



Mercedes-Benz

service information



Date: March 2001
Order No.: T-SI-82.85/147
Supersedes:
Group: 82

**SUBJECT: MODEL 163.154/172/174 (MY 2001)
OPTIONAL NAVIGATION SYSTEM OR SINGLE CD PLAYER INSTALLATION**

⚠ WARNING

Disconnecting the negative battery cable is not recommended due to otherwise extensive reprogramming requirements. **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 PERSONAL INJURY OR DEATH FROM ELECTRICAL SHOCK.** The ignition and radio power must remain OFF until the final test is performed.

Application specific D2B notes:

- D2B ring modifications are not necessary for this installation.

A. Installation preparation – all configurations

1. Read this bulletin in its entirety.
2. Unpack and compare the installation kit(s) contents against the Parts Information list on page 9 of this bulletin.
3. Separate and place the operating guides/client accessories (i.e. chargers, cassette tapes, CDs, etc.) in the glove box or appropriate storage compartment.
4. Remove the MCS (radio) control unit from the center dash and disconnect all cable connections.

This bulletin has been created and maintained in accordance with MBUSA-SLP 5.1, Document and Data Control, and MBUSA-SLP 16.1, Control of Quality Records.

B. Installing the GPS Antenna Splitter

1. Remove the front passenger seat to expose the Tele Aid module bracket assembly (Figure 1).
 - Refer to WIS: AR91.10-P-1000GH, *Removing and installing front seats*
2. Turn the Tele Aid module bracket assembly upright.



Figure 1

P82.70-3507-01

3. Remove the cable connecting the Tele Aid module to the GPS amplifier—Kathrein splitter.
4. Mount the GPS splitter to the Tele Aid module bracket by pushing the snap-connectors into the bracket holes (Figure 2).

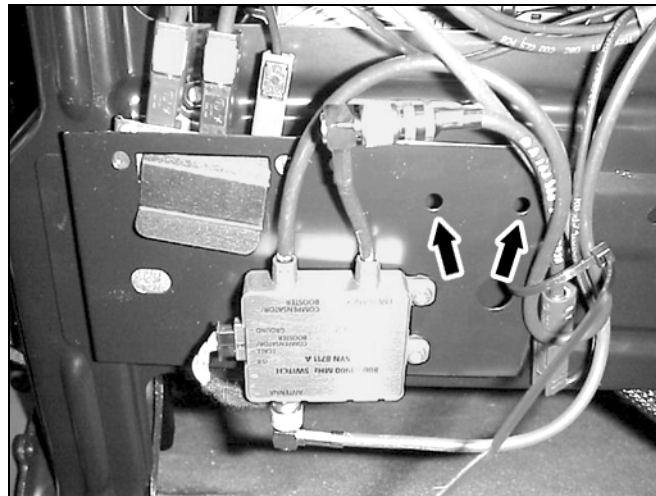


Figure 2

P82.85-7086-01

5. Connect the coaxial cable (Figure 3) from the GPS amplifier to the GPS splitter (A, Figure 4).



Figure 3

P82.85-7087-01

6. Connect the coaxial cable from the GPS amplifier to the GPS splitter.
7. Connect the coaxial cable from the back of the MCS unit—pre-wired from the back of the MCS unit to under the seat—to the black port on the GPS splitter (C, Figure 4).

Figure 4 legend:

- A—To the GPS/telephone amplifier
- B—To the Tele Aid module
- C—To the MCS unit

