

# 1 Relay and fuse arrangements - E-box High, from October 2005

## 1.1 Relay and Fuse arrangements, overview

1 - Fuses (SB) on Electronics Box High, engine compartment, left

□ ⇒ From Page → 206/4 (page 4)

2 - Position of Relays on Electronics Box High, engine compartment, left

□ ⇒ From Page → 206/17 (page 17)

3 - Fuses (SF) on fuse panel, in luggage compartment, right rear

□ ⇒ From Page → 206/18 (page 18)

4 - Position of Relays, Relay Carrier on Vehicle Electrical System Control Module, under instrument panel, left

□ ⇒ From Page → 206/16 (page 16)

5 - Fuses (SC) (on fuse panel C), under instrument panel, left

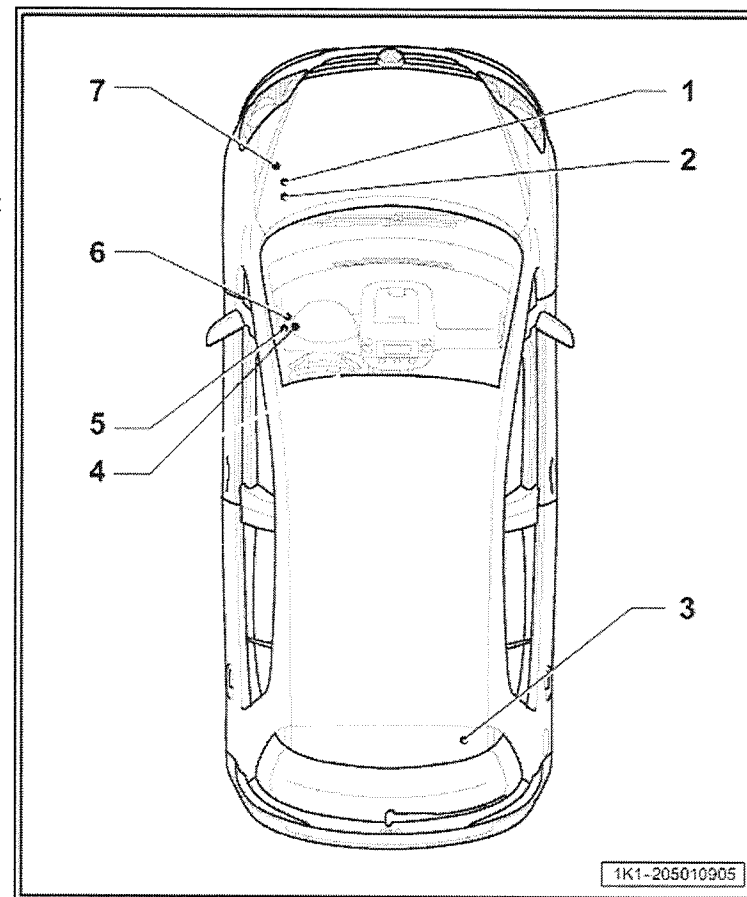
□ ⇒ From Page → 206/8 (page 8)

6 - Position of Relays with Safety Cutout, under instrument panel, left

□ ⇒ From Page → 206/15 (page 15)

7 - Fuses (SA) on fuse panel A, on electronics box High

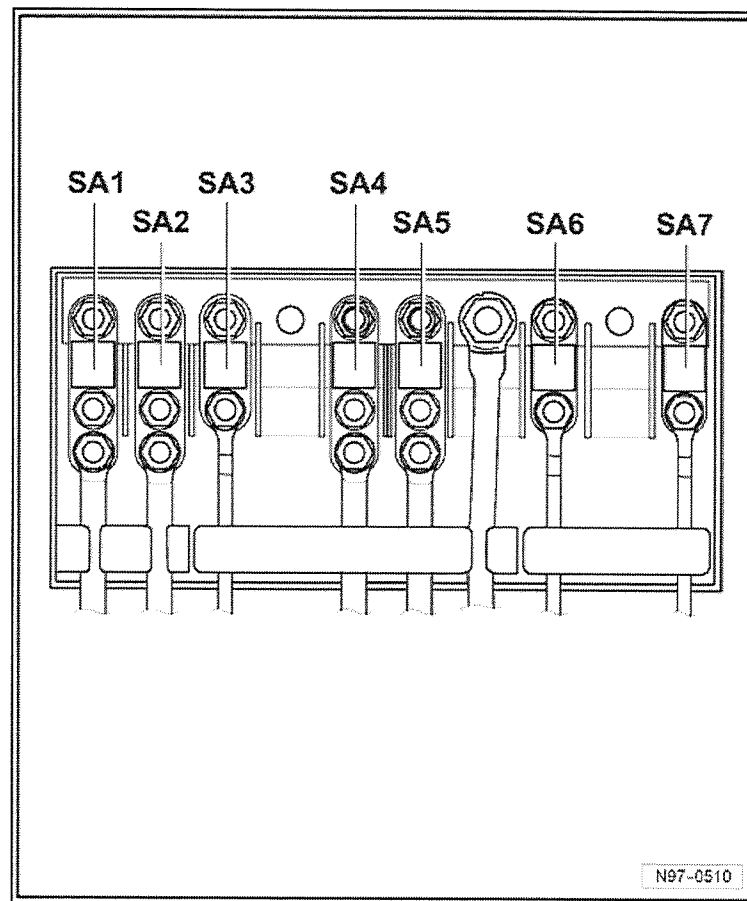
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## 1.2 Fuse arrangements (SA) on fuse panel A, in E-box High, in engine compartment, left

