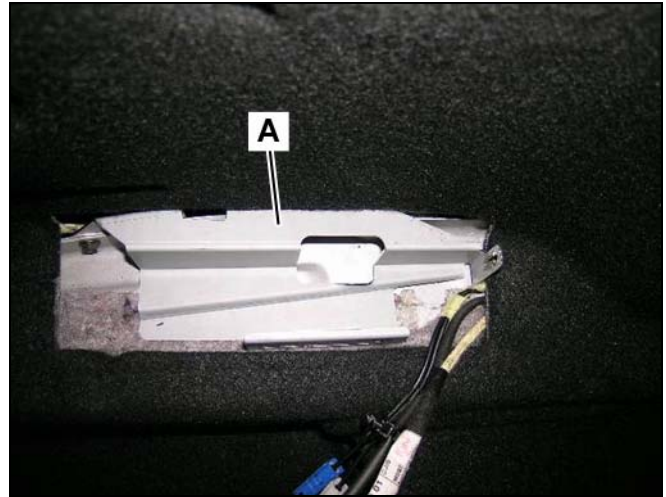


Figure 16

P82.60-xxxx-71

8. Cover the sharp edges on Part A of the SDARS bracket (A, Figure 17) with two pieces of 25 mm x 35 mm felt tape (Arrows, Figure 17).

Note: Cut the kit-included 25 mm x 70 mm felt into two 25 mm x 35 mm pieces.

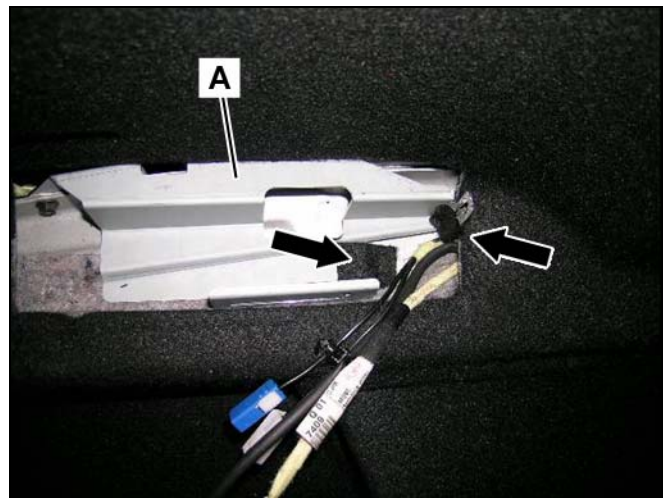


Figure 17

P82.60-xxxx-71

9. Fasten the MOST optical fiber harness and power supply cable (B, Figure 18) with a cable clip (Arrow, Figure 18) anchored in the hole in Part A of the SDARS bracket.

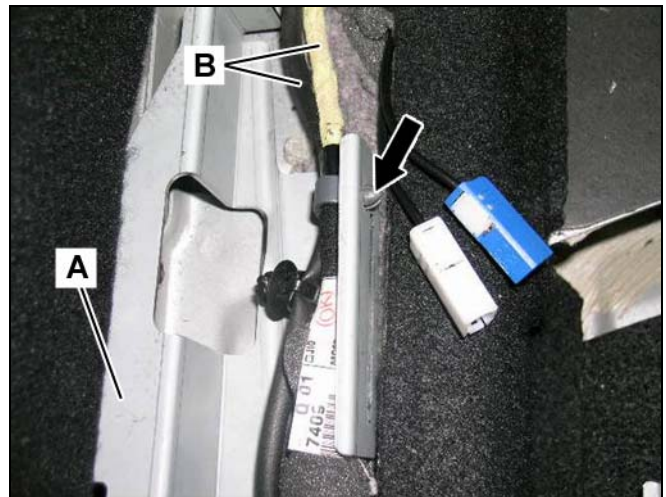


Figure 18

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10. Affix the kit-include piece of 70 mm x 150 mm felt tape (Arrow, Figure 19) to Part B of the SDARS bracket (B, Figure 19).



