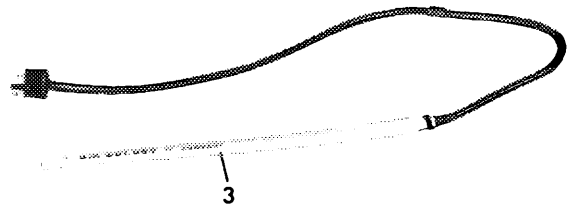


**General information**

Starting in August 1973, in addition to the already existing optical and acoustical demand for wearing a seat belt, American legislation demanded the installation of a starter lockout system which prevents starting the engine if a seat belt is not worn.

To eliminate the possibility that the system is bypassed by means of permanently buckled belts, a certain sequence of events is required, that is, the seat must be occupied first and the seat belt be worn and buckled. Then the engine can be started.



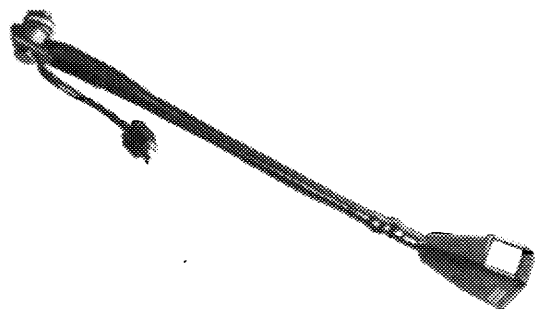
Seat contact switch

R54/7205

If one of the front belts is unbuckled while driving, the optical and acoustical warning will be activated, but the vehicle's drivability, once started, will not be affected.

If a front seat is vacated while driving without unbuckling the seat belt, the optical and acoustical warning will operate only after a delay of approx. 10 seconds.

The starter interlock works through a relay (seat belt starter logic) with electronic components controlled through various switches to activate the warning signals as well as the starter interlock.



Belt buckle with switch

182-9150

## Operation

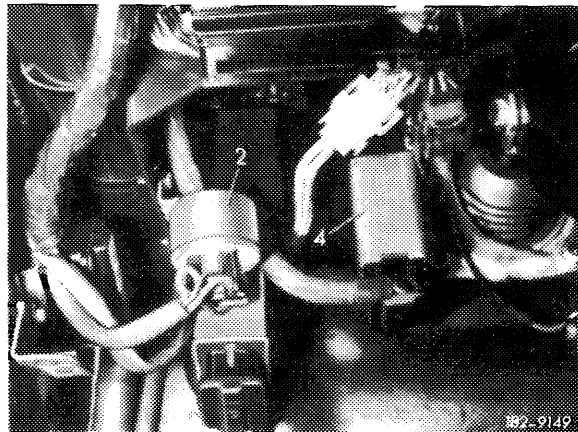
---

The padding of each front seat contains a seat contact switch (8 and 10) each. This seat contact switch is closed if the seat is occupied and will then connect the relay (4) to ground (seat belt starter logic) terminal SF/SB.

Each belt buckle of the front seat belts contains a switch (7 and 9), which closes if the belt is unbuckled and connects ground to relay (4) terminal GF/GB.

In case all switches are operated in the correct sequence in selector lever position "N" or "P" or idle position on manual transmission, that is, the seat contact switch will be closed first (seat occupied) and the belt buckle switch will then be opened (belt worn), the electronic system in relay (4) will connect ground to terminal 85 of relay (6) (starter/air conditioning).