### 1.2.1 Torque Settings

see Repair Manual, Electrical System, Repair Group 97, Fuse Panel, removing and installing

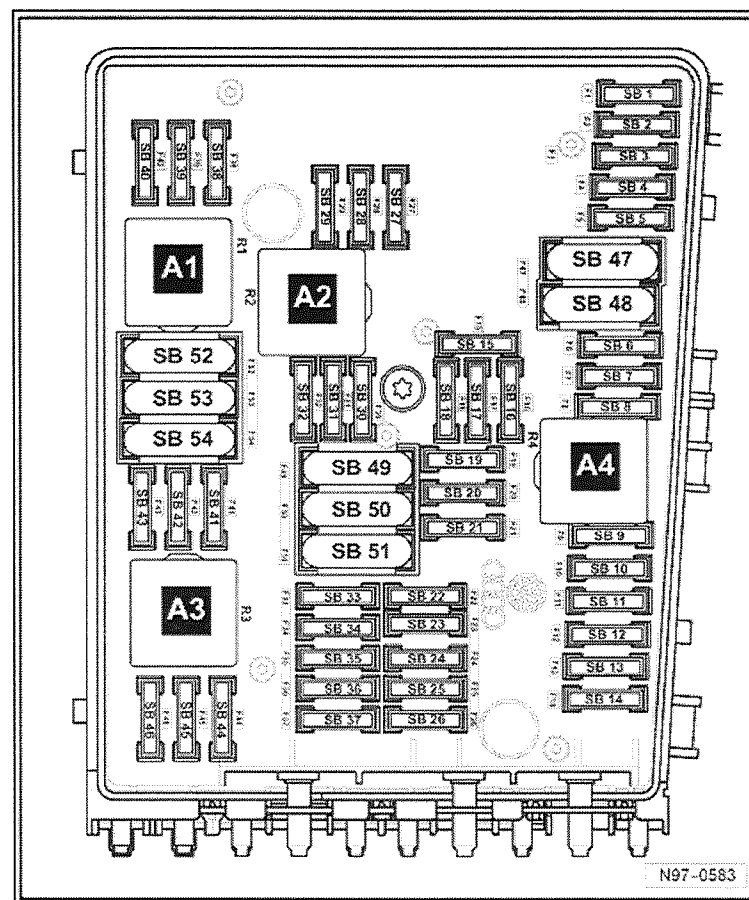


No.	Designation in Current Flow Diagram	Nominal Value	Function/Component	Terminal
1	- SA1 - Fuse 1 (on fuse panel A)	150A 200A	- C -Generator (GEN) (90A/120A) C -Generator (GEN) (1401A)	30a
2	- SA2 - Fuse 2 (on fuse panel A)	80A	- J500- Power Steering Control Module V187-Electro-mechanical Power Steering Motor	30a
3	- SA3 - Fuse 3 (on fuse panel A)	50A	- J293 -Coolant Fan Control (FC) Control Module V7 -Radiator Fan V177 -Coolant Fan 2	30a
4	- SA4 - Fuse 4 (on fuse panel A)	80A	- Fuses (on fuse panel C), under instrument panel, left: SC32 - SC 37, Power Seat Adjustment Circuit Breaker 1- 30A Power Seat Adjustment Circuit Breaker 2- 30A	29
5	- SA5 - Fuse 5 (on fuse panel A)	100A	- J604-Auxiliary Air Heater Control Module Z35 -Auxiliary Air Heater Heating Element	30a
6	- SA6 - Fuse 6 (on fuse panel A)	80A 100A	- Fuses (on fuse panel C), under instrument panel, left: SC18 - SC20, SC22 - SC28, SC43 - SC45 Optional Equipment	30a 30a
7	- SA7 - Fuse 7 (on fuse panel A)	50A	- Fuses (on fuse panel C), under instrument panel, left: SC22 - SC27	30a

