

13.6 Anti-Theft Alarm (ATA) Model 170

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Central locking (CL) and Anti-Theft Alarm (ATA) can be used via the IR transmitter key as well as the mechanical key (only .

Activation of the PSE

The Radio frequency DAS control module (N54/3) is connected to the combination control module (N10-3) via a control wire. From the combination control module (N10-3), the necessary control signals are sent via two CAN data lines to the PSE.



- ATA functions have been integrated into the PSE control module (A37).
- The DTC fault memory for the PSE control module (A37) has been integrated into the combination control module (N10-3).
- Spare parts combination control modules (N10-3) must be reprogrammed as noted in 31
- A quick function test can be accomplished using the Hand-Held Tester (HHT) for the activation of components and to read out actual values.
- Delayed headlamp shut-off (illumination time after ignition shut-off) can be programmed via the HHT (only .

Diagnosis – Function Test

Preparation for Test:

1. Review C/1, 11, 20, 22,
2. After performing the Function Test, erase any stored DTC's (see section 0).

Test step/Test scope	Test condition	Nominal value	Possible cause/Remedy ¹⁾
⇒ 1.0 ATA status indicator LED	<ul style="list-style-type: none"> • Lock vehicle. • Wait approx. 15 secs. 	ATA status indicator LED blinks.	23 ⇒ 14.0
⇒ 2.0 Trigger ATA via left front door.	<ul style="list-style-type: none"> • Open driver's window. • Lock vehicle. • After approximately 15 seconds open door from inside. 	Alarm horn sounds (turn off alarm).	23 ⇒ 2.0
⇒ 3.0 Trigger ATA via right front door.	<ul style="list-style-type: none"> • Open passenger window. • Lock vehicle. • After approximately 15 seconds open door from inside. 	Alarm horn sounds (turn off alarm).	23 ⇒ 3.0
⇒ 4.0 Trigger ATA via engine hood.	<ul style="list-style-type: none"> • Open driver's window. • Lock vehicle. • Wait approximately 15 seconds. • Release engine hood through open driver's window. • Open engine hood. 	Alarm horn sounds (turn off alarm).	23 ⇒ 5.0

¹⁾ Observe Preparation for Test, see 22.

Diagnosis – Function Test

Test step/Test scope	Test condition	Nominal value	Possible cause/Remedy ¹⁾
⇒ 5.0 Trigger ATA via trunk lid.	<ul style="list-style-type: none"> • Open trunk lid. • Lock vehicle. • Turn off trunk lamp (rotary tumbler switch open). • Wait approximately 15 seconds. • Turn on trunk lamp (rotary tumbler switch closed). 	Alarm horn sounds (turn off alarm).	23 ⇒ 4.0
⇒ 6.0 Trigger ATA via anti-tow protection.	<ul style="list-style-type: none"> • Lock vehicle. • Wait approximately 15 seconds. • Lift vehicle at lift point using vehicle jack, until wheel is off of ground. 	Alarm horn sounds (turn off alarm).	23 ⇒ 15.0
⇒ 7.0 Deactivate anti-tow protection.	<ul style="list-style-type: none"> • Ignition: OFF • Press ATA status/towing protection switch (S85/3). • Lock vehicle. • Lift vehicle at lift point using vehicle jack, until wheel is off of ground. • Repeat step 8.0 	ATA status indicator LED blinks for 2 seconds. Alarm horn does not sound. Alarm horn sounds (turn off alarm).	23 ⇒ 13.0
⇒ 8.0 Trigger ATA via glove box.	<ul style="list-style-type: none"> • Lock vehicle. • Open glove box after 15 seconds. 	Alarm horn sounds (turn off alarm).	23 ⇒ 6.0.
⇒ 9.0	Not applicable to U.S.A. vehicles		
⇒ 10.0	Not applicable to U.S.A. vehicles		

1) Observe Preparation for Test, see 22.

Diagnosis – Function Test

Test step/Test scope	Test condition	Nominal value	Possible cause/Remedy ¹⁾
⇒ 11.0	Not applicable to U.S.A. vehicles		
⇒ 12.0	Not applicable to U.S.A. vehicles		

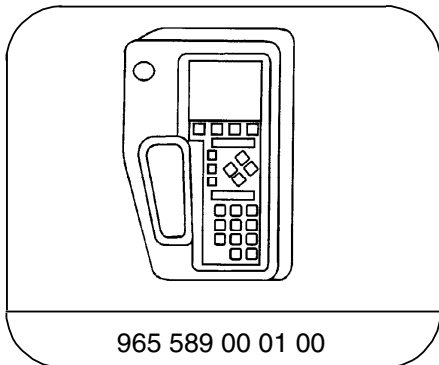
¹⁾ Observe Preparation for Test, see 22.

Diagnosis – Diagnostic Trouble Code (DTC) Memory**Preparation for Test:**

1. Review C/1, 11, 20, 22
2. Check fuses, OK.
3. Battery voltage 11 – 14 V
4. Vehicle unlocked via RCL, ATA deactivated.
4. Ignition: **ON**
5. Connect Hand-Held Tester (HHT) according to connection diagram shown in section 0.