Figure 19

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11. Mount the SDARS control module (A, Figure 20) to Part B of the SDARS bracket (B, Figure 20) with three M5 hex nuts (Arrows, Figure 20).

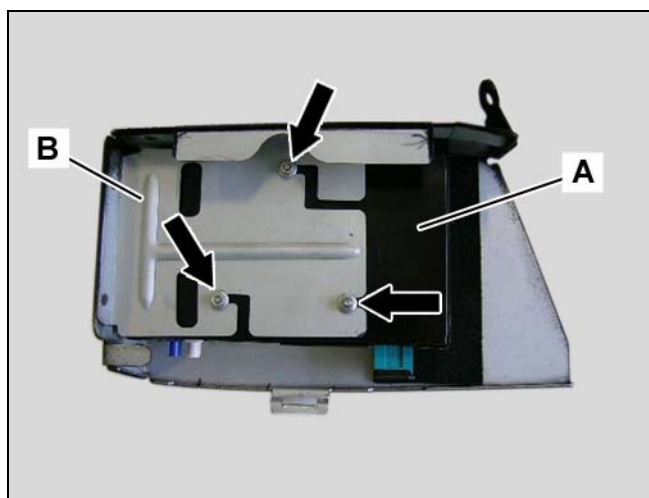


Figure 20

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F. Connecting the 1st generation SDARS antenna to the 1st generation SDARS control module

1. Connect the blue and white preinstalled antenna connectors (B, Figure 21) to the like-color jacks on the SDARS control module (D, Figure 21).
2. Insert the MOST connector (A, Figure 21) and SDARS power supply connector (C, Figure 21) into the kit-included, female MOST adapter.
3. Connect the preinstalled female MOST adapter to the SDARS control module (D, Figure 21).

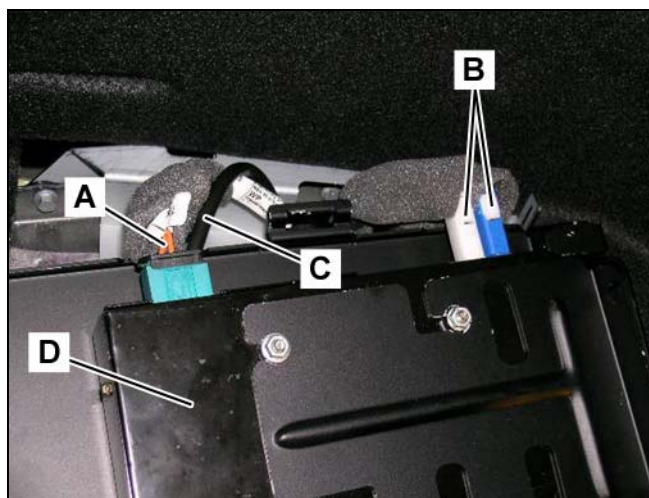


Figure 21

P82.60-xxxx-71

G. Connecting the 2nd generation SDARS antenna to the 1st generation SDARS control module

1. Clean off the SDARS bracket surface.
2. Peel off the protective backing from the adhesive side of the SDARS antenna splitter (A, Figure 22).
3. Affix the SDARS antenna splitter (A, Figure 22) to the surface of the SDARS bracket (B, Figure 22).

Note: Position the SDARS antenna splitter on the SDARS bracket as shown in Figure 22.

4. Connect the blue and white connectors of the SDARS antenna splitter (A, Figure 22) to the like-color jacks on the SDARS control module (C, Figure 22).
5. Secure the SDARS antenna splitter leads to the SDARS bracket (D, Figure 22) with felt tape (Arrow, Figure 22).
6. Connect the 90 degree connector of the kit-included adapter cable to the SDARS antenna splitter (A, Figure 23).