### 1.3 Fuse arrangements (SB) on E-box High, in engine compartment, left

#### 1.3.1 Fuse colors

- 30 A - green
- 25 A - white
- 20 A - yellow
- 15 A - blue
- 10 A - red
- 7,5 A - brown
- 5 A - beige
- 3 A - purple



No.	Designation in Current Flow Diagram	Nominal Value	Function/Component	Terminal
F1	- SB1 - Fuse 1 (on fuse panel B)	30A	- J104 -ABS Control Module (pump)	30a
F2	- SB2 - Fuse 2 (on fuse panel B)	30A	- J104 -ABS Control Module (valves)	30a
F3	- SB3 - Fuse 3 (on fuse panel B)	20A	- J393 -Comfort System Central Control Module J217 -Front Passenger's Wiper Motor	30a
F4	- SB4 - Fuse 4 (on fuse panel B)	5A	- J519 -Vehicle Electrical System Control Module (measuring cable)	30a
F5	- SB5 - Fuse 5 (on fuse panel B)	15A	- J519 -Vehicle Electrical System Control Module (horn)	30a
F6	- SB6 - Fuse 6 (on fuse panel B)	15A	- N276 -Fuel Pressure Regulator Valve	87a
F7	- SB7 - Fuse 7 (on fuse panel B)	15A	- -Not used	
F8	- SB8 - Fuse 8 (on fuse panel B)		- -Not used	
F9	- SB9 - Fuse 9 (on fuse panel B)	10A	- N249-Turbocharger Recirculating Valve (AXX, BWA, BPY) N80-Evaporative Emission (EVAP) Canister Purge Regulator Valve 1 (AXX, BWA, BPY) N75-Wastegate Bypass Regulator Valve (AXX, BWA, BPY)	87a
F10	- SB10 - Fuse 10 (on fuse panel B)		- -Not used	
F11	- SB11 - Fuse 11 (on fuse panel B)	10A	- Z19-Oxygen Sensor (O2S) Heater	87a
F12	- SB12 - Fuse 12 (on fuse panel B)	10A	- Z29 -Oxygen Sensor (O2S) Heater 1 (behind Three Way Catalytic Converter (TWC))	87a
F13	- SB12 - Fuse 12 (on fuse panel B)	15A	- J743-Motronic Engine Control Module (ECM)	30a
F14	- SB14 - Fuse 14 (on fuse panel B)		- -Not used	
F15	- SB15 - Fuse 15 (on fuse panel B)	10A	- V50-Coolant Pump	30a
F16	- SB16 - Fuse 16 (on fuse panel B)	5A	- J104 -Steering Column Control Module	30a
F17	- SB17 - Fuse 17 (on fuse panel B)	5A	- J285-Instrument Cluster Control Module	30a
F18	- SB18 - Fuse 18 (on fuse panel B)	30A	- R12 -Amplifier	30a
F19	- SB19 - Fuse 19 (on fuse panel B)	15A	- R-Radio	30a

No.	Designation in Current Flow Diagram	Nominal Value	Function/Component	Terminal
F20	- SB20 - Fuse 20 (on fuse panel B)	5A	- Telephone J503 -Radio/Navigation Display Control Module	30a
F21	- SB21 - Fuse 21 (on fuse panel B)		- -Not used	30a
F22	- SB22 - Fuse 22 (on fuse panel B)		- -Not used	30a
F23	- SB23 - Fuse 23 (on fuse panel B)	10A	- J623-Engine Control Module (ECM)	30a
F24	- SB24 - Fuse 24 (on fuse panel B)	5A	- J533-Data Bus On Board Diagnostic Interface	30a
F25	- SB25 - Fuse 25 (on fuse panel B)		- -Not used	30a
F26	- SB26 - Fuse 26 (on fuse panel B)		- -Not used	30a
F27	- SB27 - Fuse 27 (on fuse panel B)		- -Not used	87a
F28	- SB28 - Fuse 28 (on fuse panel B)	25A	- J623-Engine Control Module (ECM)	87a
F29	- SB29 - Fuse 29 (on fuse panel B)	5A	- J235-Engine Coolant Pump Relay	87a
F30	- SB30 - Fuse 30 (on fuse panel B)	20A	- J485 -Auxiliary Heater Operation Relay	29a
F31	- SB31 - Fuse 31 (on fuse panel B)	30A	- V -Windshield Wiper Motor	29a
F32	- SB32 - Fuse 32 (on fuse panel B)	-	- -Not used	-
F33	- SB33 - Fuse 33 (on fuse panel B)	-	- -Not used	-
F34	- SB34 - Fuse 34 (on fuse panel B)	-	- Not used	29a
F35	- SB35 - Fuse 35 (on fuse panel B)	-	- Not used	29a
F36	- SB36 - Fuse 36 (on fuse panel B)	-	- Not used	29a
F37	- SB37 - Fuse 37 (on fuse panel B)		- Not used	29a
F38	- SB38 - Fuse 38 (on fuse panel B)	10A	- J293 -Coolant Fan Control (FC) Control Module	87a
F39	- SB39 - Fuse 39 (on fuse panel B)	5A	- F47-Brake Pedal Switch	87a

