



Important!

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Technical Bulletin

Subject: **Vehicle Grounds, Identification Chart and Tips on Repairs**

Group: **97**

Number: **00-01**

Model(s): **New Beetle**

1998, 1999

Date: **Mar. 24, 2000**

Supersedes T.B. Group 97 Number 99-02, Dated March 29, 1999

Service

The attached pages contain a component ground identification chart which lists ground locations that have been integrated into the Repair Information System. This bulletin also contains ground connection repair tips

Note:

- ◆ *Ground location information is shown in the Repair Manual CD ROM. To access:*
 - ◆ *Click "Library" button*
 - ◆ *Select appropriate model*
 - ◆ *Select "#" tab at top of page*

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Wire harness, repair

Note:

No other procedure or materials, other than those in VAS 1978, may be used for wire harness repairs, specifically soldering, wire nuts, generic repair kits, etc.

Always review Safety Precautions in VAS 1978 Instruction Manual prior to performing any wiring harness repairs.

CAUTION!

Shielded wiring for components, such as speed sensors or knock sensors, may not be repaired, but must ALWAYS be replaced.

DO NOT use solder wire when repairing a wiring harness.

Only use approved methods and materials if wiring harness repairs are required.

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Vehicle grounds, checking for causes of poor or no ground

– Inspect ground location for loose terminals (may indicate cap nut bottoming out before grounds terminals are secure).

– Remove cap nut.

– Inspect each terminal for corrosion. Contact surface must be clean and bright (clean terminal surfaces if necessary).

Terminals must not be cracked, torn or damaged.

– Straighten terminal if bent.

– Inspect each terminal for proper wire crimp. Terminal must be securely crimped to the wire strands only -arrow-.

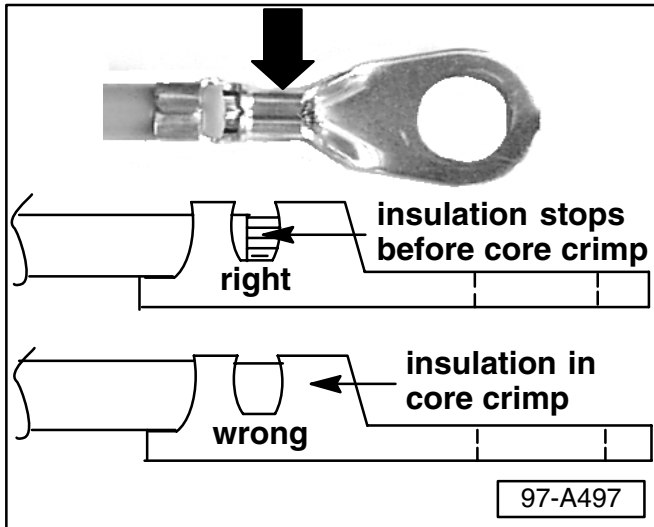
Note:

NO wire insulation must be drawn into this core crimp!

– Remove plastic terminal separator (if equipped).

– Inspect separator for pinch marks or broken tabs.

If separator was incorrectly installed, plastic may have been pinched between the first ground terminal and the grounding stud base.



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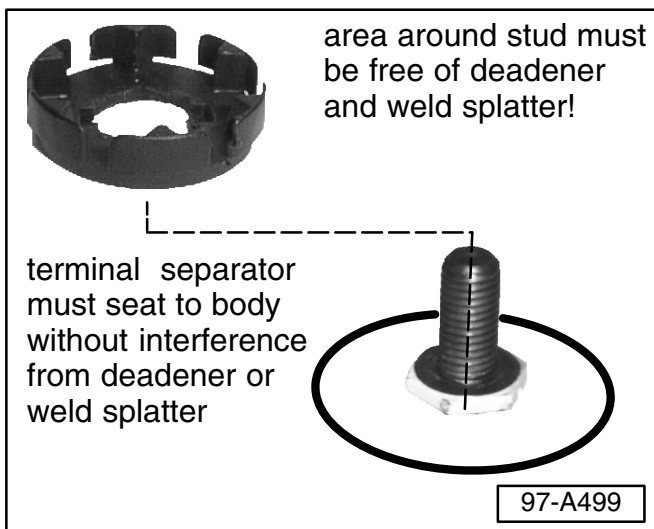
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- Replace separator if broken, pinched or if separator prevents or hinders seating of ground terminal when fastener is properly torqued.