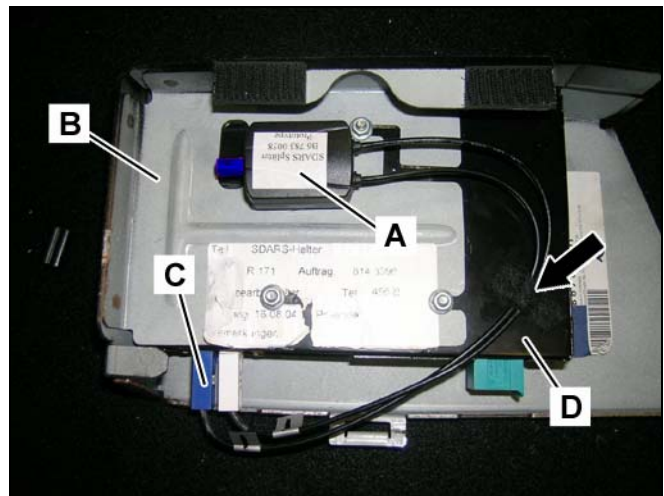


Figure 22

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Figure 23

P82.60-xxxx-71

7. Connect the preinstalled blue antenna connector to the adapter cable (B, Figure 24) of the SDARS antenna splitter (A, Figure 24).

Note: There is no use for the white antenna connector from the preinstalled antenna leads when installing the 2nd generation SDARS antenna.

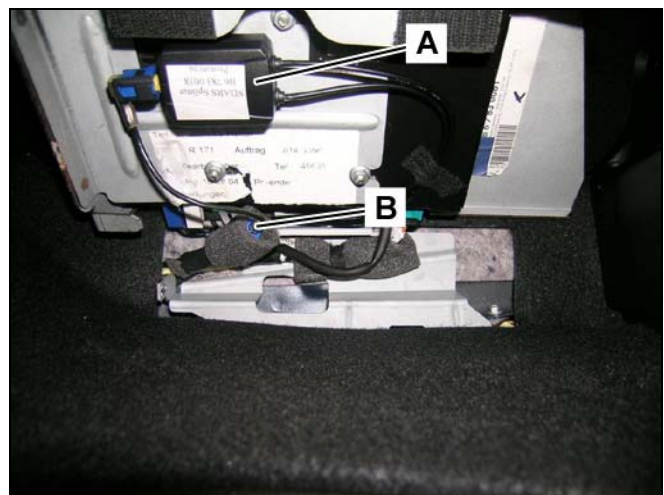


Figure 24

P82.60-xxxx-71

H. Installing the SDARS control module (Part 2)

1. Remove the expanding clip from the left side trunk interior.
 - For orientation, refer to *W/S* document: AR68.30-P-4800V, "Remove/install trunk paneling"

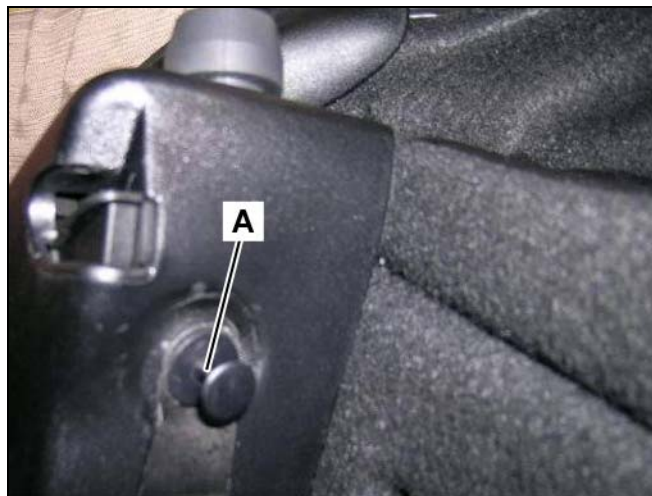


Figure 25

P82.60-xxxx-71

2. Position the latch of Part B (B, Figure 14) of the SDARS bracket (B, Figure 26) into position to insert into the slot of Part A (A, Figure 14) of the SDARS bracket (A, Figure 26).
3. Route the SDARS antenna leads behind the trunk paneling (Arrow, Figure 26).

NOTICE!

Routing wiring harnesses and cables over sharp edges, under components that cause crushing, or in a manner that causes stress or breakage, will result in damage.