No.	Designation in Current Flow Diagram	Nominal Value	Function/Component	Terminal
F40	- SB40 - Fuse 40 (on fuse panel B)	20A	- N70 -Ignition Coil 1 with Power Output Stage N127 -Ignition Coil 2 with Power Output Stage N291 -Ignition Coil 3 with Power Output Stage N292 -Ignition Coil 4 with Power Output Stage	87a
F41	- SB41 - Fuse 41 (on fuse panel B)	-	- -Not used	87a
F42	- SB42 - Fuse 42 (on fuse panel B)	5A	- J757 -Engine Component Power Supply Relay	87a
F43	- SB43 - Fuse 43 (on fuse panel B)	30A	- N70 -Ignition Coil 1 with Power Output Stage N127 -Ignition Coil 2 with Power Output Stage N291 -Ignition Coil 3 with Power Output Stage N292 -Ignition Coil 4 with Power Output Stage N323 -Ignition Coil 5 with Power Output Stage N324 -Ignition Coil 6 with Power Output Stage	87a
F44	- SB44 - Fuse 44 (on fuse panel B)	-	- -Not used	-
F45	- SB45 - Fuse 45 (on fuse panel B)	-	- -Not used	-
F46	- SB46 - Fuse 46 (on fuse panel B)	-	- -Not used	-
F47	- SB47 - Fuse 47 (on fuse panel B)	40A	- J519-Vehicle Electrical System Control Module	30a
F48	- SB48 - Fuse 48 (on fuse panel B)	40A	- J519-Vehicle Electrical System Control Module	30a
F49	- SB49 - Fuse 49 (on fuse panel B)	-	- J681-Power Supply Relay 2 (terminal 15)	30a
F50	- SB50 - Fuse 50 (on fuse panel B)	-	- -Not used	30a
F51	- SB51 - Fuse 51 (on fuse panel B)	40A	- J299-Secondary Air Injection (AIR) Pump Relay	29a
F52	- SB52 - Fuse 52 (on fuse panel B)	40A	- J59-Load Reduction Relay	29a
F53	- SB53 - Fuse 53 (on fuse panel B)	50A	- -Optional Equipment	29a
F54	- SB54 - Fuse 54 (on fuse panel B)	-	- -Not used	29a