Separator	Part No:
Short	1H0 971 260
Tall	1J0 971 260E

CAUTION!

Part numbers are for reference only. Always check with your Parts Dept. for the latest parts information.



When inspecting grounds 607–609 in plenum:

- Check that sound deadener for plenum does not interfere with seating of terminal separator.

If deadener interferes:

- Cut/scrape away any interfering deadener as necessary.
- Cover stud and paint exposed metal surrounding stud

Note:

DO NOT paint stud threads or terminal seating surface.

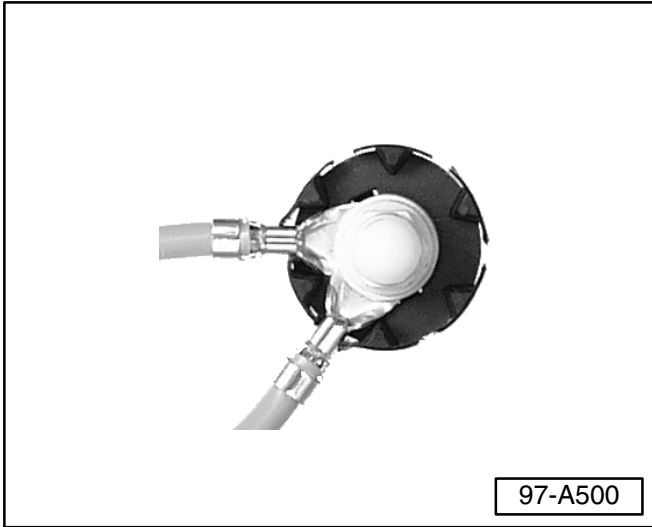
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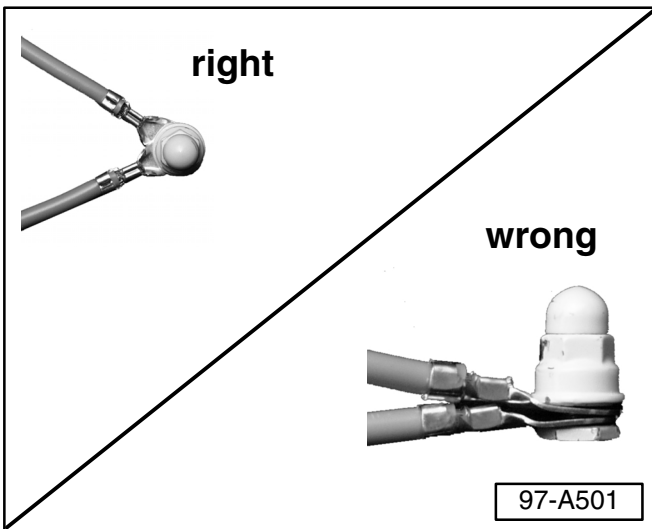
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- Inspect each grounding stud (should be free of paint and weld splatter). Contact surface must be clean and bright.
- Apply Stabilant 22A to ground terminals and carefully install ground terminals onto stud so that each terminal is in a different slot on the plastic separator as shown.

Note:

Make sure separator fits over stud correctly and will not interfere with first wire terminal and base of grounding stud.



- If separator is not available or has been discarded, separate wires as shown (DO NOT stack terminals on top of one another).

- Install and torque cap nut.

Ground	Part Number	Torque
12	1J0 971 254 A (Large Cap Nut)	16 Nm(12 ft lb)
All Others	1J0 971 254 B (Small Cap Nut)	9 Nm(80in lb)

CAUTION!

Part numbers are for reference only. Always check with your Parts Dept. for the latest parts information.

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- Report all loose and poor ground connections by indicating the location and a short description on a **COPY** of the attached Ground Location sheet.

Please fax this information to Volkswagen Product Support at the following number:
1-800-403-4710.

If no obvious fault can be found with a component or appropriate vehicle ground for that component, prior to replacing that component:

- It may be necessary to inspect other ground locations or call the Volkswagen Technicians Helpline at 1-800-678-2389.

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Component ground identification chart

Notes:

- ◆ Refer to the Repair Manual CD ROM for specific component and ground location information.
- ◆ It is important to note that ground conditions (poor or no ground) may affect other components not related to a particular ground location.
- ◆ If a particular component checks OK but the concern still exists, use the following chart to check not only the component ground but all grounds and all components at the particular ground location.