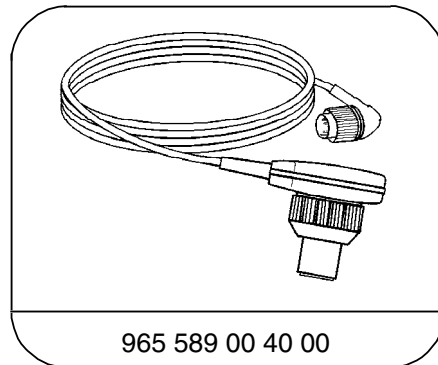


Readout of the DTC fault codes begins with the most recent stored fault codes and ends with the fault code of the oldest date (logic: “last in“, “first out“).

Special Tools

965 589 00 01 00


Hand-Held-Tester



965 589 00 40 00


Test cable

Diagnosis – Diagnostic Trouble Code (DTC) Memory

DTC 	Possible cause	Test step/Remedy ¹⁾
B1000	Combination control module (N10-3)	Replace N10-3
B1010	Low battery voltage	
B1011	High battery voltage	
B1021	CAN data lines have no communication with PSE	D.M., Body and Accessories, Volume 1, 3.5, 23
B1024	CAN data lines Low or Combination control module (N10) CAN: Data line Low	D.M., Body and Accessories, Volume 1, 3.5, 23
B1025	CAN data lines High or Combination control module (N10) CAN: Data line High	D.M., Body and Accessories, Volume 1, 3.5, 23
B1101	Control line for Lock nut 2/Panic alarm from RCL control module (N54) to N10	D.M., Body and Accessories, Volume 2, 4.10, 23
B1132	Alarm (ATA) triggered via glove box (as of M.Y.1999)	23 ⇒ 6.0
B1435	Short circuit in ATA tow sensor (B33) (as of M.Y. 1999)	23 ⇒ 15.0
B1436	CL safety time exceeded, Pneumatic demand too high	D.M., Body and Accessories, Volume 2, 4.10
B1438	Non-USA vehicles only, continue to next test step.	

1) Observe Preparation for Test, see 22.

Diagnosis – Diagnostic Trouble Code (DTC) Memory

DTC 	Possible cause	Test step/Remedy ¹⁾
B1709	Alarm siren with auxiliary battery (H3/1), not installed, coded incorrectly, defective (as of 06/98)	Version coding see 31, see AD80.50-P-2000-03B, 23 ⇒ 15.0
B1710	Alarm (ATA) triggered via trunk lamp switch (S17/8)	23 ⇒ 4.0
B1711	Alarm (ATA) triggered via engine hood switch (S62)	23 ⇒ 5.0
B1712	Alarm (ATA) triggered via left front door switch (S17/3)	23 ⇒ 3.0
B1713	Alarm (ATA) triggered via right front door switch (S17/4)	23 ⇒ 3.0
B1719	Alarm (ATA) triggered via telephone	Currently not used.
B1720	Alarm (ATA) triggered via FAX equipment	Currently not used.
B1721	Alarm (ATA) triggered via ignition system	D.M., Body and Accessories, Volume 1, 2.1, 23
B1722	Alarm (ATA) triggered via stop lamp switch (S9/1)	23 ⇒ 7.0
B1725	Alarm (ATA) triggered via anti-tow protection	23 ⇒ 15.0
B1726	Circuit 30 interrupted while in armed state	23 ⇒ 1.0
B1729	PSE (A37)	Replace PSE (A37)

¹⁾ Observe Preparation for Test, see 22.

Diagnosis – Actual Values/Activations

The following actual values and activations are possible via the Hand-Held Tester (HHT):

Preparation for Test:

1. Review 11, 20, 22

Actual values (functional condition)

- Various door lock switches including engine hood, trunk lid and glove box.
- Ignition system
- Service brake
- ATA anti-tow protection button
- ATA status indication



Menu driven via HHT

Four displays are possible:

✓, F, ON, OFF.

Contrary to DTC memory, actual values are updated continuously, even during diagnosis. This allows intermittent faults to be recognized by moving/shaking components, connectors or wiring harnesses.

Activation

The following components can be activated:

- Alarm horn (H3) **or** Alarm siren with auxiliary battery (H3/1)
- Headlamps or hazard flasher
- ATA status indication



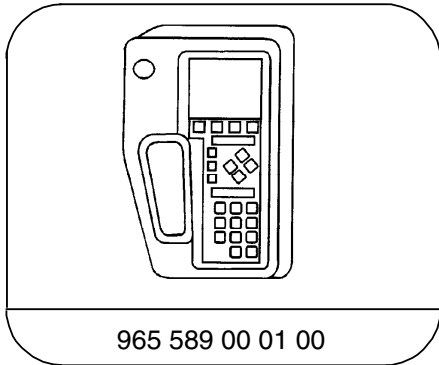
Menu driven via HHT

Diagnosis – Actual Values/Activations

Preparation for Test:

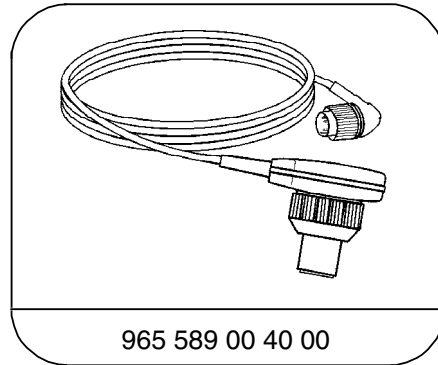
1. Fuses ok,
2. Battery voltage 11 – 14 V.
3. Ignition: **ON**
4. Connect the Hand-Held Tester (HHT) to X11/4, according to diagram, see section 0.