1.4 Fuse arrangements (SC) on fuse panel, in instrument panel, left

1.5 Fuse arrangements (SC) on fuse panel, in instrument panel, left

1.5.1 Fuse colors

30a A - green

25 A - white

20 A - yellow

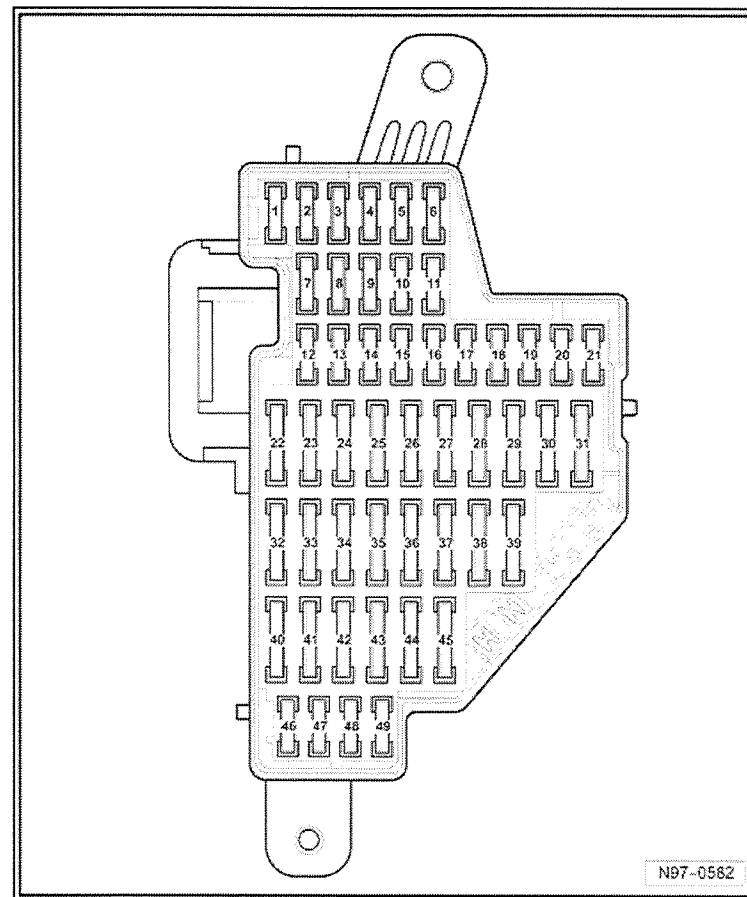
15 A - blue

10 A - red

7,5 A - brown

5 A - beige

3 A - purple





No.	Designation in Current Flow Diagram	Nominal Value	Function/Component	Terminal
1	- SC1 - Fuse 1 (on fuse panel C)	10A	- J485-Auxiliary Heater Operation Relay N79-Positive Crankcase Ventilation (PCV) Heating Element (BUB, BMJ, BWA) G70-Mass Air Flow (MAF) Sensor (AXX, BWA, BPY) J757-Engine Component Power Supply Relay T16-Data Link Connector (DLC) (T16/1) J431-Headlamp Range Control Module	15a
2	- SC2 - Fuse 2 (on fuse panel C)	10A	- J623-Engine Control Module (ECM) E1-Light Switch V49-Right Headlamp Beam Adjustment Motor V48- Left Headlamp Beam Adjustment Motor E102-Headlamp Beam Adjustment Motor J538-Fuel Pump (FP) Control Module (AXX, BWA, BPY) J492- All-Wheel Drive Control Module J345- Towing Recognition Control Module J587-Selector Lever Sensor System Control Module J533-Data Bus On Board Diagnostic Interface J285-Instrument Cluster Control Module J500-Power Steering Control Module J104-ABS/EDL Control Module E132-Anti-Slip Control Switch E256-ASR/ESP Button G100-Brake Pedal Position Sensor, (from November 2005)	15a
3	- SC3 - Fuse 3 (on fuse panel C)	5A	- J234 -Airbag Control Module	15a

No.	Designation in Current Flow Diagram	Nominal Value	Function/Component	Terminal
4	- SC4 - Fuse 4 (on fuse panel C)	10A	- G266-Oil Level Thermal Sensor M17-Backup Lamps J255-Climatronic Control Module G65-High Pressure Sensor E16-Heater/Heat Output Switch J530-Garage Door Opener Control Module N253-Battery Interrupt Igniter Y7-Automatic Day/Night Interior Mirror E422-Tire Pressure Monitoring Display Button K216-ASR/ESP Control Lamp 2 Z20-Left Washer Nozzle Heater Z21-Right Washer Nozzle Heater	15a
5	- SC5 - Fuse 5 (on fuse panel C)	5A	- J745-Headlamp Range/Cornering Lamp Control Module, on right headlamp	15a
6	- SC6 - Fuse 6 (on fuse panel C)	5A	- J745-Headlamp Range/Cornering Lamp Control Module, on left headlamp	15a
7	- SC7 - Fuse 7 (on fuse panel C)	5A	- -Not used	15a
8	- SC8 - Fuse 8 (on fuse panel C)	10A	- -Not used	15a
9	- SC9 - Fuse 9 (on fuse panel C)	-	- -Not used	15a
10	- SC10 - Fuse 10 (on fuse panel C)	-	- -Not used	15a
11	- SC11 - Fuse 11 (on fuse panel C)	-	- -Not used	15a
12	- SC12 - Fuse 12 (on fuse panel C)	10A	- J386-Driver's Door Control Module (window regulator) J387-Front Passenger's Door Control Module (window regulator)	30a
13	- SC13 - Fuse 13 (on fuse panel C)	10A	- T16-Data Link Connector (T16/16) E1-Light Switch G397-Rain/Light Recognition Sensor G197-Compass	30a