Damaged wiring harnesses and cables can cause component malfunction or **failure**.

Route wiring harnesses and cables with care to prevent cuts, nicks, abrasions, and crushing.

4. Turn up Part B of the SDARS bracket (C, Figure 26) and insert the latch into the slot of the mounted Part A of the SDARS bracket (A, Figure 26).

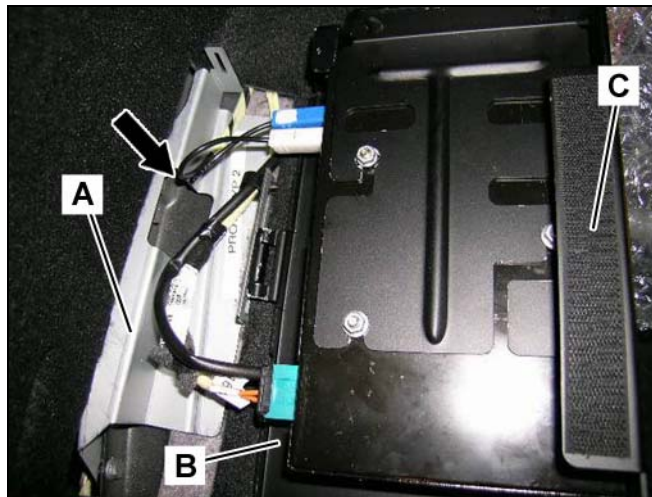


Figure 26

P82.60-xxxx-71

5. Carefully push the SDARS bracket to the upright position and insert the protruding pin of the bracket into the latch (Arrow, Figure 27).

NOTICE!

Routing wiring harnesses and cables over sharp edges, under components that cause crushing, or in a manner that causes stress or breakage, will result in damage.

Damaged wiring harnesses and cables can cause component malfunction or failure.

Route wiring harnesses and cables with care to prevent cuts, nicks, abrasions, and crushing.

6. Pull back Part B of the SDARS bracket until it contacts the paneling (Figure 28).

Note: To prevent bonding, place paper between the Velcro on the SDARS bracket (B, Figure 28) and the trunk paneling while pulling back Part B of the SDARS bracket. Push down the bracket assembly during the mounting.