Special Tools



965 589 00 01 00

Hand-Held-Tester



965 589 00 40 00

Test cable

Electrical Test Program – Component Locations (ATA)

Vehicles up to 05/98

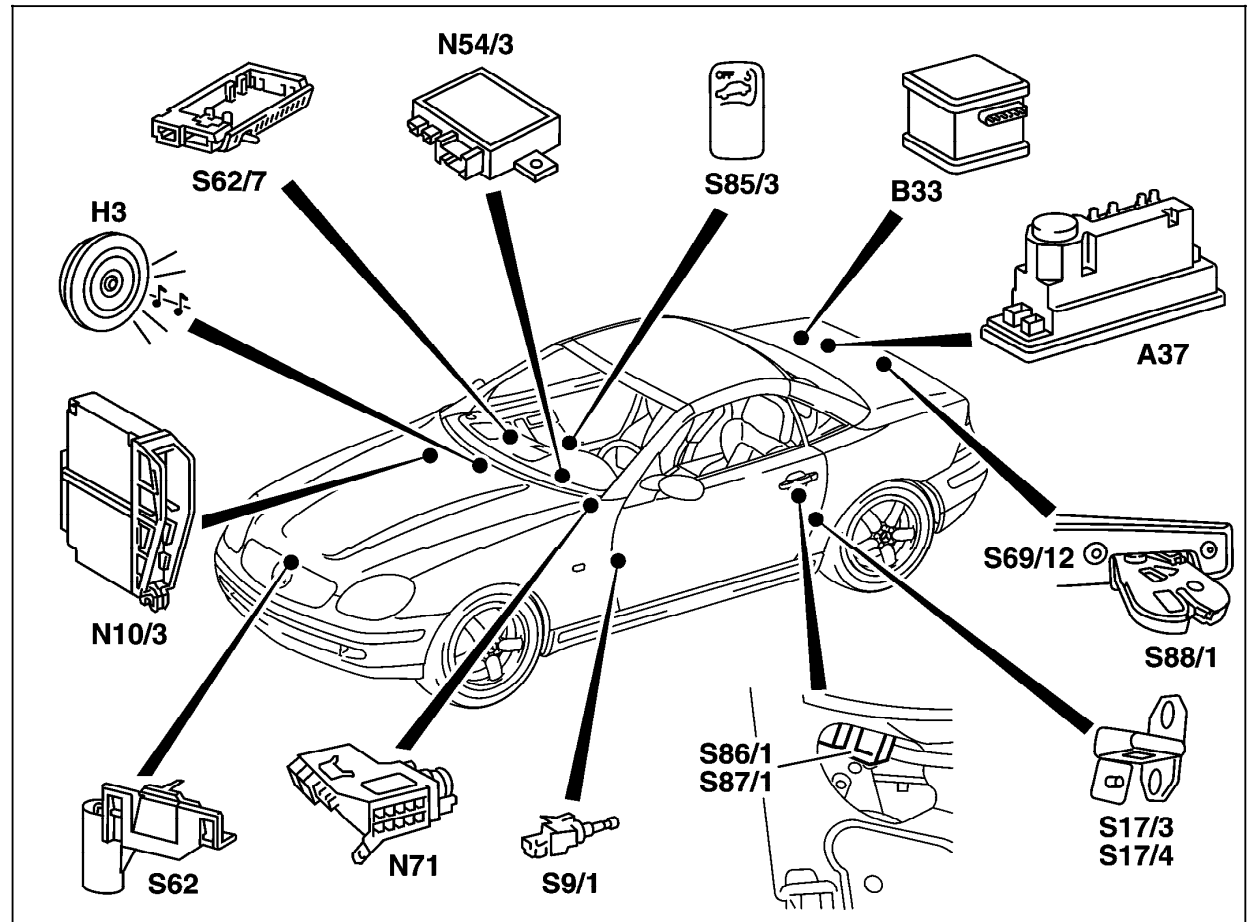


Figure 1

- A37 PSE control module, combined functions
- B33 ATA tow sensor
- H3 Alarm horn
- N7-1 Illumination control module
- N10-3 Combination control module
- N54/3 Radio frequency DAS control module
- S9/1 Stop lamp switch (4-pole)
- S17/3 Left front door switch
- S17/4 Right rear door switch
- S62 Engine hood switch (ATA)
- S62/7 Glove box switch (ATA)
- S69/12 Rotary latch selector switch, trunk lock/trunk illumination
- S85/3 ATA status/towing protection switch
- S86/1 Left front door lock switch (CF) (only USA)
- S87/1 Right front door lock switch (CF) (only USA)
- S88/2 Trunk lid lock switch (CF) (only USA)

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Electrical Test Program – Component Locations (ATA)