No.	Designation in Current Flow Diagram	Nominal Value	Function/Component	Terminal
14	- SC12 - Fuse 12 (on fuse panel)	10A	- F -Brake Light Switch J217-Transmission Control Module (TCM) J587-Selector Lever Sensor System Control Module R149-Auxiliary Engine Coolant Heating RF Receiver E16 -Heater/Heat Output Switch J301-A/C Control Module J255-Climatronic Control Module J446-Parking Aid Control Module J104-ABS/EDL Control Module	30a
15	- SC15 - Fuse 15 (on fuse panel)	7.5A	- J519-Vehicle Electrical System Control Module (interior illumination)	30a
16	- SC16 - Fuse 16 (on fuse panel)	-	- -Not used	30a
17	- SC17 - Fuse 17 (on fuse panel)	5A	- G273-Interior Monitoring Sensor G384-Vehicle Inclination Sensor H12-Alarm Horn	30a
18	- SC18 - Fuse 18 (on fuse panel)	5A	- -Not used	30a
19	- SC19 - Fuse 19 (on fuse panel)	5A	- J754-Crash Data Recorder	30a
20	- SC20 - Fuse 20 (on fuse panel)	5A	- -Not used	30a
21	- SC21 - Fuse 21 (on fuse panel)	-	- -Not used	30a
22	- SC22 - Fuse 22 (on fuse panel)	40A	- V2 -Fresh Air Blower (Climatronic)	30a
22	- SC22 - Fuse 22 (on fuse panel)	40A	- V2 -Fresh Air Blower (Climatronic), rear battery	29a
23	- SC23 - Fuse 23 (on fuse panel)	30A	- J386-Driver's Door Control Module (window regulator) J387-Front Passenger's Door Control Module (window regulator)	30a
23	- SC23 - Fuse 23 (on fuse panel)	30A	- J386-Driver's Door Control Module (window regulator), rear battery J387-Front Passenger's Door Control Module (window regulator), rear battery	29a

No.	Designation in Current Flow Diagram	Nominal Value	Function/Component	Terminal
24	- SC22 - Fuse 22 (on fuse panel)	25A	- J388-Left Rear Door Control Module (Central Locking) J389-Right Rear Door Control Module (Central Locking) J393-Comfort System Central Control Module	30a
25	- SC25 - Fuse 25 (on fuse panel)	25A	- Z1 -Heated Rear Window J301-A/C Control Module (only with additional water heater) E16-Heater/Heat Output Switch (only with additional water heater) N24-Fresh Air Blower Series Resistor (only with additional water heater)	30a
25	- SC25 - Fuse 25 (on fuse panel)	25A	- Z1 -Heated Rear Window, rear battery J301-A/C Control Module (only with additional water heater) E16-Heater/Heat Output Switch (only with additional water heater), rear battery N24-Fresh Air Blower Series Resistor (only with additional water heater), rear battery	29a
26	- SC26 - Fuse 26 (on fuse panel)	30A	- J388-Left Rear Door Control Module (window regulator) J389-Right Rear Door Control Module (window regulator)	30a
26	- SC26 - Fuse 26 (on fuse panel)	30A	- J388-Left Rear Door Control Module (window regulator), rear battery J389-Right Rear Door Control Module (window regulator), rear battery	29a
27	- SC27 - Fuse 27 (on fuse panel)	15A	- J538-Fuel Pump (FP) Control Module G6-Transfer Fuel Pump (FP)	30a
27	- SC27 - Fuse 27 (on fuse panel)	15A	- J538-Fuel Pump (FP) Control Module, rear battery G6-Transfer Fuel Pump, rear battery (FP)	30a
28	- SC28 - Fuse 28 (on fuse panel)	25A	- Special Purpose Vehicle Socket (Not for USA/Canada)	30a
29	- SC29 - Fuse 29 (on fuse panel)	10A	-Not used	15a
30	- SC30 - Fuse 30 (on fuse panel)	20A	- J217 -Transmission Control Module (TCM) J743-Direct Shift Gearbox (DSG) Mechatronic	Terminal 15a
31	- SC31 - Fuse 31 (on fuse panel)	20A	- V192 -Brake System Vacuum Pump	15a

No.	Designation in Current Flow Diagram	Nominal Value	Function/Component	Terminal
25	- SC25 - Fuse 25 (on fuse panel)	25A	- Z1 -Heated Rear Window, rear battery J301-A/C Control Module (only with additional water heater) E16-Heater/Heat Output Switch (only with additional water heater), rear battery N24-Fresh Air Blower Series Resistor (only with additional water heater), rear battery	29a
26	- SC26 - Fuse 26 (on fuse panel)	30A	- J388-Left Rear Door Control Module (window regulator) J389-Right Rear Door Control Module (window regulator)	30a
26	- SC26 - Fuse 26 (on fuse panel)	30A	- J388-Left Rear Door Control Module (window regulator), rear battery J389-Right Rear Door Control Module (window regulator), rear battery	29a
27	- SC27 - Fuse 27 (on fuse panel)	15A	- J538-Fuel Pump (FP) Control Module G6-Transfer Fuel Pump (FP)	30a
27	- SC27 - Fuse 27 (on fuse panel)	15A	- J538-Fuel Pump (FP) Control Module, rear battery G6-Transfer Fuel Pump, rear battery (FP)	30a
28	- SC28 - Fuse 28 (on fuse panel)	25A	- Special Purpose Vehicle Socket	30a
29	- SC29 - Fuse 29 (on fuse panel)	10A	- -Not used	15a
30	- SC30 - Fuse 30 (on fuse panel)	20A	- J217 -Transmission Control Module (TCM) J743-Direct Shift Gearbox (DSG) Mechatronic	15a
31	- SC31 - Fuse 31 (on fuse panel)	20A	- V192 -Brake System Vacuum Pump	15a
32	- SC32 - Fuse 32 (on fuse panel)	30A	- U13 -Converter with Socket, 12V, 230V-110V	29a
33	- SC33 - Fuse 33 (on fuse panel)	25A	- J245-Power Sunroof Control Module	29a
34	- SC34 - Fuse 34 (on fuse panel)	15A	- V125-Driver's Seat Lumbar Support Curvature Adjustment Motor V126-Front Passenger's Seat Lumbar Support Curvature Adjustment Motor V129-Driver's Seat Lumbar Support Height Adjustment Motor V130-Front passenger Seat Lumbar Support Height Adjustment Motor	29a