**The engine can then be started.**

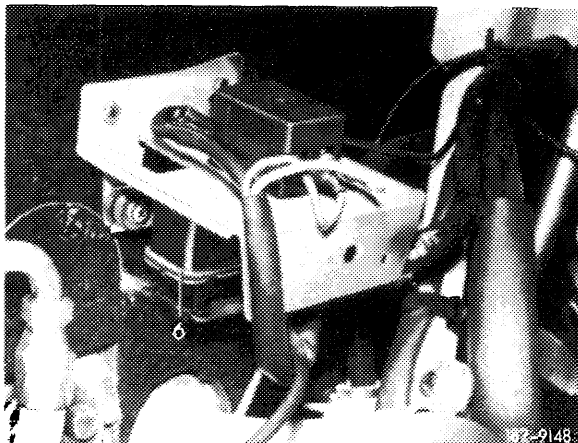


Model 116

- 2 Warning buzzer
- 4 Relay seat belt starter logic

If these prerequisites are not met, there will be no ground connection made to relay (6) and the circuit to starter terminal 50 remains interrupted.

**The engine cannot be started.**

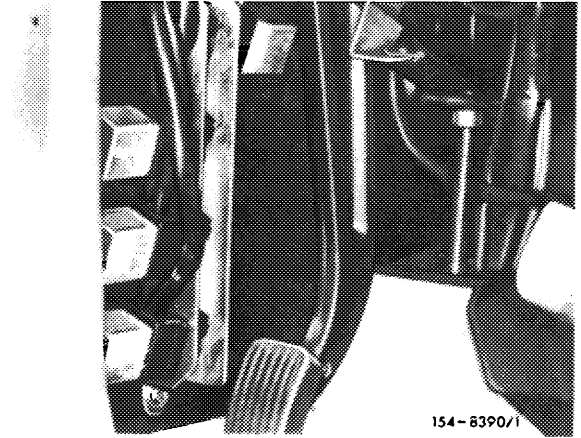


Model 114, 115

- 6 Relay starter/air conditioning

Model 116

6 Relay starter/air conditioning

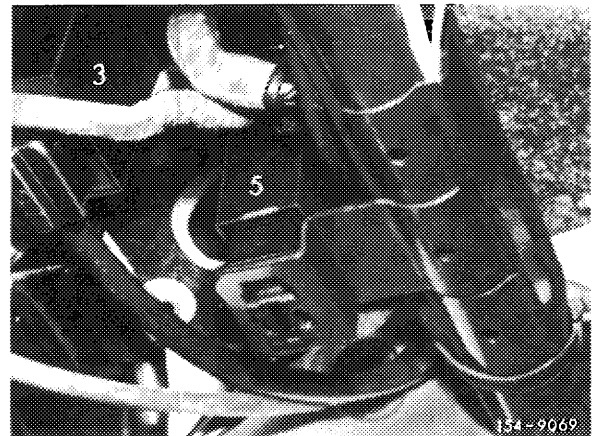


Along with the above and with the ignition switched on, power will be connected from terminal S of relay (4) to warning buzzer (2), terminal 15 and to the warning light (1) (FASTEN SEAT BELTS), which is connected in parallel. This will operate the warning buzzer and the warning light will light up.

If the driver's door is opened, so that the door contact switch (11) is closed and if the ignition key has not been removed (switch (3) on ignition lock will connect ground to warning buzzer (2)), the warning buzzer will also sound.