Vehicles as of 06/98

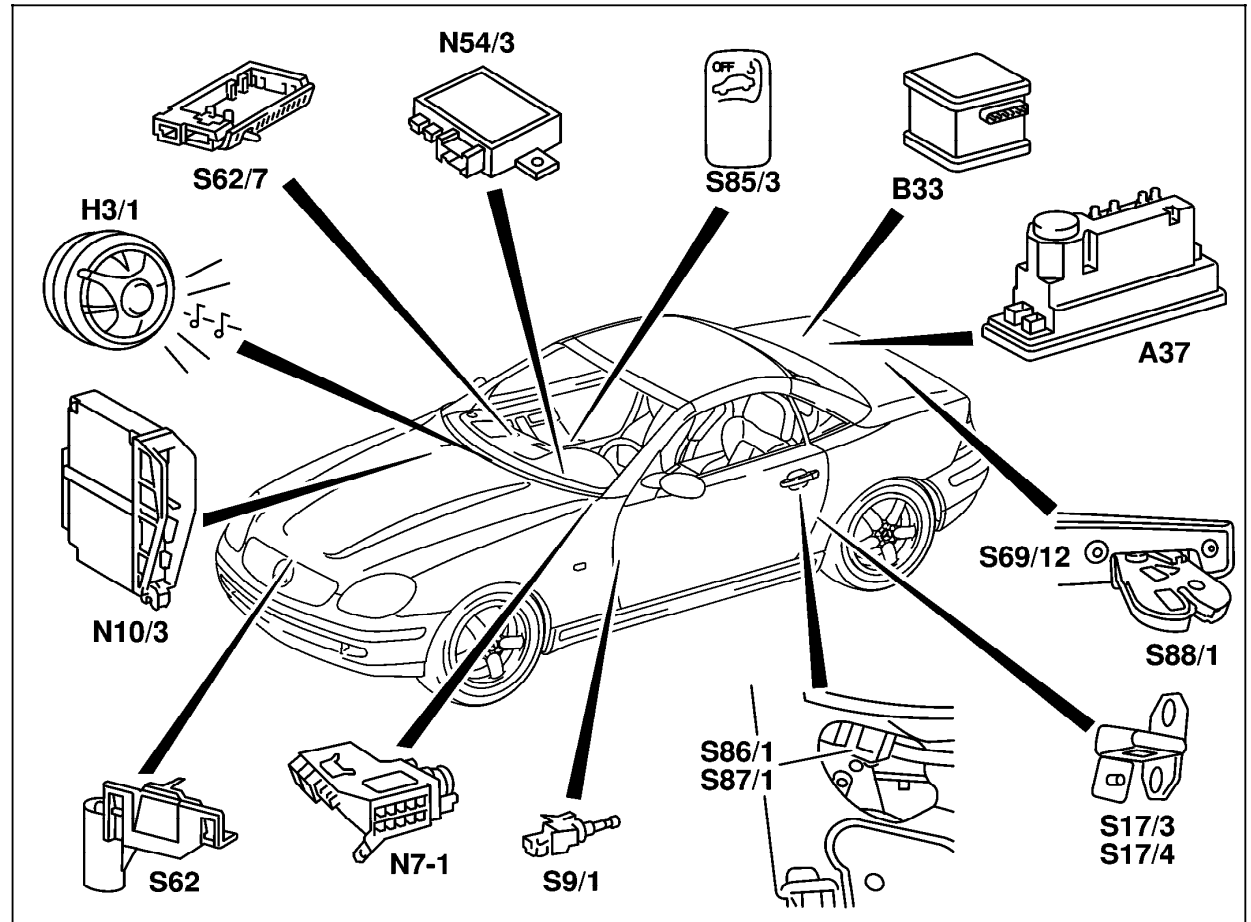


Figure 2

- A37 PSE control module, combined functions
- B33 ATA tow sensor
- H3/1 Alarm siren with auxiliary battery
- N7-1 Illumination control module
- N10-3 Combination control module
- N54/3 Radio frequency DAS control module
- S9/1 Stop lamp switch (4-pole)
- S17/3 Left front door switch
- S17/4 Right rear door switch
- S62 Engine hood switch (ATA)
- S62/7 Glove box switch (ATA)
- S69/12 Rotary latch selector switch, trunk lock/trunk illumination
- S85/3 ATA status/towing protection switch
- S86/1 Left front door lock switch (CF) (only USA)
- S87/1 Right front door lock switch (CF) (only USA)
- S88/2 Trunk lid lock switch (CF) (only USA)

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Electrical Test Program – Component Locations (ATA)