Component	Component Code	Ground											
		12	42	43	44	45	50	52	57	75	607	608	609
AIR BAGS													
Airbag spiral spring with slip ring	-F138-		x										
AIR CONDITIONING													
A/C Clutch	-N25-	x											
Coolant fan control module	-J293-	x											
Coolant fan	-V7-	x											
Fresh air blower	-V2-			x									
Right coolant fan	-V35-	x											
ANTI-THEFT SYSTEM													
Alarm horn	-H8-		x										
Control module for anti-theft immobilizer	-J362-		x										
Hood alarm switch	-F120-		x										
Induction coil for anti-theft immobilizer	-D2-		x										
Lock relay for starter (theft warning system)	-J433-		x										

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Component	Component Code	Ground											
		12	42	43	44	45	50	52	57	75	607	608	609
CHASSIS													
ABS control module (w/EDL)												x	
Left front pad wear sensor		x											
ELECTRICAL EQUIPMENT													
12V outlet -3-	-V19-		x										
12V socket	-V5-		x										
16-pin data link connector (DLC)	-T16-		x										
Brake fluid level warning switch	-F34-		x										
CD changer unit	-R41-					x							
Cigarette lighter	-U1-		x										
Comfort system central control module	-J393-		x										
Dual horns	-H1-	x											
Emergency flasher switch	-F3-		x										
Flasher	-K6-		x										
Horn button	-H-		x										
Left make-up mirror light switch	-F147-		x										
Locking relay for starter (clutch pedal switch)	-J434-		x										
Luggage compartment switch	-F5-						x						
Parking brake warning light switch	-F9-		x										
Power sunroof control module	-J245-		x										
Radio	-R-					x							
Rear spoiler control module	-J223-									x			
Right make-up mirror light switch	-F148-		x										

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Component	Component Code	Ground											
		12	42	43	44	45	50	52	57	75	607	608	609
ENGINE													
Generator	-C-	x											
Direct diesel fuel injection (DFI) engine control module	-J248-										x		
Fuel pump	-G6-		x										
Glow plug relay	-J52-		x										
Motor for fuel tank lid unlock	-V155-		x										
Motronic engine control module (ECM)	-J220-										x		
Positive crankcase ventilation (PCV) heating element	-N79-										x		
Secondary air injection (AIR) pump motor	-V101-	x									x	x	
Secondary air injection (AIR) pump relay	-J299-	x									x	x	
Switch for remote/fuel tank door	-E204-				x								
EXTERIOR LIGHTS													
DRL change over relay	-J89-		x										
High mount brake light	-M25-						x						
Left back-up light	-M16-						x						
Left brake/tail light	-M21-						x						
Left high beam headlight	-M30-	x											
Left low beam headlight	-M29-	x											
Left rear fog light	-L46-								x				
Left rear sidemarker light	-M37-						x						
Left rear turn signal light	-M6-						x						
Left side turn signal light	-M18-						x						

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Component	Component Code	Ground											
		12	42	43	44	45	50	52	57	75	607	608	609
EXTERIOR LIGHTS (cont.)													
License plate light	-X-						x						
Light for turn signal and side-marker, front, left	-M35-	x											
Light for turn signal and side-marker, front, right	-M36-	x											
Light switch	-E1-		x										
Right back-up light	-M17-						x						
Right brake/tail light	-M22-						x						
Right high beam headlight	-M32-	x											
Right low beam headlight	-M31-	x											
Right rear turn signal light	-M8-						x						
Right side turn signal light	-M19-						x						
INSTRUMENT CLUSTER													
Control module with indicator unit in instrument panel insert	-J285-		x										
Digital clock	-Y2-		x										
Illumination for lighting controller	-L105-		x										
Illumination for selector lever scale	-L101-		x										
Instrument panel light dimmer switch	-E20-		x										
Warning light for central locking -SAFE-	-K133-			x									