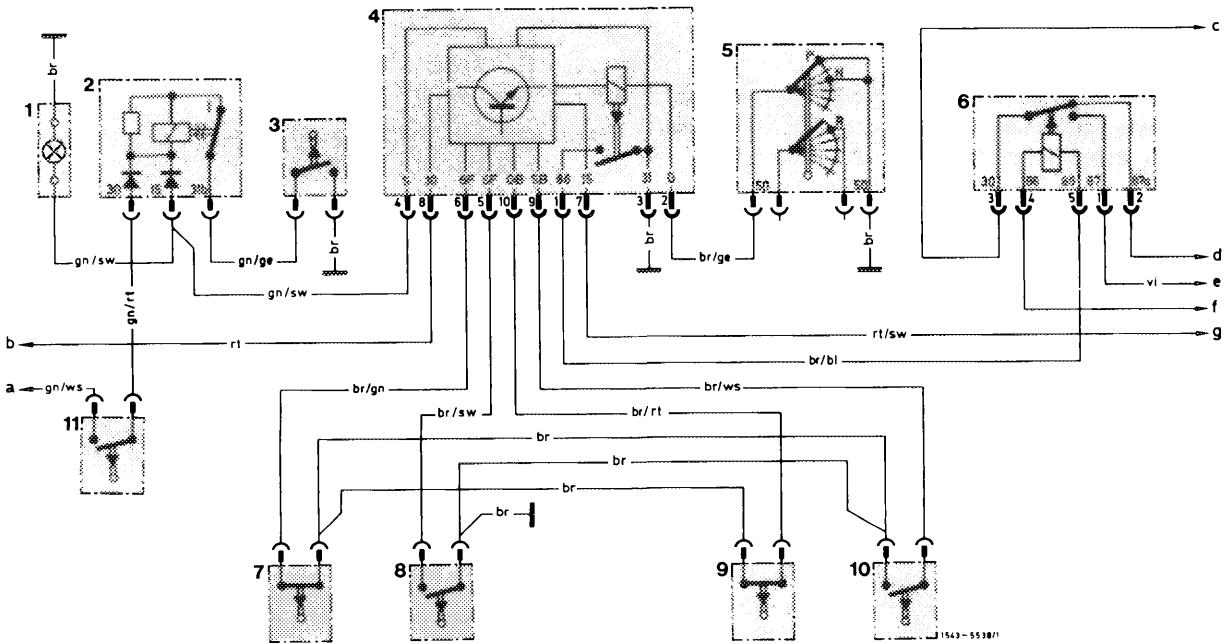
Model 114, 115

- 1 Turnsignal and warning flasher relay
- 2 Warning buzzer
- 3 Time relay heatable rear window
- 4 Relay seat belt starter logic
- 5 Interval re-wiper, electronic system



## Service hints

A provision has been made to facilitate starting the engine during servicing **without** occupying the driver's and front passenger's seat. Standing next to the vehicle, a person can reach over the steering wheel and turn the key to start the engine.



### Seat belt warning system with starter interlock

- |   |   |    |  |  |                                      |
|---|---|----|--|--|--------------------------------------|
| 1 | Warning light "FASTEN SEAT BELT"              | 9  | Belt buckle switch, front passenger's seat | e  | Starter, terminal 50                 |
| 2 | Warning buzzer                                | 10 | Seat contact switch front passenger's seat | f  | Ignition starter switch, terminal 50 |
| 3 | Warning switch on ignition and starter switch | 11 | Door contact switch left                   | g  | Fuse 2 (15, without additional fuse) |
| 4 | Relay seat belt starter logic                 | a  | Rotary light switch, terminal 30           | *) On model 115.117 with manual transmission a gear switch is installed on upper transmission cover instead of starter lockout switch. |                                      |
| 5 | Starter lockout*) and backup light switch     | b  | Fuse 1 (30, without additional fuse)       |  |                                      |
| 6 | Relay starter/air conditioning                | c  | Fuse 2 (15, without additional fuse)       |  |                                      |
| 7 | Belt buckle switch, driver's seat             | d  | Switch, air conditioning                   |  |                                      |
| 8 | Seat contact switch, driver's seat            |    |  |  |                                      |

## Testing the system

---

If any one of the following tests fails, it is necessary to check all the switches and relays on plug connections of relays (4 and 6) and of warning buzzer (2). The plug connections are described in checklist.

### Test 1

---

- Occupy driver's seat.
- Buckle belt.
- Switch on ignition.
- Lever in "N" or "P"/idle.

#### Result

Warning lamp/warning buzzer should not light up/sound.  
Engine can be started.

### Test 2

---

- Occupy driver's seat.
- Buckle belt.
- Switch on ignition.
- Shift into driving position/gear.
- Remove weight from seat padding for at least 10 seconds and sit down again.