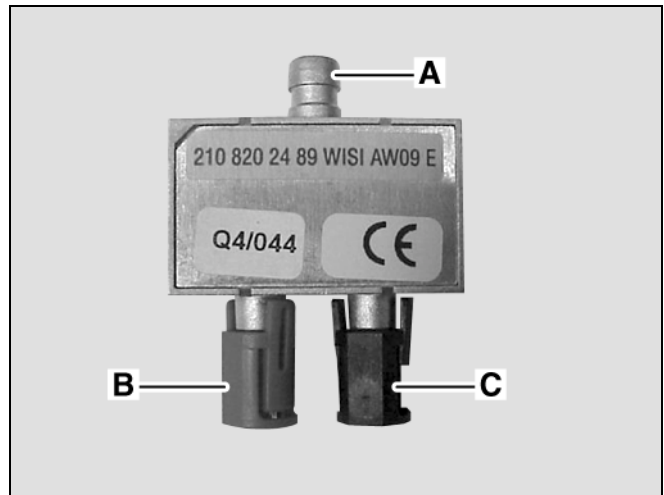


Figure 4

P82.85-7088-01

8. Connect the coaxial cable (Figure 5) from the red port on the GPS splitter (B, Figure 4) to the GPS port on the Tele Aid module.
9. Reinstall the front passenger seat.

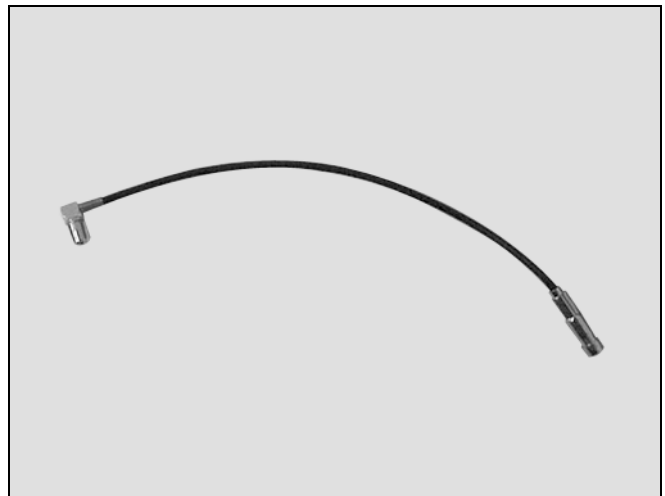


Figure 5

P82.85-7089-01

C. Installing the Navigation Drive or CD Player

Note: The navigation drive and CD player are nearly identical in appearance (Figure 6). Aside from the part number label, the only distinguishing difference is the GPS antenna connector at the left rear corner of the navigation drive chassis (Figure 7).

