

65 Radio and Special Equipment

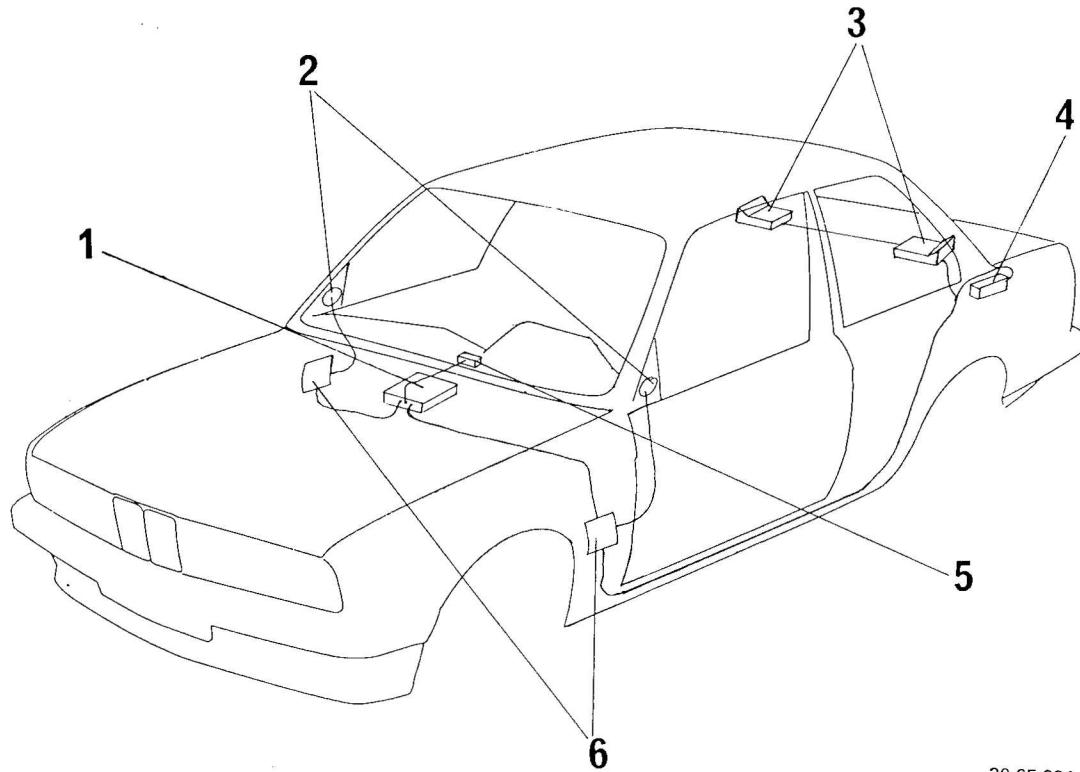
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65 Radio and Special Equipment

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SOUND SYSTEM LAYOUT



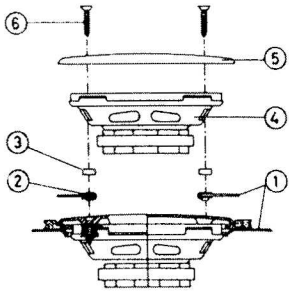
30 65 334

1 Radio
2 High tuner
3 Speakers - rear

4 Amplifier
5 Speaker balance control
6 Speakers - front

65-91

65 12 000 REMOVING AND INSTALLING FRONT SPEAKER



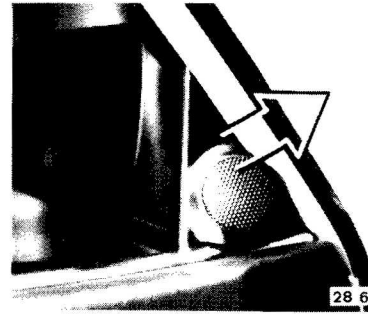
316 65 095

Unscrew screws.
Remove mask and speaker.
Pull off plugs.

Installation:

Install parts in correct order.