7. Fasten the SDARS bracket (B, Figure 29) with the previously removed rivet (A, Figure 29).

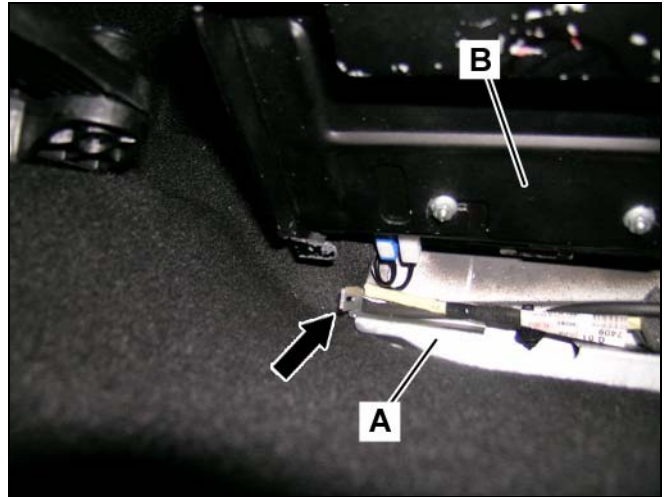


Figure 27

P82.60-xxxx-71

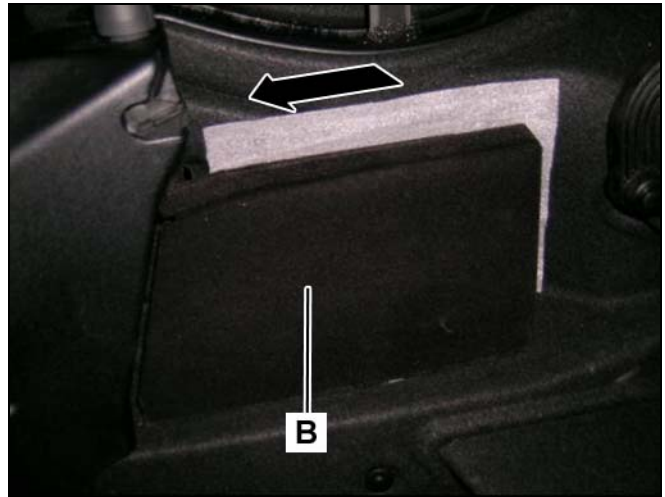


Figure 28

P82.60-xxxx-71

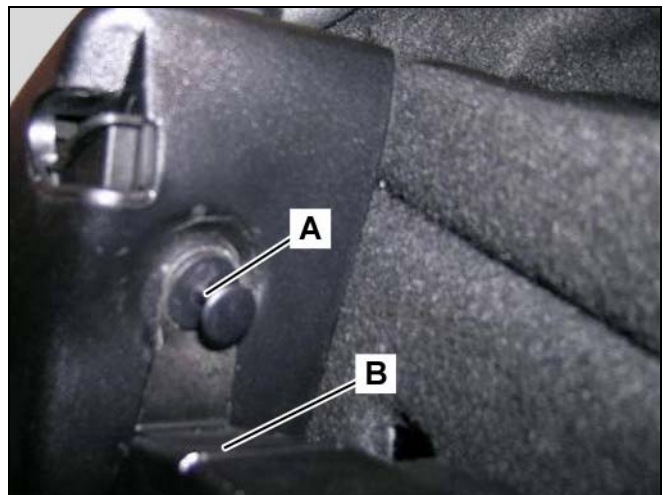


Figure 29

P82.60-xxxx-71

8. Remove the paper from between the Velcro and press in the trunk paneling from behind on the SDARS bracket assembly (B, Figure 30).

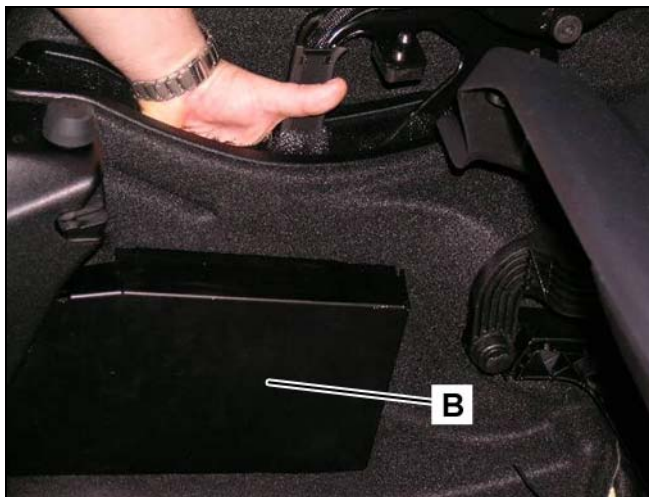


Figure 30

P82.60-xxxx-71

I. Installing the MOST optical fiber adapter and 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. Remove the thirteen M6 bolts securing the equipment carrier (A, Figure 31).
2. Lay down the equipment carrier so the attached components face upward.



