The second version of the Seat Belt Warning System has been installed in all 1974 Model year vehicles.

Production Cut-off Information

The second version of the Seat Belt Warning System has been installed in all 1974 model year vehicles.

General Description

Starting in August, 1973, all vehicles are required by law to be equipped with a starter interlock system which will prevent starting the engine if the seat belts are not worn. This feature is required in addition to the existing optical and acoustical warning mechanisms.

In order to eliminate the possibility that the system be bypassed by means of permanently buckled belts, provisions have been made to require a certain sequence of events, i.e. the engine can only be started if the belt has been buckled **after** occupation of the seat.

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

In case a front seat is vacated during driving, the optical and acoustical warning will operate after an approx. 10 second delay.

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

Description of the Electrical Operation

Each front seat contains a seat contact switch (8 and 10). See Fig. 5. "Electric Wiring Diagram".
The seat contact switches are closed if the seat is occupied and will then connect the relay (4) to ground (seat-belt starter-logic) Terminal SF/SB.

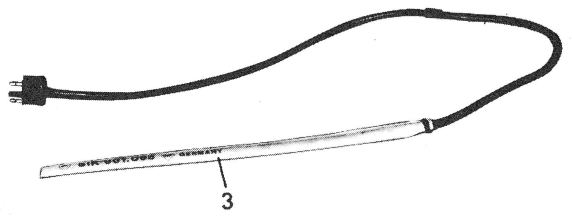

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Fig. 1 Seat contact switches

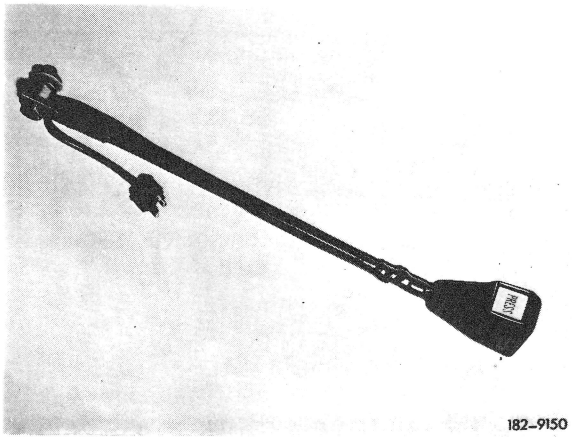

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Fig. 2 Belt buckle with switch

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 with the transmission in N or P (neutral with standard transmission), the electronic system in relay (4) will connect ground to terminal 85 of relay (6) (starter/air conditioning).

For this it is necesary to first close the seat contact switch (seat occupied) and then to open the seat belt buckle switch (belt buckled).

The engine can then be started.

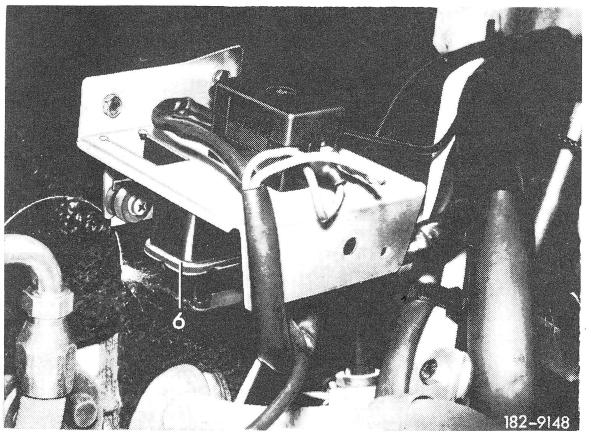


Fig. 3 Model 107
13 Relay, starter/air conditioning
14 Relay, warning buzzer

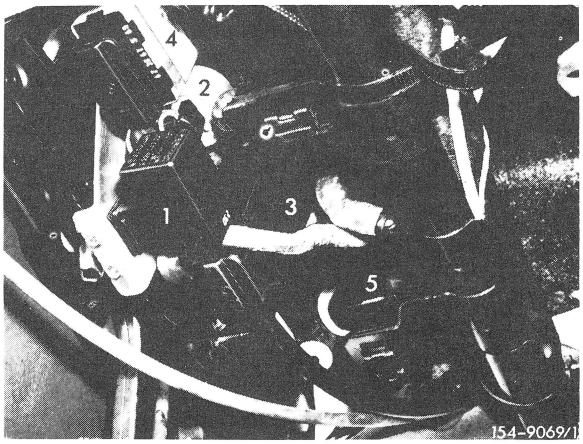


Fig. 4 Model 107
4 Relay, seat-belt starter-logic

In case the above 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.