#### Result

Warning lamp/warning buzzer should light up/sound only after approx. 10 seconds.

### Test 3

---

- Occupy driver's seat.
- Buckle belt.
- Switch on ignition.
- Shift into driving position/gear.
- Unbuckle belt.

#### Result

Warning lamp/warning buzzer should light up/sound immediately.  
Engine cannot be started.

### Test 4

---

- Buckle belt.
- Occupy driver's seat.
- Selector lever position "N" or "P"/idle.
- Switch on ignition — start engine.

#### Result

Warning lamp/warning buzzer should light up/sound immediately.  
Engine cannot be started.

### Test 5

---

- Do not occupy driver's seat.
- Switch on ignition.
- Selector lever position "N" or "P"/idle.

#### Result

Warning lamp/warning buzzer should not light up/sound.  
Engine can be started.

### Test 6

---

Repeat tests 1–4 on front passenger's seat.

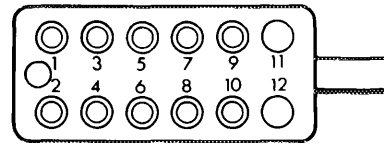
#### Result

The same as test 1–4.

## Checklist for relays and switches at plug connections

Use only voltmeter for testing

Item refer to wiring diagram	Item tested	Measured from contact	to contact	Volts	Condition
------------------------------	-------------	-----------------------	------------	-------	-----------



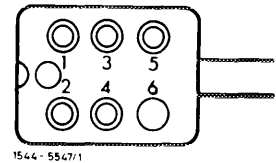
1564-5566/1

### A. Testing plug connection of relay 4 (seat belt starter logic)

b	Line from fuse No. 1 (30)	8	Ground	12	Constantly energized
g	Line from fuse No. 2 (15)	7	Ground	12	Ignition switched on
	Ground	3	8	12	None
5	Starter lockout and backup lamp switch/gear switch	2	8	12	Selector lever in position "N" or "P"/idle
5	Starter lockout and backup lamp switch/gear switch	2	8	0	Selector lever in position "D", "R", "L" or "S"/in gear
7	Belt switch Driver's seat	6	8	12	Seat belt not worn (unbuckled)
7	Belt switch Driver's seat	6	8	0	Seat belt worn (buckled)
8	Seat contact switch Driver's seat	5	8	12	Driver's seat occupied
8	Seat contact switch Driver's seat	5	8	0	Driver's seat not occupied
9	Belt switch Front passenger's seat	10	8	12	Seat belt not worn (unbuckled)
9	Belt switch Front passenger's seat	10	8	0	Seat belt worn (buckled)
10	Seat contact switch Front passenger's seat	9	8	12	Front passenger's seat occupied
10	Seat contact switch Front passenger's seat	9	8	0	Front passenger's seat not occupied

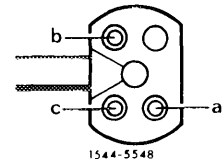
Use only voltmeter for testing

Item refer to wiring diagram	Item tested	Measured from contact	to contact	Volts	Condition
------------------------------	-------------	-----------------------	------------	-------	-----------



**B. Testing on plug connection of relay 6 (air conditioning/starter)**

4	Ignition starter switch Terminal 50	4	Ground	12	Ignition switch in starting position
4	Relay Seat belt starter logic	5	3	12	Ignition switched on, seat occupied, belt buckled, selector lever "N" or "P"/idle



**C. Testing on plug connection of warning buzzer**

4	Relay Seat belt starter logic	c (15)	Ground	12 (warning lamp lights up)	Ignition switched on, seat occupied, belt unbuckled, and then gear lever either in position "N" or "P"/idle and ignition key in starting position or selector lever in driving position
3	Warning switch on ignition starter switch	a (31 b)	Plus	12	Ignition off, ignition key remains in ignition lock
11	Door contact switch	b (30)	Ground	12	Door open