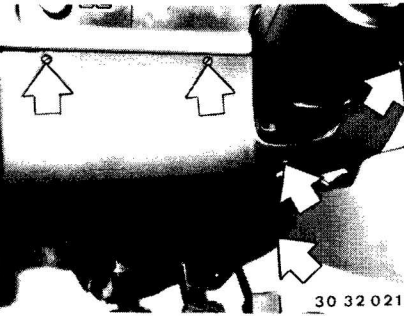
- 1 End plate of door beam
- 2 Self-tapping nut
- 3 Spacer
- 4 Speaker
- 5 Mask
- 6 Self-tapping screw



28 65 145

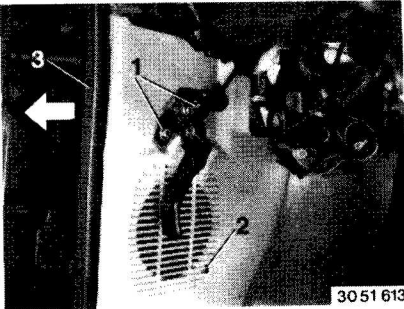
Sound System:
Lift out trim panel with high tuner.
Disconnect plug.

Since 9.85:
Remove trim panel.



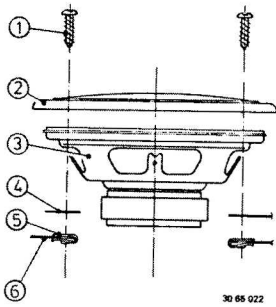
30 32 021

Unscrew screws (1 and 2).
Pull off edge guard (3) partially.
Take off trim panel.



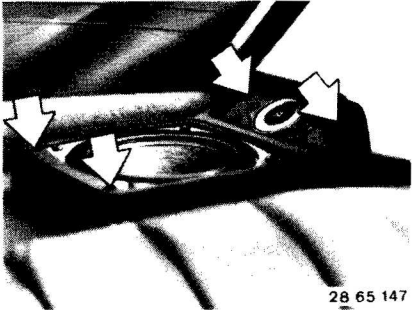
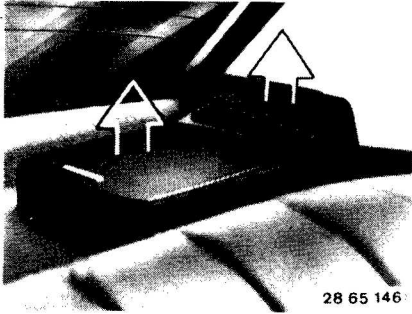
30 51 613

65 12 020 REMOVING AND INSTALLING REAR SPEAKER



Unscrew screws.
Pull off plug.
Correct Installed Order:
1 Self-tapping screw
2 Speaker mask
3 Speaker
4 Washer
5 Self-tapping nut
6 Hatrack

Sound System:
Lift out speaker frame.



65 14 000 SERVICE INSTALLING CASSETTE BOX

Lift out ashtray.

30 61 035

Unscrew nut.
Disconnect plug on ashtray light.

30 61 036

Pull up parking brake lever.
Lift and slide console forward.

30 61 037

Lift out parking brake cover (1).

30 65 062

Install console from installation kit.

30 65 063

Install parking brake lever cover (1).

30 65 064

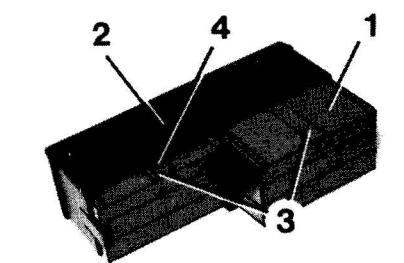
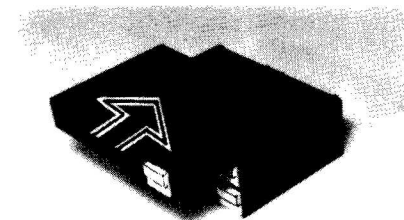
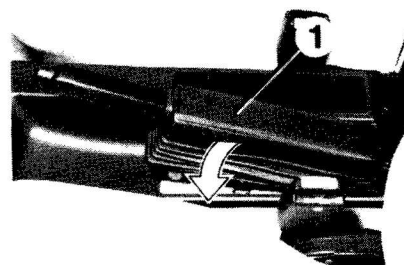
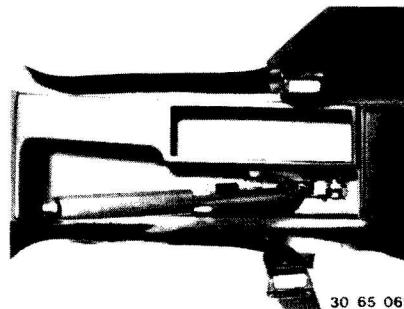
Assemble set of three cassette boxes.