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 BELT", which is connected parallel. This will operate the warning buzzer and the warning light.

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

Service Hints

A provision has been made to facilitate starting the engine during servicing without occupying the front seats. Standing next to the vehicle, the person can reach over the steering wheel and turn the key to start the engine.

Electric wiring diagram

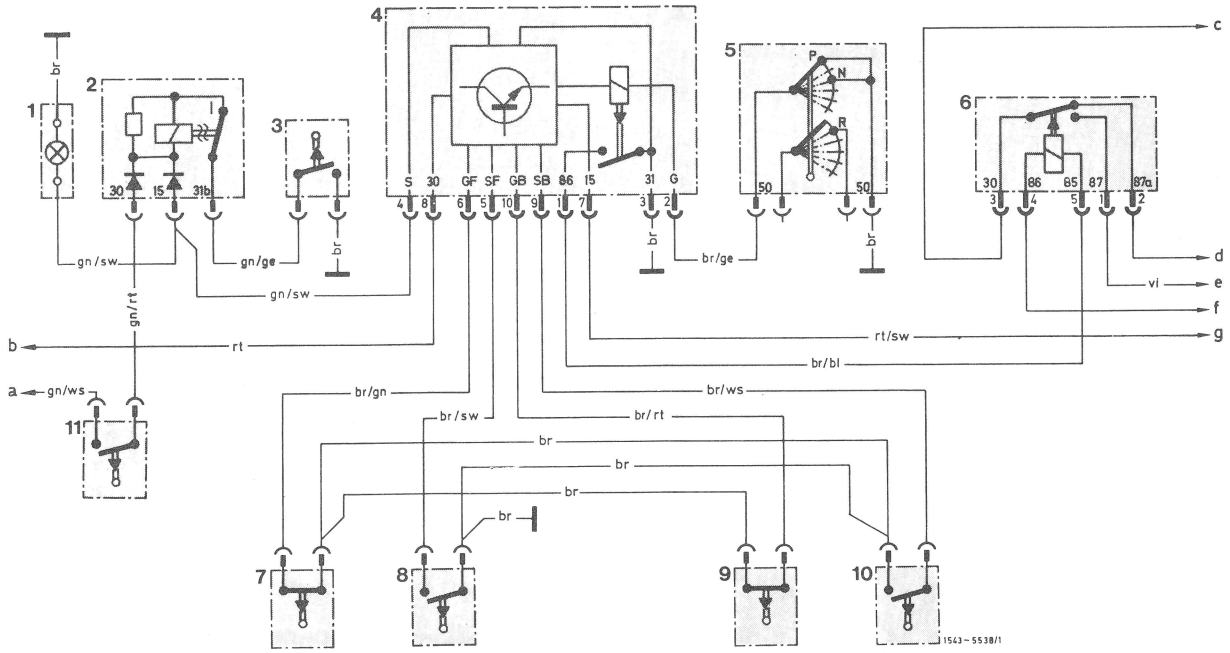


Fig. 5 Seat belt warning system with starter interlock

1 Warning light "FASTEN SEAT BELT"
2 Warning buzzer
3 Warning switch, ignition lock
4 Relay, seat belt starter-logic
5 Starter lock-out and back-up switch*
6 Relay, starter/air conditioning
7 Belt buckle switch, driver's seat
8 Seat contact switch, driver's seat
9 Belt buckle switch, passenger seat
10 Seat contact switch, passenger seat
11 Door contact switch
a Rotary light switch, terminal 30
b Fuse 1 (30, without additional fuse)
c Fuse 2 (15, without additional fuse)
d Switch, air conditioner
e Starter, terminal 50
f Ignition starter switch
g Fuse 2 (15, without additional fuse)

Color Code

bl	= blue	gn	= green	sw	= black
br	= brown	rs	= pink	vi	= purple
ge	= yellow	rt	= red	ws	= white

Testing the System

If any one of the following tests fails, it is necessary to check the electrical function of the system at the plugs of relays (4 and 6) and of the warning buzzer (2). The plug connections are described in the Check List.