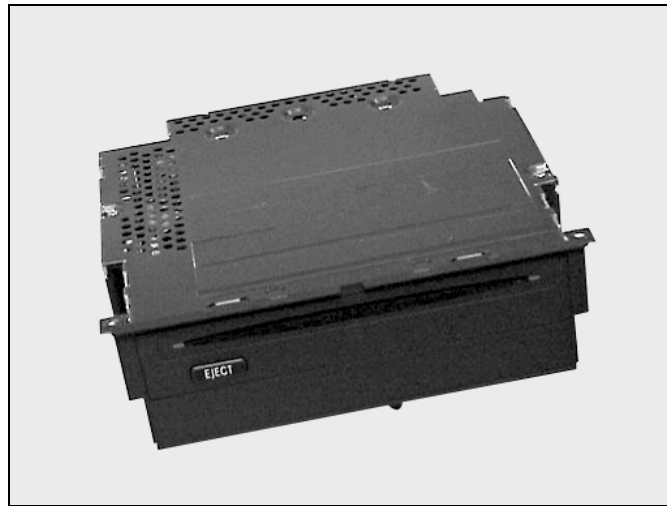


Figure 6

P82.85-5731-01

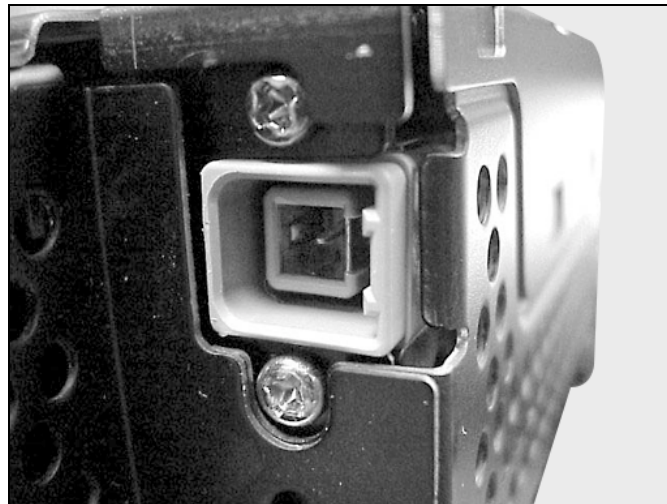


Figure 7

P82.85-5732-01

1. Place the removed MCS unit on a firm level surface.
2. Remove the four T10 Torx screws, identified by stamped-in arrows, from the top chassis cover (Figure 8).
3. Carefully lift and remove the top chassis cover.



Figure 8

P82.85-5733-01

4. Proceed as follows:
 - a. If a control module already exists in the MCS upper compartment, remove it and **skip to step 8**.
 - b. If no auxiliary control modules have previously been installed in the MCS upper compartment, **proceed to step 5**.
5. Disconnect the accessory control unit connector (A, Figure 9) from the plastic retainer (B, Figure 9) by pressing the side of the connector in and pulling it away from the MCS chassis.

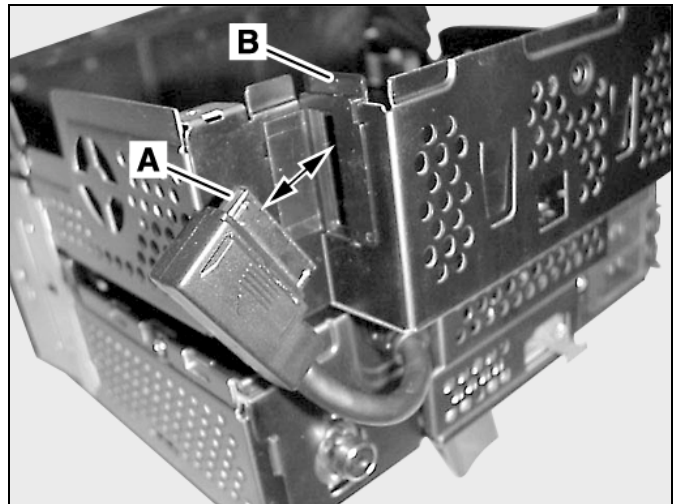


Figure 9

P82.85-5734-01

6. Remove the plastic retainer from the MCS chassis and discard it (Figure 10).

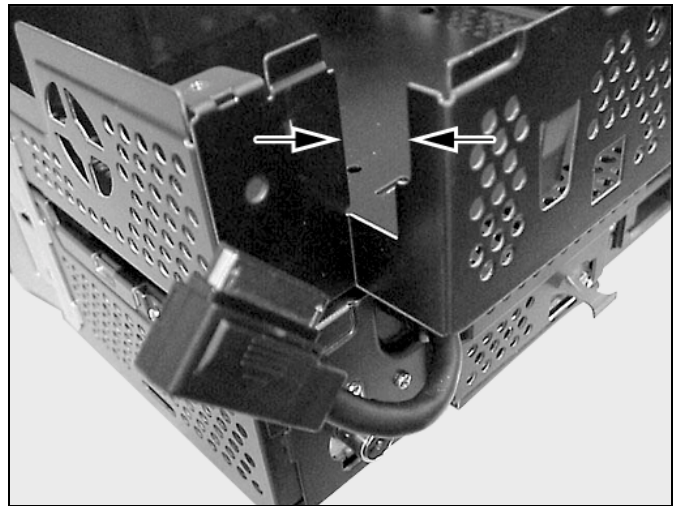


Figure 10

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7. Carefully pull up the plastic panel at the unit front edge, remove, and then discard it (Figure 11).