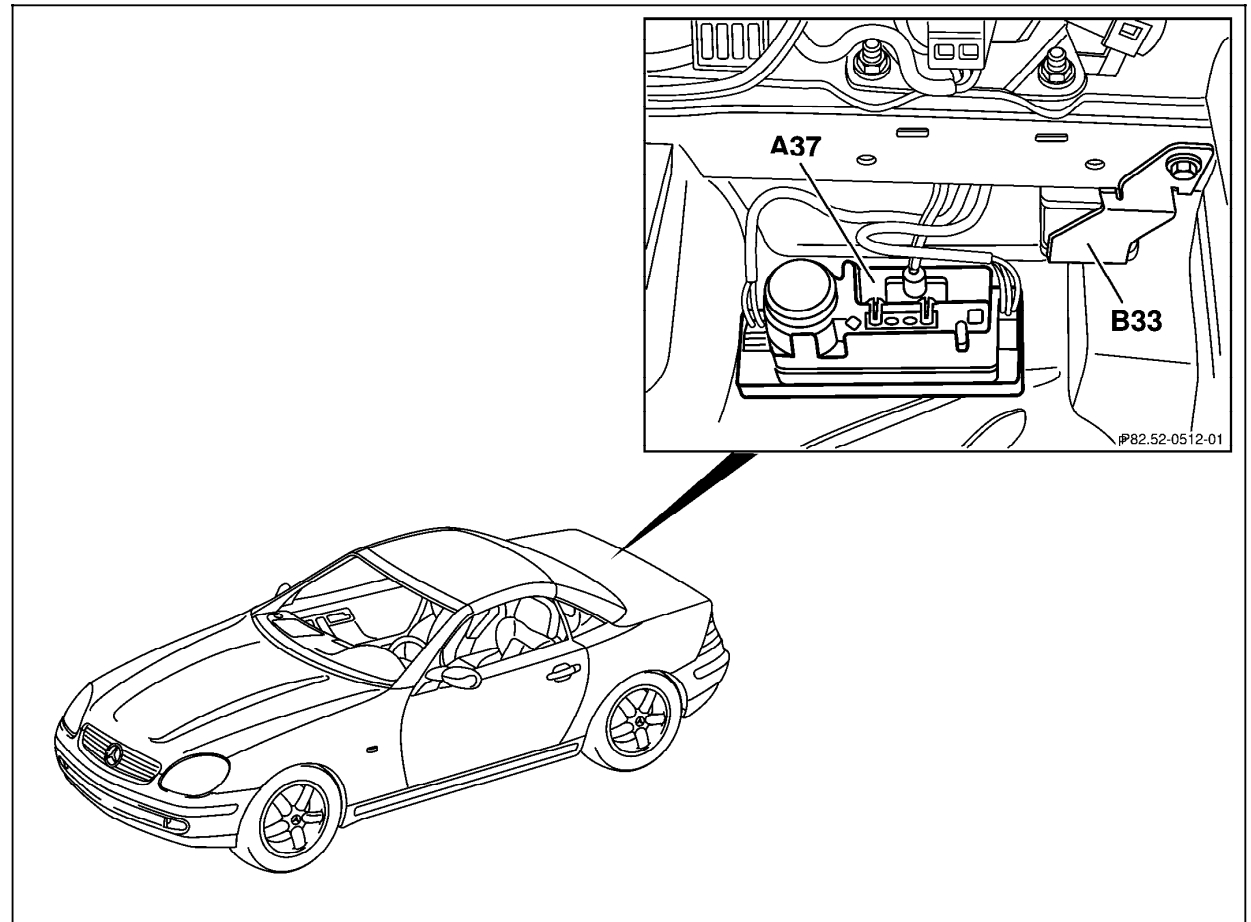


Figure 3

The ATA tow sensor is located to the right of the PSE control module, combined functions (A37), underneath the trim covering for the trunk.

P80.50-2009-06

Electrical Test Program - Preparation for Test

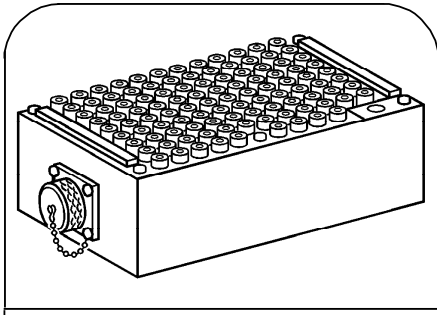
Preparation for Test:

1. Review 11, 20, 22
2. Fuses and central locking (CL) system ok
3. Battery voltage 11 – 14 V
4. Provide access to PSE control module (A37)

Electrical Wiring Diagrams:

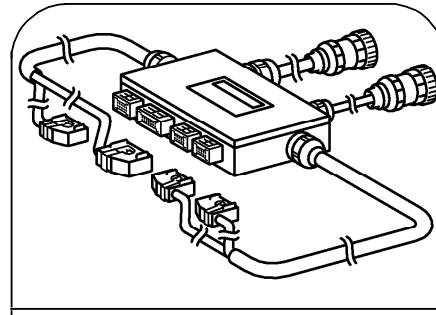
See Electric Troubleshooting Manual, Model 170, Volume 2, group 82

Special Tools



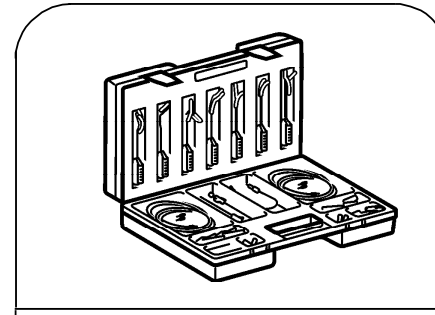
129 589 00 21 00

126-pin socket box



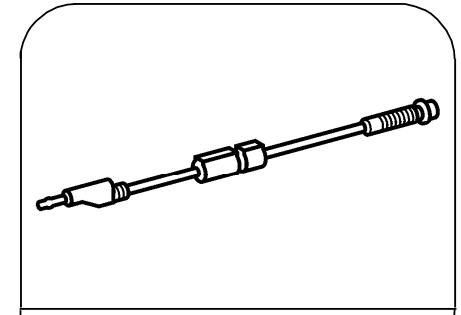
202 589 16 63 00

Test cable (82-pin)