30 65 065

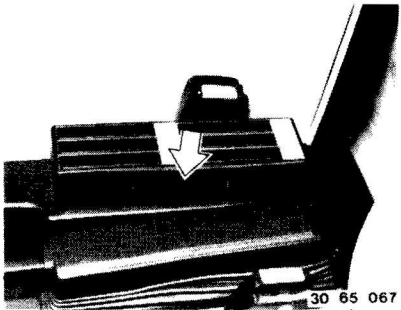
Slide cassette boxes (1) into holder (2).

Note:
Guide (3) of cassette box must be in opening (4) of holder.

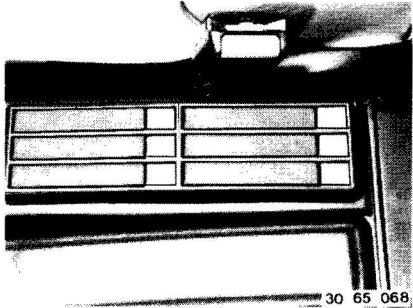
30 65 066



Place cassette insert in console.

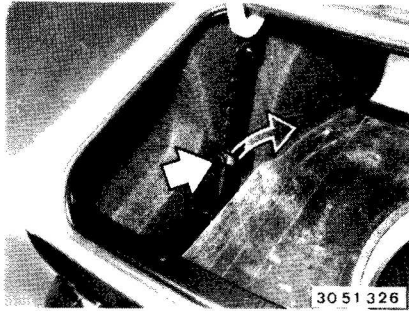


Using:
Pushing the white push buttons will unlock
the cassette holders and let the cassettes
slide out.



65 21 100 INSTALLING RETRACTABLE ANTENNA AT REAR LEFT

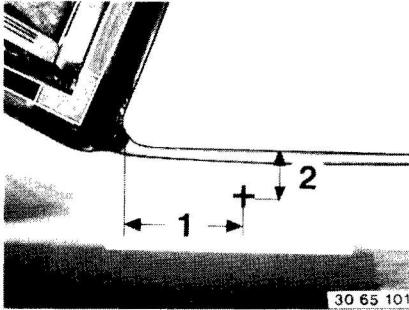
Remove jack.
Pull off side trim panel.



30 51 326

Use tape in area of hole to avoid damaging the paint finish with burrs from drilling and to provide a better method of marking hole's position.

Mark position of hole.
Distance 1 = 50 mm (2").
Distance 2 = 25 mm (1").



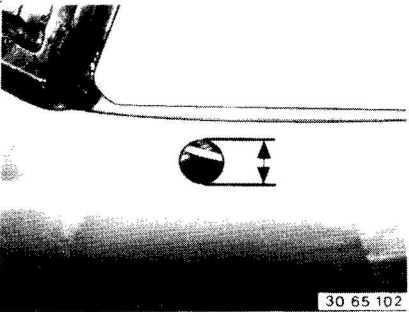
30 65 101

Punch mark point of intersection and drill a 22 mm (0.866") dia. hole.

Note:

After making hole, pull off tape carefully toward hole to avoid taking off paint on edges of hole.

Deburr hole and coat edges with zinc dust paint. Remove burrs on trunk floor plate - danger of producing rust.



30 65 102

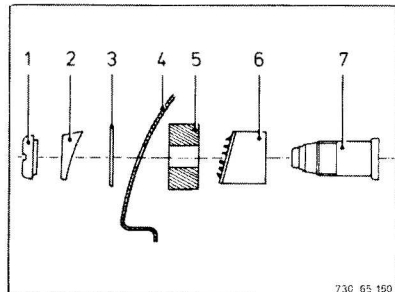
Install antenna.

Installed Order:

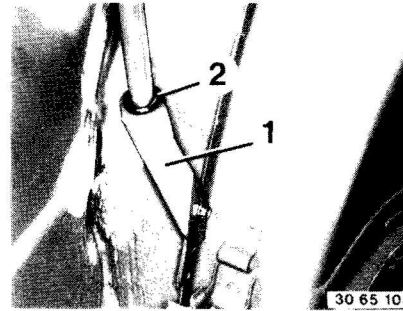
- 1 = Nut
- 2 = Adapter
- 3 = Insulator
- 4 = Side panel, rear, right
- 5 = Seal
- 6 = Brass ring
- 7 = Antenna

Note:

Don't tighten nut (1) completely at this point.