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Component	Component Code	Ground											
		12	42	43	44	45	50	52	57	75	607	608	609
INTERIOR LIGHTS													
Ashtray light	-L15-		x										
Cigarette lighter light	-L28-		x										
Front interior light	-W-		x										
Glove compartment light	-W6-		x										
Left make-up mirror light	-W20-		x										
Left rear reading light	-W11-		x										
Lighting for switch interior lock	-L99-			x									
Mirror adjusting switch light	-L78-				x								
Push button light	-L76-				x								
Right make-up mirror light	-W14-		x										
Right rear reading light	-W12-		x										
LOCKS													
Door control module, driver side	-J386-				x								
Door control module, passenger side	-J387-			x									
Lock unit for central locking, driver side	-F220-				x								
Lock unit for central locking, passenger side	-F221-			x									
Passenger's interior lock switch	-E198-			x									
Rear lid central locking motor	-V53-								x				
Switch for interior lock, driver side	-E150-				x								
Switch for remote unlock, rear lid	-E188-				x								
Trunk lock alarm/control locking switch	-F124-						x						

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Component	Component Code	Ground											
		12	42	43	44	45	50	52	57	75	607	608	609
MIRRORS													
Driver's side mirror adjustment motor	-V17-				x								
Heated outside mirror, driver side	-Z4-				x								
Heated outside mirror, passenger side	-Z5-			x									
Mirror adjustment switch	-E43-				x								
Mirror selector switch	-E48-				x								
Motor for mirror adjustment, driver side	-V149-				x								
Motor for mirror adjustment, passenger side	-V150-			x									
Passenger's side mirror adjustment motor	-V25-			x									
REAR WINDOW DEFOGGER													
Heater rear window								x					
Rear window defogger indicator light	-K10-		x										
Rear window defogger switch	-E15-		x										
Rear window defogger switch light	-L39-		x										

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Component	Component Code	Ground											
		12	42	43	44	45	50	52	57	75	607	608	609
SEATS													
Adjuster for heated driver's seat	-E94-		x										
Adjuster for heated passenger's seat	-E95-		x										
Driver's backrest heating element	-Z7-		x										
Driver's heated seat control module	-J131-		x										
Driver's heated seat temperature sensor	-Z6-		x										
Driver's seat heating element	-G59-		x										
Passenger's backrest heating element	-Z9-		x										
Passenger's heated seat control module	-J132-		x										
Passenger's heated seat temperature sensor	-G60-		x										
Passenger's seat heating element	-Z8-		x										
TRANSMISSION													
Clutch pedal position (CPP switch)	-F194-		x										
Kick-down switch	-F8-										x		
Multi-function transmission range (TR) switch	-F125-										x		
Park/Neutral position (PNP) relay	-J226-										x		
Transmission control module (TCM)	-J217-										x	x	x