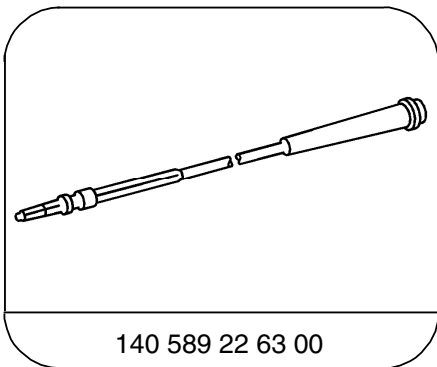
201 589 00 99 00

Electrical connecting set



124 589 37 63 00

Fused cable



140 589 22 63 00

Adapter cable

Electrical Test Program - Preparation for Test**Test equipment; See MBUSA Standard Service Equipment Program**

Description	Brand, model, etc.
Digital multimeter	Fluke models 23, 77 III, 83, 85, 87

Electrical Test Program - Preparation for Test

Connection Diagram - Socket Box

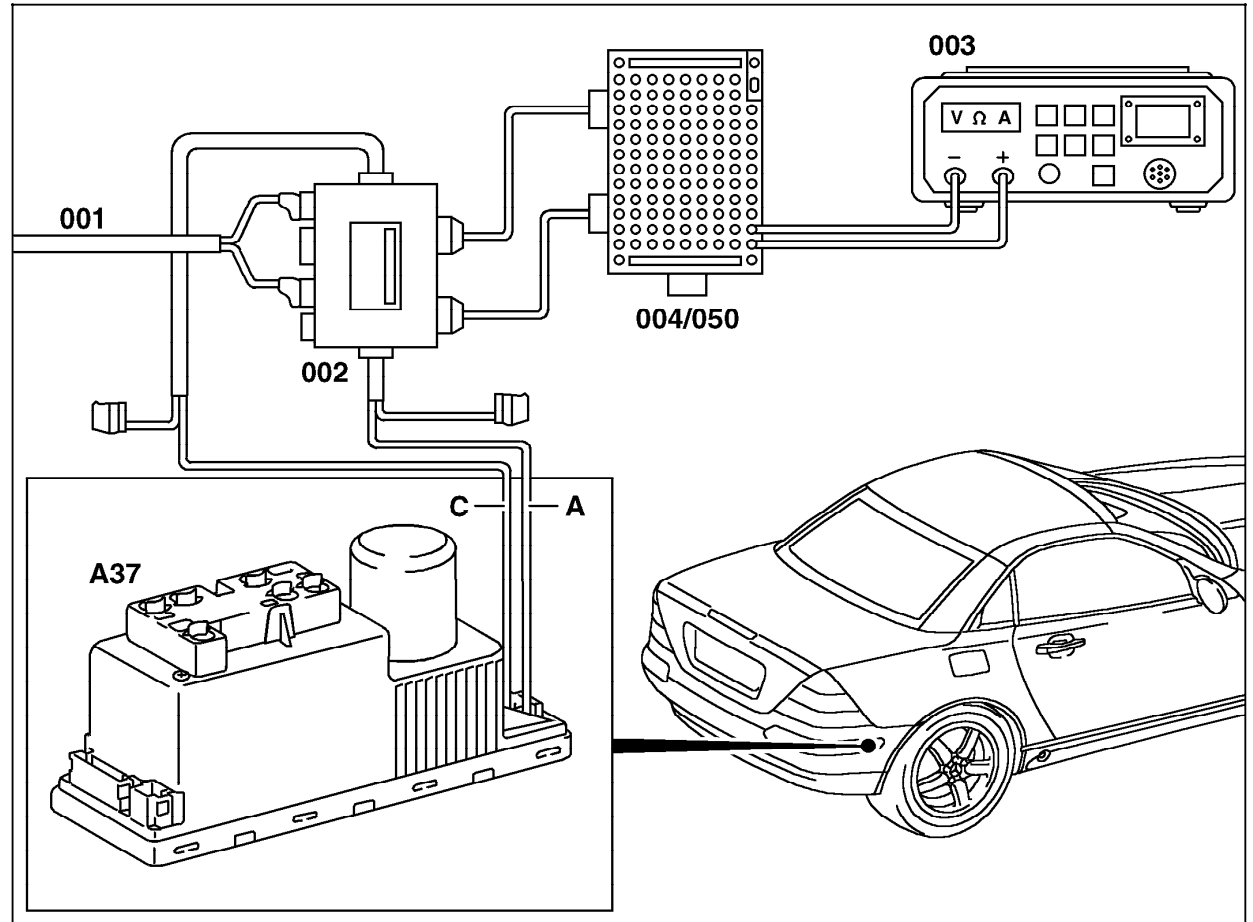













Figure 1

- A37 PSE control module
- 001 PSE control module connector
- 002 Test cable
- 003 Multimeter
- 004/050 Socket box (35-pole)
- A ATA test cable
- C Central locking test cable