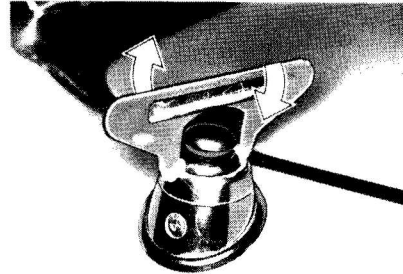


730 65 150



30 65 103

Install holder (1) with rubber grommet (2).

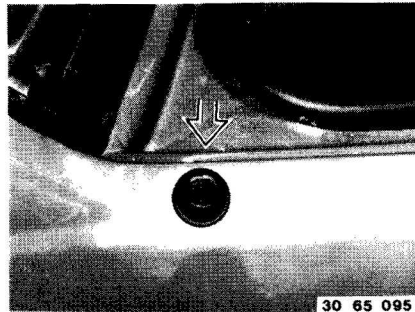


30 65 104

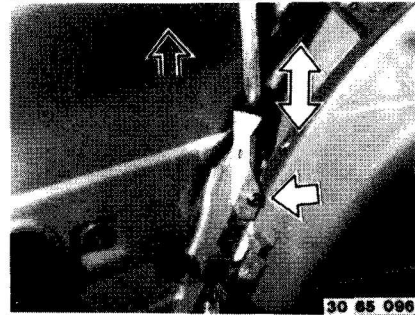
Tighten nut with wrench (1).

65-101 a

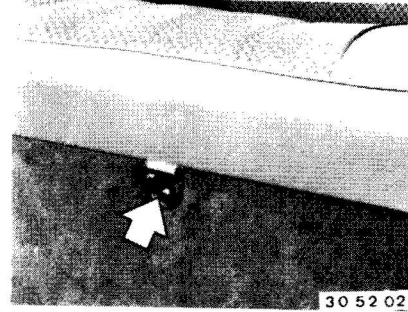
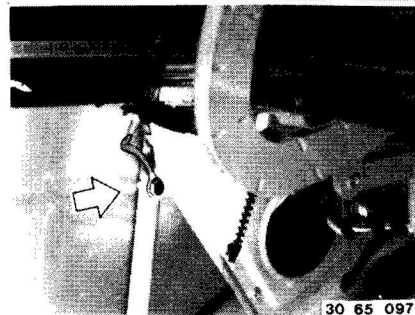
Plug-In Antenna:
Insert rubber grommet.



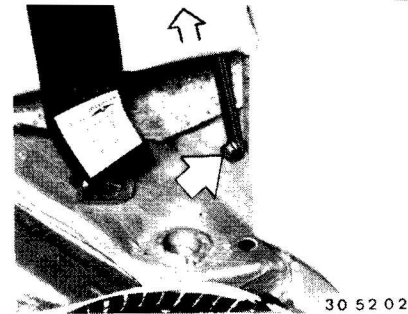
Press antenna into sealing grommet from underneath.
Adjust holder and secure with a self-tapping screw.



Mount ground strap on ground point with a
M 6 x 10 screw.

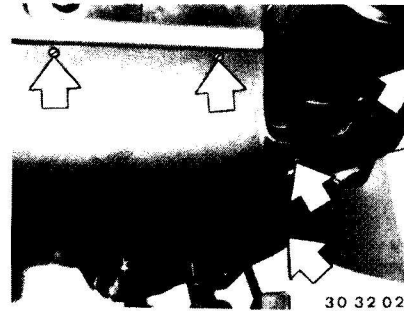


Lift out seat cushion.
Cars with Bolted Version:
Pull off covers and unscrew bolts on left and
right sides.



Unscrew left and right bolts.
Pull up and remove backrest.
Installation:
Engage backrest in (upper) holder.

Two Door Cars:
 Pry cover strip out of clamps on left door beam with a screwdriver.
 Detach carpet along door beam.
 If cover strip clamps remain in door beam, pull them out with a pliers.
 Insert new calmps from installation kit in cover strip.



Remove trim panel.