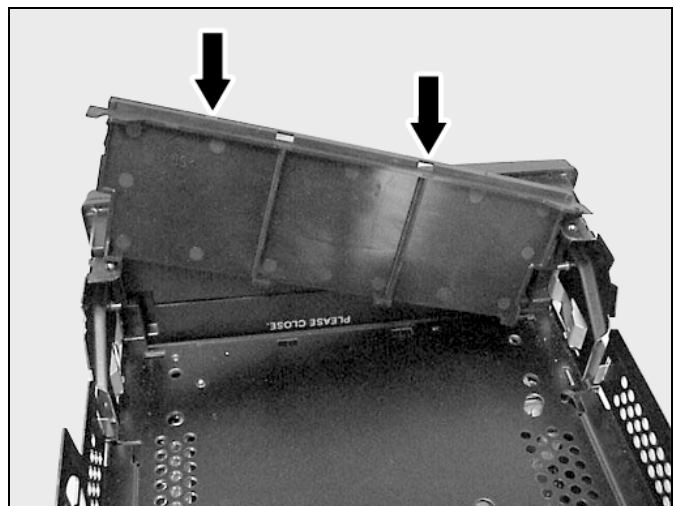


Figure 11

P82.85-5736-01

- Lower the navigation drive or CD player into the top compartment ensuring that the control unit connector faces the accessory control unit pigtail on the side of the unit (Figure 12).

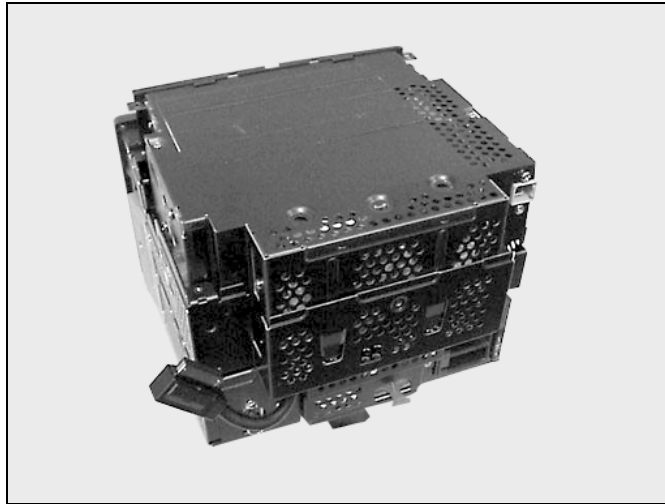


Figure 12

P82.85-5737-01

- Connect the accessory control unit pigtail to the connector on the installed unit (Figure 13).

Note: Be sure that the connector is inserted straight and firmly into the connector cavity. Pull out on the connector to ensure that it is firmly seated and not locked only on one side. (A cocked connector will cause intermittent non-operation.)

- Reinstall the MCS top chassis cover with the four previously removed T10 Torx screws.

Note: Exercise extreme care when installing the cover. Excessive force is not required. Need for excessive force is an indicator that the cover is improperly positioned.

- If installing a CD player, skip to **Section E**.



Figure 13

P82.85-5738-01

D. Final Assembly and Testing of the GPS Navigation Module

1. Reconnect the MCS unit to the vehicle harness, including the newly installed GPS antenna connection, and carefully place it back into the dash opening.
2. Insert the appropriate navigation CD-ROM in accordance with the vehicle location.
3. Move the vehicle to an outdoor location with a clear view of the sky and allow the unit to remain On for 20-30 minutes. (This time is required for the system to “acquire” the GPS satellites in the area. A coarse location has been established when a map of the area appears on the screen and the vehicle is located on the map.)
4. Check the MCS unit DTC memory. Any present DTC(s) should be investigated, the source identified and corrected, and the DTC memory cleared. See Section F for notes on potential false codes.
5. Perform a navigation system functional test of the following to confirm that no new DTC(s) has been set:
 - Destination input
 - Navigating to/from destination(s)
 - Verification of tracking accuracy
 - Proper issuance of voice instructions
6. Refer to Section F for navigation/GPS hints and troubleshooting information.