No.	Designation in Current Flow Diagram	Nominal Value	Function/Component	Terminal
35	- SC35 - Fuse 35 (on fuse panel)	-	-Not used	29a
36	- SC36 - Fuse 36 (on fuse panel)	20A	- V11 -Headlamp Washer Pump J39 -Headlamp Washer Relay	29a
37	- SC37 - Fuse 37 (on fuse panel)	30A	- J131 -Driver's Heated Seat Control Module J132-Front Passenger's Heated Seat Control Module	29a
38	- SC38 - Fuse 38 (on fuse panel)	20A	- J388-Left Rear Door Control Module (Central Locking System), with J641- Alarm Horn Relay, rear battery J389-Right Rear Door Control Module (Central Locking System), with J641- Alarm Horn Relay, rear battery	30a
39	- SC39 - Fuse 39 (on fuse panel)	-	-Not used	30a
40	- SC40- Fuse 40 (on fuse panel)	401A	- E16-Heater/Heat Output Switch (fresh air bower) J301-A/C Control Module (fresh air blower)	75a
41	- SC41 - Fuse 41 (on fuse panel)	20A	- V12-Rear Window Wiper Motor J729-Dual Washer Pump Relay 1 J730-Dual Washer Pump Relay 2	75a
42	- SC42 - Fuse 42 (on fuse panel)	20A	- U1-Cigarette Lighter U9-Rear Cigarette Lighter U5-12 V Socket (criminal investigation) (Not USA/Canada)	75a
43	- SC43 - Fuse 43 (on fuse panel)	15A	- J345-Towing Recognition Control Module	30a
44	- SC44 - Fuse 44 (on fuse panel)	20A	- J345-Towing Recognition Control Module (not for rear battery)	30a
45	- SC45 - Fuse 45 (on fuse panel)	15A	- J345-Towing Recognition Control Module	30a
46	- SC46 - Fuse 46 (on fuse panel)	-	-Not used	-
47	- SC47 - Fuse 47 (on fuse panel)	-	-Not used	-
48	- SC48 - Fuse 48 (on fuse panel)	10A	-Mag-Lite and portable two-way radio charging station	75a
49	- SC49 - Fuse 49 (on fuse panel)	-	-Not used	-

## 1.6 Relay arrangements and circuit breakers on relay panel below instrument panel, left

1 - J13 (53) - Fresh Air Blower Relay - (only auxiliary heater)