Test 1

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

Result

Buzzer/light should not operate.
Engine can be started.

Test 2

- Occupy driver's seat
- Buckle belt
- Switch on ignition
- Shift into gear
- Remove weight from seat for at least 10 seconds

Result

Buzzer/light should operate after approx. 10 seconds.

Test 3

- Occupy seat
- Buckle belt
- Switch on ignition
- Shift into gear
- Unbuckle belt

Result

Buzzer/light should operate immediately.
Engine cannot be started.

Test 4

- Buckle belt
- Occupy seat
- Lever in N or P / Neutral
- Start engine

Result

Engine should not start.
Buzzer/light should operate.

Test 5

- Do **not** occupy driver's seat
- Switch on ignition
- Lever in N or P / Neutral

Result

Buzzer/light should not operate.
Engine can be started.

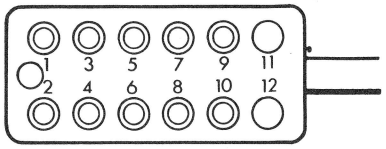
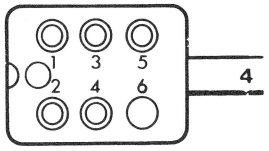
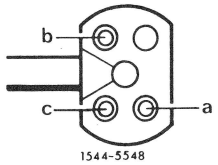
Test 6

Repeat tests 1 through 4 on passenger's seat.

Results should be identical.

Check List for Relays and Switches at the Plug Connections

Use only voltmeter

Item, refer to wiring diagram	Item tested	Measure from pin	Measure to pin	Volts	Condition
					Fig. 6  1544-5546/1
A	**Testing on Plug Connection of Relay 4 (SB–S–L)**				
b	Line from fuse 1 (terminal 30)	8	ground	+12	constantly has current
g	Line from fuse 2 (terminal 15)	7	ground	+12	with ignition on
	Ground	3	8	+12	none
5	Starter lockout and back-up light switch/ gear switch	2	8	+12	gear lever in N, or P / Neutral
5	Starter lockout and back-up light switch/ gear switch	2	8	0	gear lever in D, R, L, or S / in gear
7	Driver seat-belt switch	6	8	+12	with seat belt unbuckled
7	Driver seat-belt switch	6	8	0	with seat buckled
8	Seat contact switch, driver's seat	5	8	+12	with seat occupied
8	Seat contact switch, driver's seat	5	8	0	with seat unoccupied
9	Pass. seat belt switch	10	8	+12	with seat belt unbuckled
9	Pass. seat belt switch	10	8	0	with seat buckled
10	Seat contact switch, passenger seat	9	8	+12	with seat occupied
10	Seat contact switch, passenger seat	9	8	0	with seat unoccupied
					Fig. 7  1544-5547/1
B	**Testing on Plug Connection of Relay Code #4 (Air Conditioner/Starter)**				
4	Ignition starter switch (terminal 50)	4	ground	+12	ignition switch in starter position
4	Relay SBSL	5	3	+12	ignition in starting position, seat occupied, seat belt buckled, lever in N or P / Neutral
					Fig. 8  1544-5548
C	**Testing on Plug Connection of Warning Buzzer**				
4	Relay SBSL	c (15)	ground	+12 (warning light on)	ignition switched on, seat occupied, belt unbuckled and then: either gear lever in N or P/Neutral and ignition switch in starting position or gear lever in drive position
3	Warning switch on ignition starter switch	a (+31 b)	plus	+12	ignition off, ignition key in switch
11	Door contact switch	b (30)	ground	+12	door open