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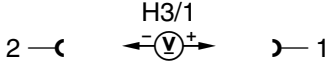

Electrical Test Program – Test

⇒		Test scope	Test connection	Test condition	Nominal value	Possible cause/remedy	
1.0	B1726	PSE control module (A37) Voltage supply	Circuit 30	A37 3 —  —  — 4 (2) (2)	—	11 – 14 V	Wiring.
			Circuit 30	A37 3 —  —  — 2 (2) (2)	—	11 – 14 V	Wiring.
2.0	B1712	Left front door switch (S17/3) Alarm circuit	A37  — 60 —  — 4 (1.14) (2)	Left front door: closed open	< 1 V 11 – 14 V	Wiring, S17/3	
3.0	B1713	Right front door switch (S17/4) Alarm circuit	A37  — 62 —  — 4 (1.16) (2)	Right front door: closed open	< 1 V 11 – 14 V	Wiring, S17/4	
4.0	B1710	Trunk lock/trunk illumination rotary latch selector switch (S69/12) Alarm circuit	A37  — 59 —  — 4 (1.13) (2)	Trunk lid: closed open	< 1 V 11 – 14 V	Wiring, S69/12	


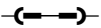

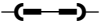
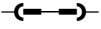



Electrical Test Program – Test

⇒		Test scope	Test connection	Test condition	Nominal value	Possible cause/remedy
5.0	B1711	Engine hood (S62) Alarm circuit	A37 5 — ⌋ — ⌋ — 4 (2)	Engine hood: closed open	< 1 V 11 – 14 V	Wiring, S62
6.0		Glove box switch (ATA) (S62/7) Alarm circuit	A37 16 — ⌋ — ⌋ — 4 (2)	Glove box: closed open	< 1 V 11 – 14 V	Wiring, S62/7
7.0	B1722	Stop lamp switch (S9/1) Alarm circuit	A37 3 — ⌋ — ⌋ — 12 (2)	Ignition: ON Apply service brake:	< 1 V 11 – 14 V	Wiring, S9/1
8.0		Alarm horn (H3) (only USA) As of 06/97: all vehicles until 06/98	A37 3 — ⌋ — ⌋ — 4 (4) (2)	Insert bridge. Use bridges with 124 589 37 63 00 safety cables only.	Alarm sounds.	Wiring, H3




Electrical Test Program – Test

⇒		Test scope	Test connection	Test condition	Nominal value	Possible cause/remedy
9.0		Alarm siren with auxiliary battery (H3/1) Function (as of 06/98)		HHT activation: Alarm siren test.	Siren emits short acoustic signal for .2 sec seconds.	⇒ 9.1
9.1		Voltage supply		Disconnect connector at H3/1	11 – 14 V	Wiring.
9.2		Trigger alarm		Activate ATA. Wait 15 seconds. Disconnect connector at H3/1  To interrupt alarm, reconnect H3/1 connector and deactivate ATA.	Acoustical and Optical alarm function.	H3/1 Wiring, A37
10.0		<i>Not applicable for U.S.A. vehicles</i>				

Electrical Test Program – Test

⇒		Test scope	Test connection	Test condition	Nominal value	Possible cause/remedy
11.0		Headlamp Alarm circuit	A37 1 (2) 	A37 4 (4) Insert bridge.  Use bridges with 124 589 37 63 00 safety cables only.	Headlamps are illuminated continuously.	Wiring, Illumination control module (N7-1)
12.0		Taillamp Alarm circuit	A37 1 (2)  4 (2) 	A37 4 (4) Insert bridge.  Use bridges with 124 589 37 63 00 safety cables only.	Left/right taillamps are illuminated continuously.	Wiring, Illumination control module (N7-1)
13.0		ATA status/towing protection switch (S85/3) Deactivate anti-tow protection	A37 6 —   (3)	A37 3 (2) Press top part of S85/3 switch.	< 1 Ω	Wiring, S85/3