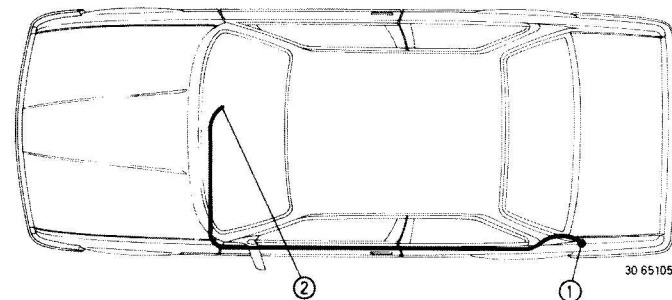
30 65 070

Lift off cap (1).
 Detach B pillar trim at bottom slightly.
 Remove sliding belt holder (2).
 Route speaker wires from front along standard wire harness to places of speaker installation.

Route antenna wire from place of radio installation along standard wire harnesses.
 Explanations for Routing Drawing:
 1 = Antenna
 2 = Radio antenna jack

30 65 024

Four Door Cars:
 Pry cover strips out of clamps on left front and rear door beams with a screwdriver.
 If cover strip clamps remain in door beams, pull them out with a pliers.
 Insert new clamps from installation kit in cover strips.



30 65 105

Detach B pillar trim (1) at bottom.
 Detach carpet along door beams.

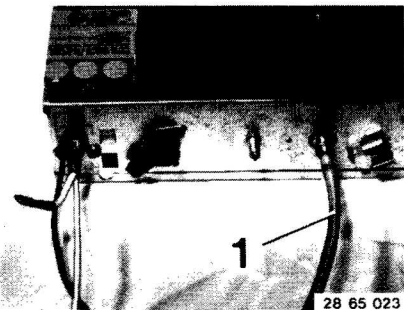
Connect antenna wire (1).
 Route wire harness between trim panel and side panel.

30 65 071

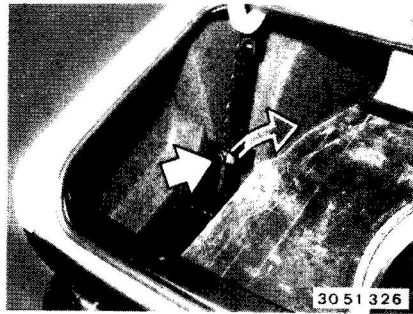
30 65 072

30 65 106

Plug antenna wire (1) in jack of radio.

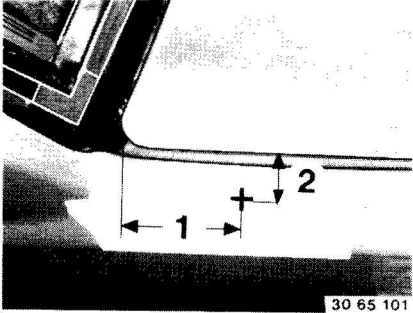


Re-install all removed parts.

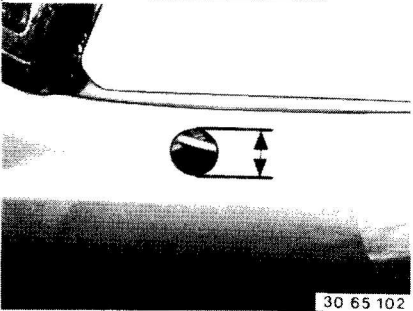


65 22 005 INSTALLING AUTOMATIC ANTENNA

Disconnect battery ground wire.
Remove jack.
Take off side trim panel.



Use tape in area of hole to avoid damaging paint finish with burrs from drilling and to provide a better method of marking the location of the hole.
Mark location of hole.
Distance 1 = 50 mm (2").
Distance 2 = 25 mm (1").



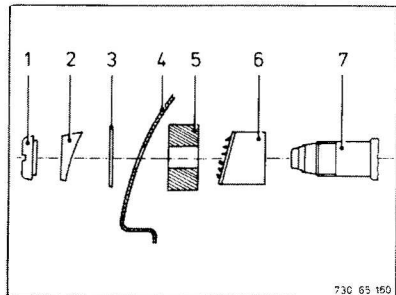
Punch mark point of intersection and drill a 22 mm (0.866") dia. hole.

Note:

After making hole, pull off tape carefully toward hole to avoid taking off paint on edge of hole.

Deburr hole's edges and coat edges with zinc dust paint.

Remove burrs on trunk floor plate — danger of producing rust.