Figure 31

P82.60-xxxx-71

3. Open the SDARS optical fiber couplings (A and B, Figure 32) and configure the MOST ring according to Figure 34.

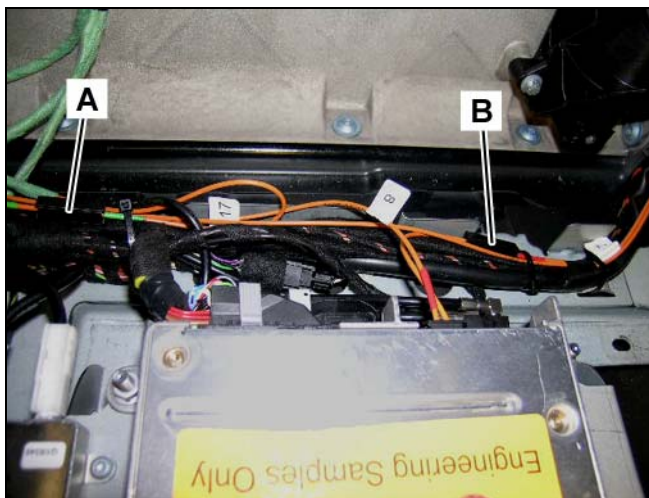


Figure 32

P82.60-xxxx-71

4. Check if the fuse (Arrow, Figure 33) in slot #17 of the rear SAM control unit with fuse and relay module (N10/2, Figure 33) is present.