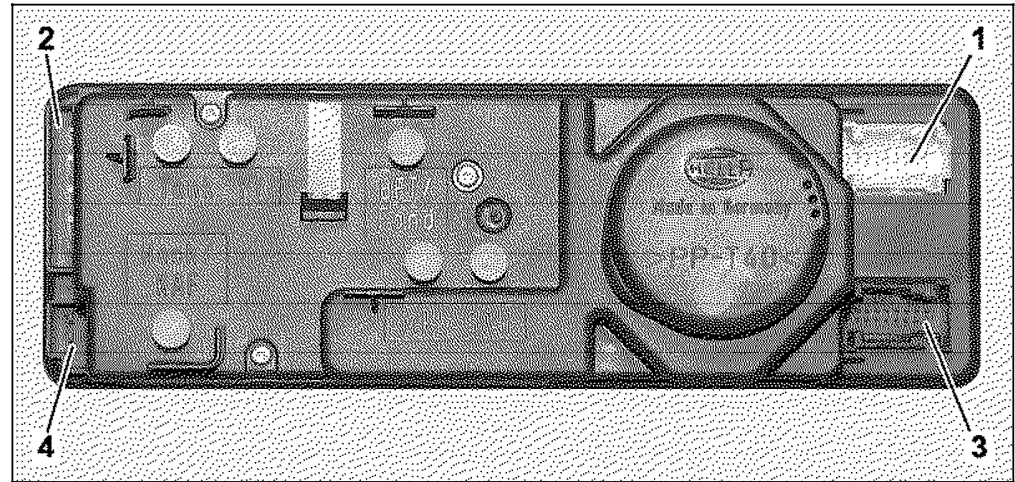
Electrical Test Program – Test

⇒		Test scope	Test connection	Test condition	Nominal value	Possible cause/remedy
14.0		ATA status indication via: Interior switch (S6/1s1) or ATA status/towing protection switch (S85/3)	A37 11 —(C) ← (←→) —(D) 4 (3) (2)	 Use bridges with 124 589 37 63 00 safety cables only.	LED in switch illuminates.	Wiring, S85/3 or S6/1s2
15.0	B1725 {PSE}	ATA tow sensor (B33) Voltage supply (only with anti-tow protection)	5 —(C) ← (←V) —(D) 2 B33	Activate ATA.	11 – 14 V	Wiring.
15.1		Trigger alarm (simulation)	1 —(C) ← (←→) —(D) 5 B33	Disconnect connector at B33. Insert bridge.  Use bridges with 124 589 37 63 00 safety cables only.	Alarm is triggered.	Wiring, A37 If values are OK: B33

Electrical Test Program – Test – Connector Layouts

Connector Layout - Pneumatic control module (A37)

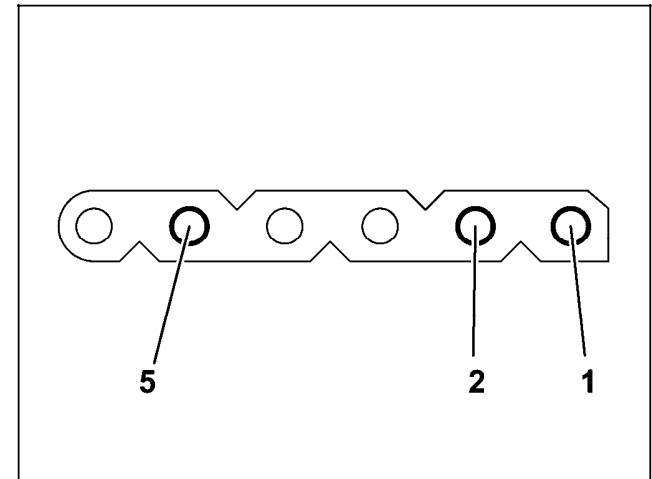
- 1 Connector 1 (PSE control lines)
- 1 Connector 2 (PSE voltage supply)
- 3 Connector 3 (ATA control lines)
- 4 Connector 4 (ATA electrical consumer connections)



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Connector Layout - ATA tow sensor (B33)

- 1 Data
- 2 Voltage supply (+)
- 5 Ground

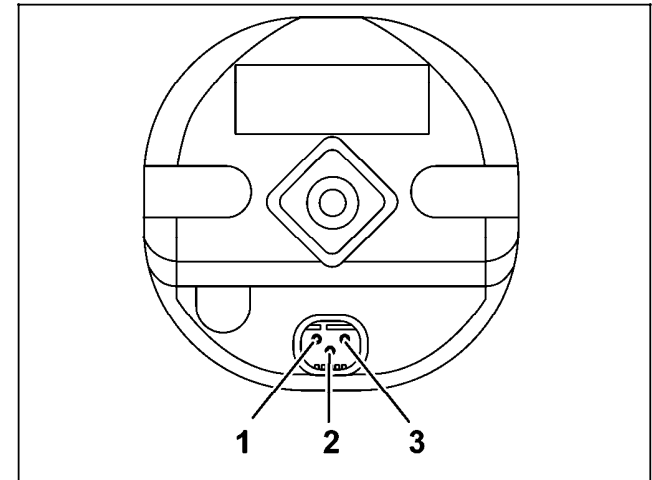


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Electrical Test Program – Test – Connector Layouts

Connector Layout - Alarm siren with auxiliary battery (H3/1)

- 1 Voltage supply +
- 2 Ground
- 3 Data



P80.50-2019-01

Programming

- After replacing the PSE control modules (A37), the following coding must be performed, the menu item 5 appears on the HHT's display. Only after programming is the ATA function activated in the PSE control module (A37). The program is menu-driven. Access to version coding is via: Body and Accessories - ATA - Version Coding



Proper version coding is required for the proper indication in the Actual Values and Activation menus', as well as in DTC memory.

Coding possibilities	Selections	Hints
ATA country version	(USA) Delayed headlamp shutoff duration, 0 - 120 secs. (CH) Up to 05/97 Rest of the world (B) (self activated)	Country vers. (CH) only available until 05/98
Anti-tow protection	Yes No	
Alarm siren (signal) (up to 05/98) (B) (NL) (GB)	Yes No	See sub-menu in HHT for add. countries