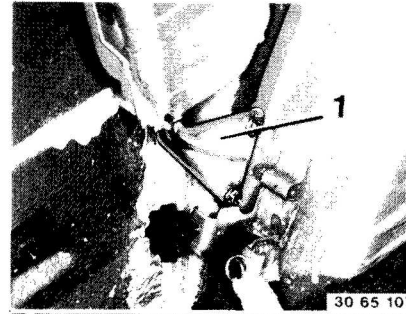
Install antenna.

Installed Order:

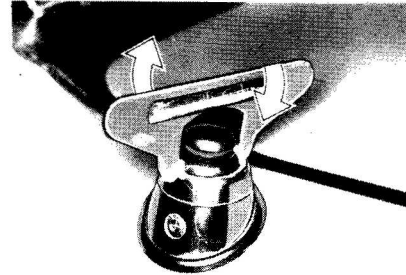
- 1 = Nut
- 2 = Adapter
- 3 = Insulator
- 4 = Side panel, rear, right
- 5 = Seal
- 6 = Brass ring
- 7 = Antenna

Note:

Don't tighten nut (1) completely at this point.



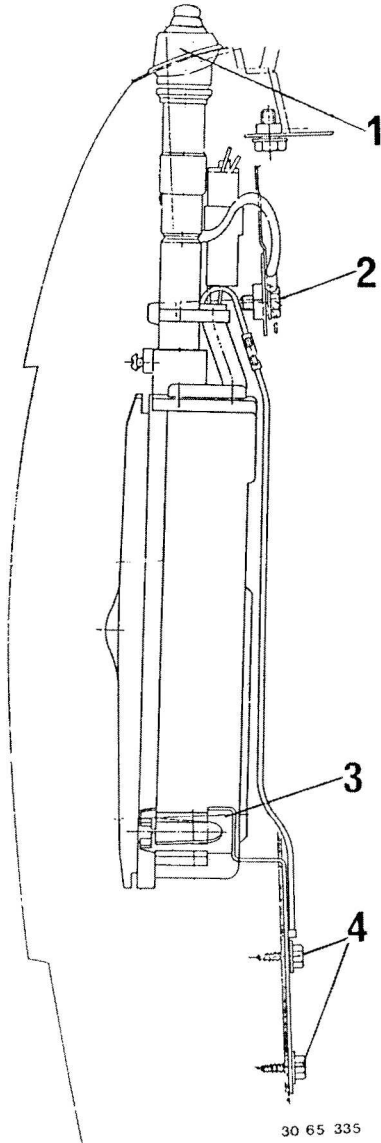
Install holder (1).
Also mount ground wire of antenna.



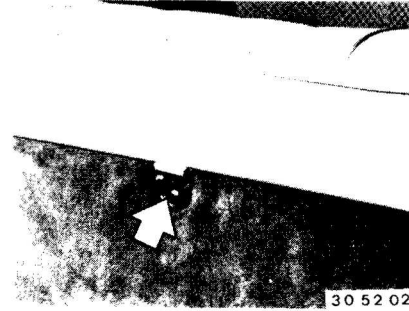
Tighten nut with wrench (1).

65 - 151a

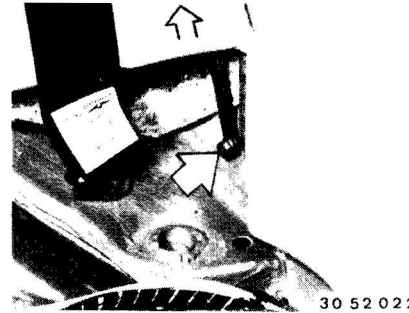
Plug-In Antenna:
Insert sealing grommet (1).
Mount antenna with holder (3) and bolts (4).
Mount ground wire with bolt (2).



30 65 335



Lift out seat cushion.
Cars with Bolted Version:
Pull off covers and unscrew bolts on left and right sides.



Unscrew left and right bolts.
Pull up and remove backrest.
Installation:
Engage backrest in (upper) holder.

Two Door Cars:
 Pry cover strip out of clamps on left door beam with a screwdriver.
 Detach carpet along door beam.
 If clips for cover strip remain in door beam, pull them out with a pliers.
 Insert new clips from installation kit in cover strip.

30 65 070

Remove cap (1).
 Detach B pillar trim at bottom slightly.
 Remove sliding belt holder (2).
 Route speaker wires from front along standard wire harness to places of speaker installation.