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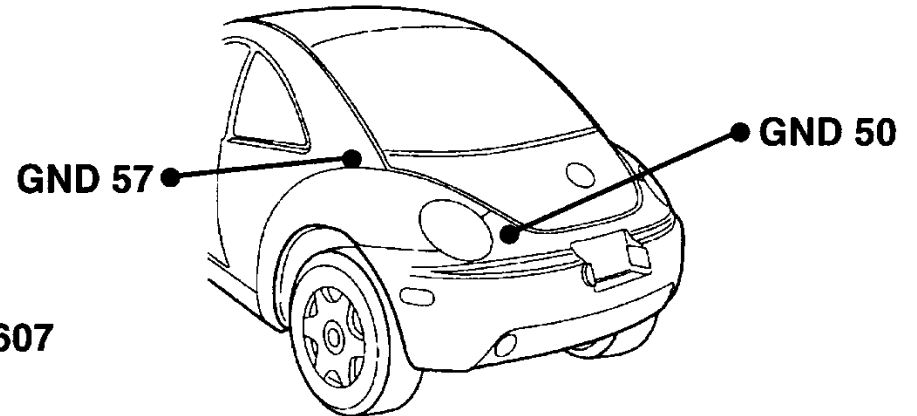
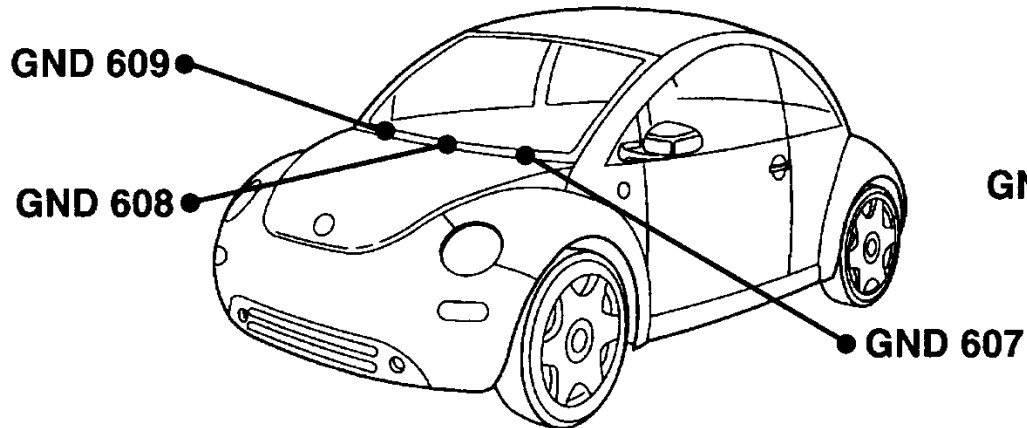
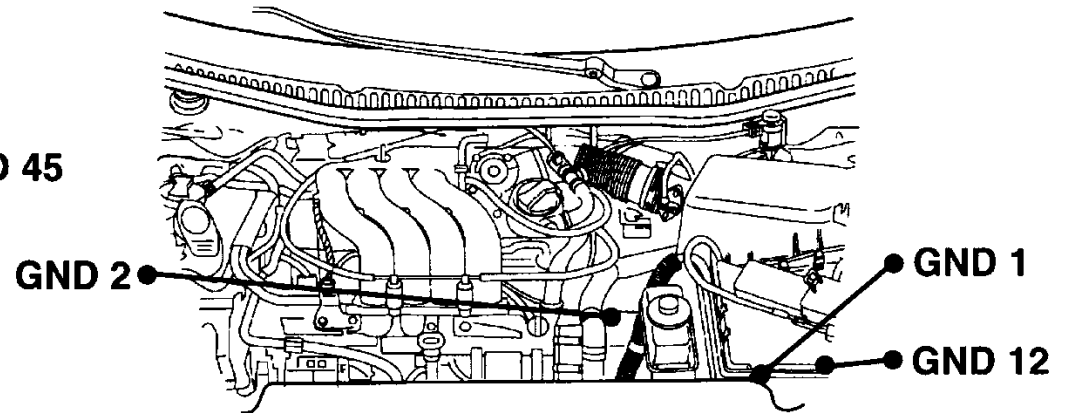
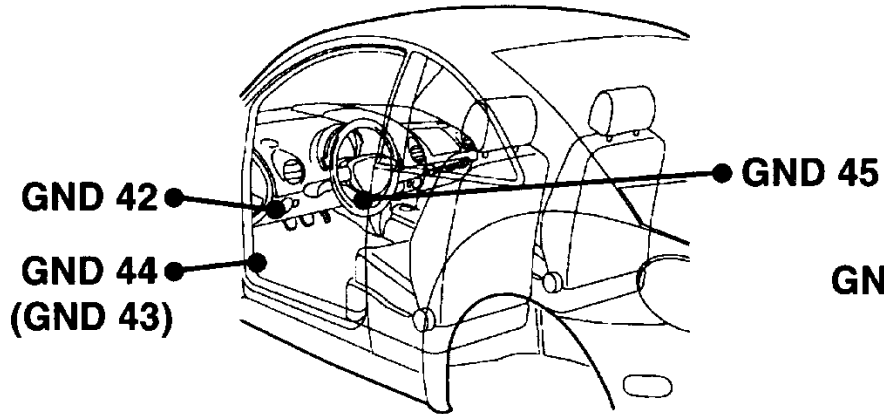
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		12	42	43	44	45	50	52	57	75	607	608	609
WINDOWS													
Motor for window regulator, passenger side	-V148-			x									
Switch for window regulator, front left	-E40-				x								
Switch for window regulator, front right, driver	-E81-				x								
Switch for window regulator, in passenger door	-E107-			x									
WINDSHIELD WIPER/WASHER													
Left washer nozzle heater	-Z20-		x										
Right washer nozzle heater	-Z21-		x										
Windshield wiper intermittent regulator	-E38-		x										
Windshield wiper motor	-V-	x											
Windshield wiper/washer switch	-E22-		x										
Wiper/washer intermittent relay	-J31-		x										



Ground Locations

New Beetle

Dealer No.: _____
VIN: _____
Repair Order No.: _____



When completed, FAX to attention
Product Support at: 1-800-403-4710
Attach copy to Repair Order!