E. Final Assembly and Testing of the CD Player Module

1. Reconnect the MCS unit to the vehicle harness and carefully place it back into the dash opening.
2. Insert a test CD to ensure audio output.
3. Check the DTC memory of the MCS unit. Any present codes should be investigated, the source identified and corrected, and the DTC memory cleared. See Section F for notes on potential false codes.
4. Perform a CD player functional test of the following:
 - Plays first track
 - Plays last track
 - Does not skip when driven over “normal” rough road surfaces

F. General Notes and Troubleshooting Information

1. General Notes

- a. The correct CD-ROM disc for the M-Class MCS Navigation System and correct location (determined by region) must be installed label-side-up in the internal drive. Note that CD-ROMs from other systems (e.g. COMAND and Siemens) will not operate in the MCS unit.
- b. The vehicle must be parked outside in an open area away from tall buildings and other possible obstructions. Satellite reception is line of sight and may be disrupted by physical obstructions and/or natural atmospheric conditions.
- c. The system will display a small satellite reception icon in the upper left-hand corner of the screen. The icon will have a dark background any time there are less than four satellites being received. The icon will turn dark with a light background, and show small curved lines under the satellite symbol once it has detected and received valid GPS data from four or more satellites. This process may take 20-30 minutes when first performed, especially in cases where the vehicle has been transported to a new location with the system turned Off.
- d. While driving, it is normal for the satellite reception icon to indicate loss of contact at times. The on-board gyro and wheel speed is used to continuously keep track of the vehicle during periods of missing GPS information.

2. Troubleshooting Tips

- a. To avoid problems with GPS reception, navigation functions should be tested outdoors away from tall buildings, large trees and other large natural structures.
- b. The MCS antenna splitter is located under the front passenger seat. The 5 VDC power supply for the splitter and amplifier is supplied by the navigation unit through the coaxial signal cable.
- c. MCS may falsely store GPS antenna malfunction DTC (B1738). Therefore, erase DTCs before testing and rely on them only when faults can be repeated during testing. GPS antenna DTCs should be disregarded unless an actual GPS system malfunction can be verified.
- d. If no satellite reception is detected—the icon with the dark background—check the GPS antenna amplifier for missing, loose, or incorrect connections:
 - i) The coaxial cable from the vehicle-mounted antenna connects to the splitter center jack labeled **ANTENNA**. The coaxial cable from the MCS navigation unit connects to the splitter connector labeled **GPS**.
 - ii) If the connections are correct, unscrew the coaxial cable from the splitter GPS jack. There should be a 5 VDC bias on that cable (cable from the MCS navigation module) as measured between the center conductor and the shield. If the reading is incorrect, check the cable and MCS navigation unit.
 - iii) If the condition persists, remove the cap at the GPS antenna and, with the vehicle outside, loosen the mounting screw and then re-torque it to 4.5 Nm. Wait at least 15 minutes to allow adequate satellite access time. If the antenna begins to function, it may be suspect and should be replaced.
 - iv) If the condition continues to persist, alternately replace the splitter and antenna assemblies to ensure that one of the components is not defective.
- e. The number of satellites received can be displayed via the navigation options menu. Select **Navigation Menu, Options** and then **GPS Information**. The location and number of satellites currently being received will display.

Parts Information (GPS Navigation Unit)

Qty.	Part Name	Part Number/Exchange
	Navigation Accessory Kit	Q 6 82 0683
1	Navigation drive	A 163 820 09 89 / A 163 820 09 89 90
1	GPS splitter	A 210 820 24 89
1	GPS coaxial pigtail	A 163 540 05 13
1	GPS coaxial pigtail	A 163 540 06 13

Parts Information (Single CD Player)

Qty.	Part Name	Part Number/Exchange
	Single CD Player Kit	
1	Single CD player	A 163 820 08 89