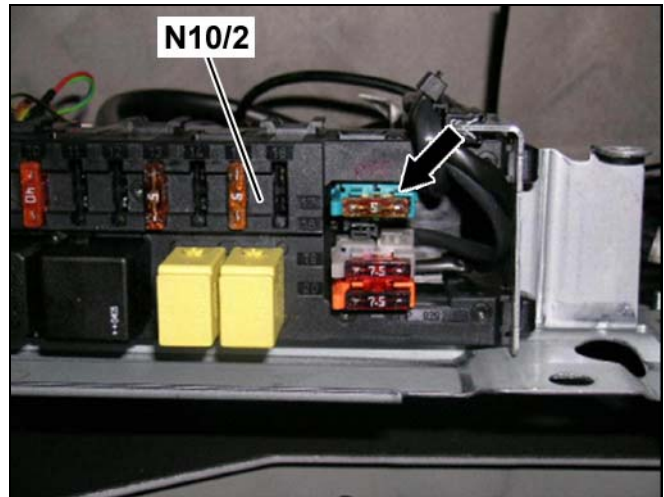


Figure 33

P82.60-xxxx-71

J. MOST ring configuration

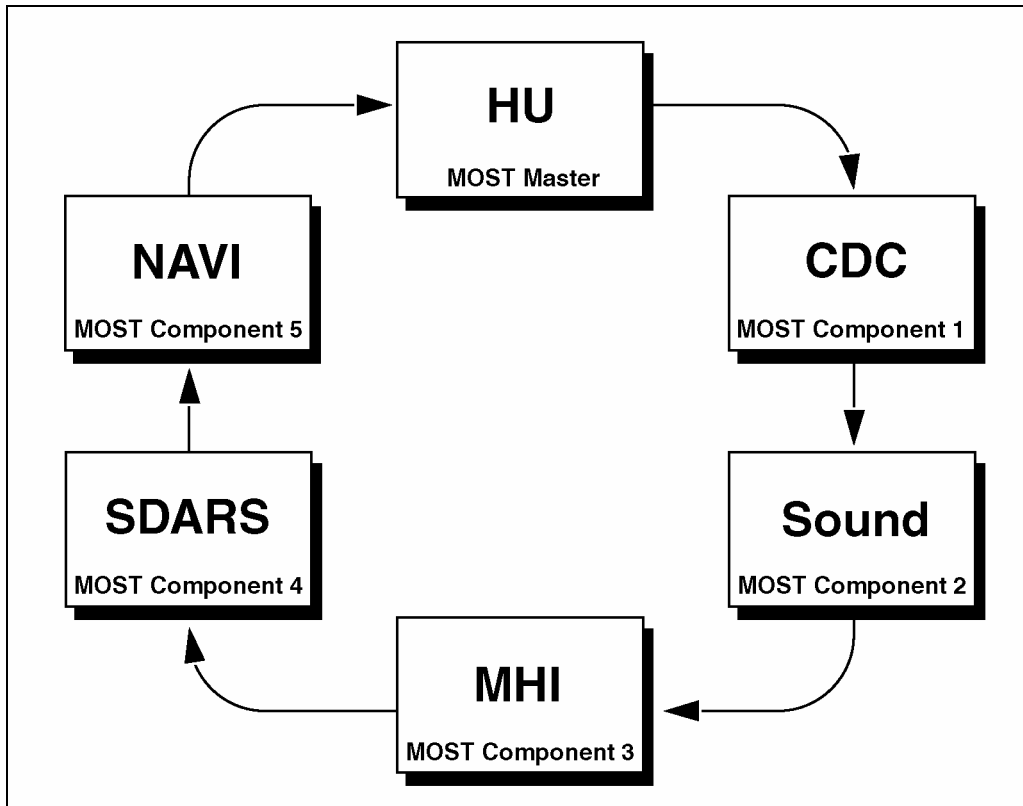


Figure 34

P82.60-xxxx-11

K. Version coding

1. Connect the Star Diagnosis to the vehicle.
2. Set the MOST ring configuration to match that of Figure 34 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 > 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 34 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 34.

Failure to have the configuration match Figure 34 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 34 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.

L. 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 unit¹
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"

M. Parts information

Qty.	Part Name	Part Number/Exchange
	Kit, satellite radio, SLK-Class	B6 783 00 78
	Kit contents:	
1	Template, drilling	B6 783 0059
1	Bracket, SDARS control module (Part A and Part B)	B6 783 0061
1	MOST adapter, female, black	A 000 545 84 30
1	Felt, 25 mm x 70 mm (divide into two pieces 25 mm x 35 mm)	A 000 983 89 10
1	Felt, 150 mm x 70 mm	A 000 983 89 10
1	Cable clip	A 000 995 54 44
1	Screw, M5	A 203 990 00 36
1	Nut, M5 X 8	N 910112 005000

Separate order:

Qty.	Part Name	Part Number/Exchange
1	Felt, 70 mm x 100 mm	A 000 983 89 10
1	Primer*	A 000 986 06 50

Additional parts, additional order

Qty.	Part Name	Part Number/Exchange
1	Control module, SDARS	B6 783 0085 (B6 783 0012)
1	Antenna, SDARS (1 st Generation) <ul style="list-style-type: none">➤ Antenna includes:<ul style="list-style-type: none">• Plastic washer (thinner) A 220 827 05 11**• Plastic washer (thicker) A 220 827 06 11**	B6 783 0014

OR

Additional parts, additional order

Qty.	Part Name	Part Number/Exchange
1	Control module, SDARS (1 st Generation)	B6 783 0085 (B6 783 0012)
1	Splitter, SDARS antenna (2 nd Generation)	B6 783 0058
1	Antenna, SDARS (2 nd Generation), Black (040)	B6 783 0080
	<u>or</u>	
1	Antenna, SDARS (2 nd Generation), Pewter (723)	B6 783 0081
	<u>or</u>	
1	Antenna, SDARS (2 nd Generation), Iridium Silver (775)	B6 783 0082
	<u>or</u>	
1	Antenna, SDARS (2 nd Generation), Alabaster White (960)	B6 783 0083
	<u>or</u>	
1	Antenna, SDARS (2 nd Generation), Primer* <ul style="list-style-type: none">➤ Antenna includes:<ul style="list-style-type: none">• Metal (copper) washer (thinner)**• Metal (copper) washer (thicker)**	B6 783 0084

OR

Additional parts, additional order		
Qty.	Part Name	Part Number/Exchange
1	Control module, SDARS (2 nd Generation)	B6 783 0060
1	Splitter, SDARS antenna (2 nd Generation)	B6 783 0058
1	Antenna, SDARS (2 nd Generation), Black (040)	B6 783 0080
<u>or</u>		
1	Antenna, SDARS (2 nd Generation), Pewter (723)	B6 783 0081
<u>or</u>		
1	Antenna, SDARS (2 nd Generation), Iridium Silver (775)	B6 783 0082
<u>or</u>		
1	Antenna, SDARS (2 nd Generation), Alabaster White (960)	B6 783 0083
<u>or</u>		
1	Antenna, SDARS (2 nd Generation), Primer*	B6 783 0084
➤ Antenna includes: <ul style="list-style-type: none"> • Metal (copper) washer (thinner)** • Metal (copper) washer (thicker)** 		

*Follow the manufacturer recommended painting procedure.

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

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