2 - Not used

3 - Not used

4 - J39 (53) - Headlamp Washer Relay

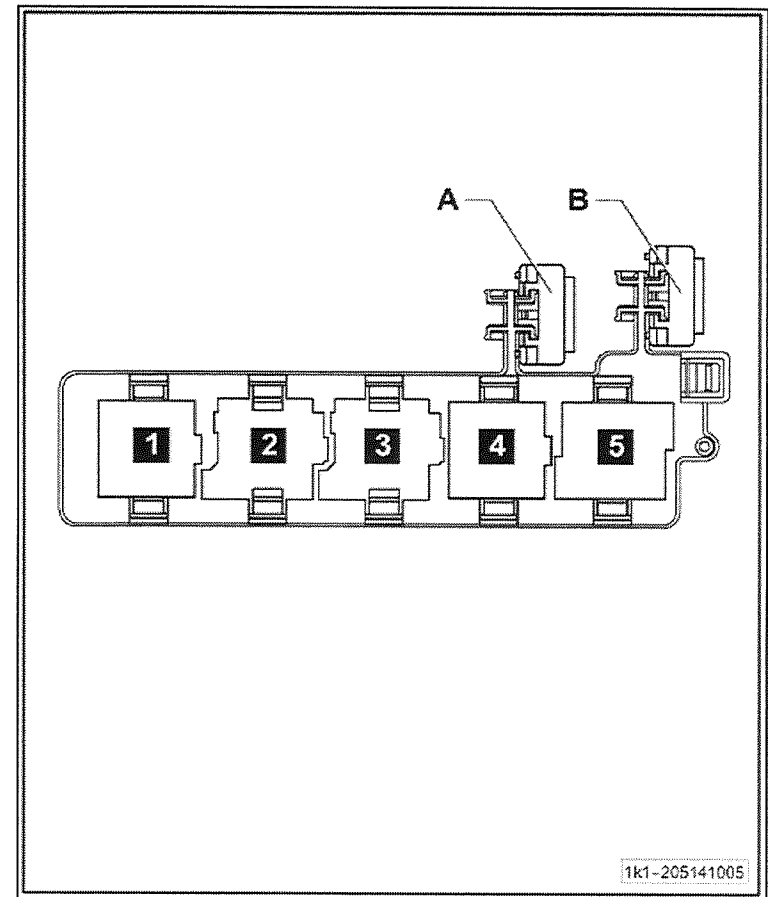
5 - J17 (449) - Fuel Pump (FP) Relay

5 - J485 (449) - Auxiliary Heater Operation Relay

A - Power Seat Adjustment Circuit Breaker 1- 30A (from May 2004)

B - Power Seat Adjustment Circuit Breaker 1- 30A (Through April 2004)

♦ J17 and J485 are minirelays located on a relay connector panel



## 1.7 Relay arrangements on relay panel at Vehicle Electrical System Control Module, under instrument panel, left

B1 - Not used

B2 - J99 -Heated Outside Mirror Relay (449)

B3 - Not used

B4 - J689 Power Supply Relay 2 (terminal 50) (449)

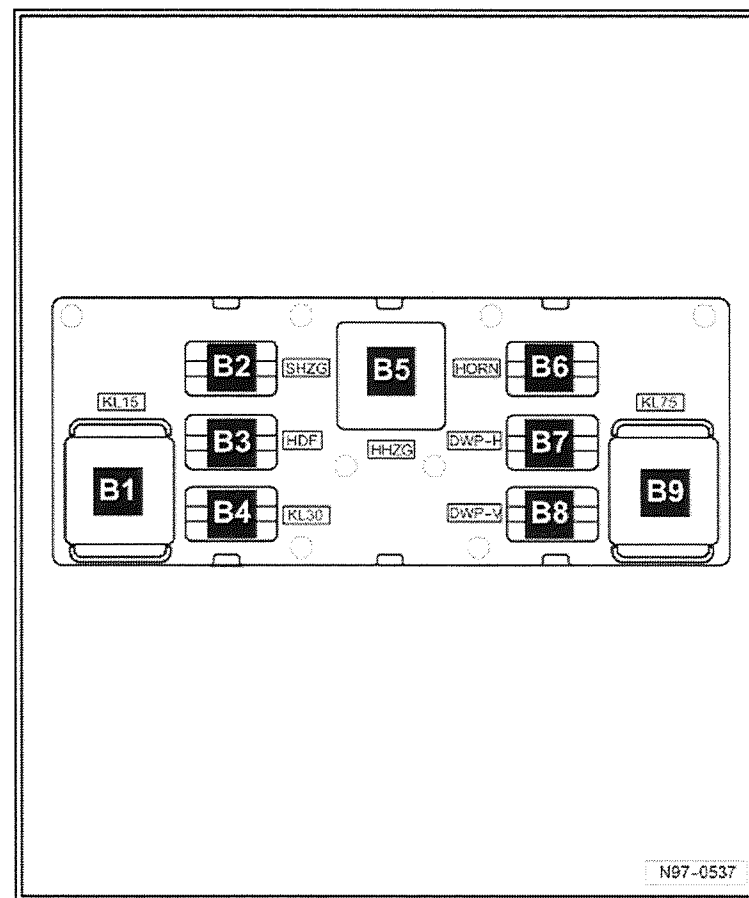
B5 - J9 -Rear Window Defogger Relay (53)

B6 - J413 -Horn Relay (449)

B7 - J729 -Dual Washer Pump Relay 1 (404)

B8 - J730a -Dual Washer Pump Relay 2 (404)

B9 - J59 -Load Reduction Relay (460)





## 1.8 Relay arrangements on E-box High, in engine compartment, left

A1 - J317 -Power Supply Relay (terminal 30a) (100)

A2 - J235-Engine Coolant Pump Relay (100)

A3 - Not used

A4 - J757 -Engine Component Power Supply Relay (167)