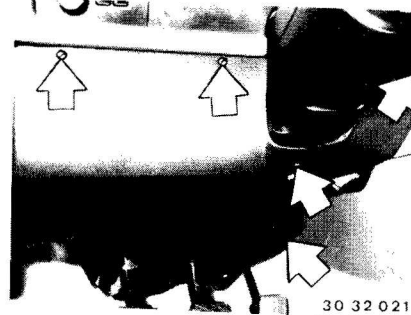
30 65 024

Four Door Cars:
 Pry cover strips out of clamps on left front and rear door beams with a screwdriver.
 If clips for cover strips remain in door beam, pull them out with a pliers.
 Insert new clips in cover strips (from installation kit).

30 65 071

Detach B pillar trim (1) at bottom.
 Detach carpet along door beams.

30 65 072

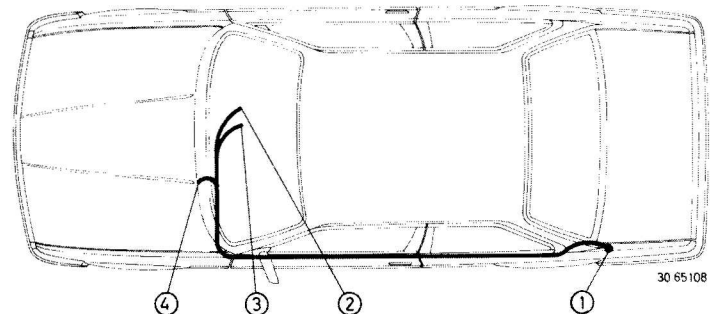


30 32 021

Remove trim panel.

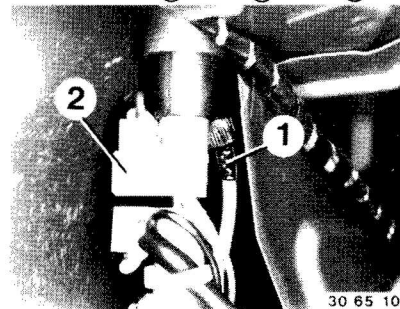
Route antenna wire from place of radio installation along standard wire harnesses to place of antenna installation.

- 1 = Automatic antenna
- 2 = Radio antenna jack
- 3 = Connection on radio for automatic antenna (white wire)
- 4 = Special equipment connection (red wire)

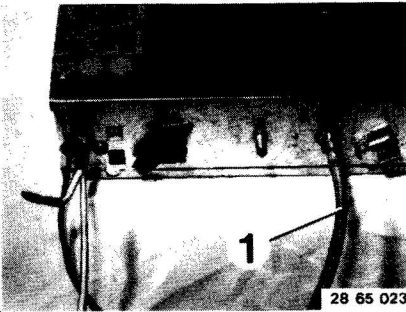


30 65108

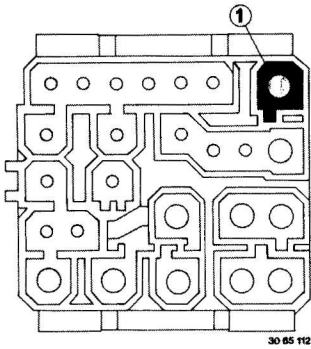
Connect antenna wire (1) and plug (2) on antenna.
 Route wire harness between trim panel and side panel.



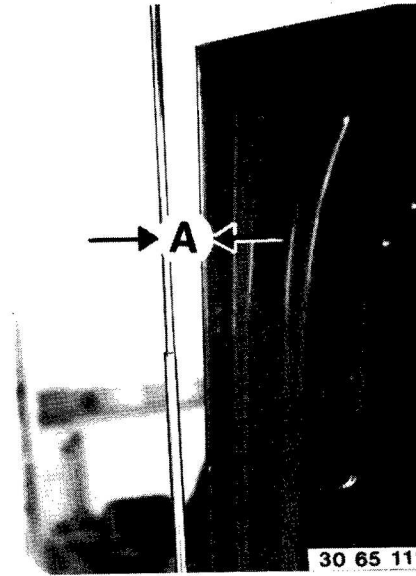
30 65 109



Plug white wire in "automatic antenna" connection and antenna wire (1) in jack of radio.



Plug red wire in "SA" connection (1).



Check distance between run out antenna and raised trunk lid.
 A = 18 mm (0.709").
 Distance (A) can be corrected by adjusting antenna on mounting bracket.

Checking Operation:

The antenna should run out when radio is turned on.

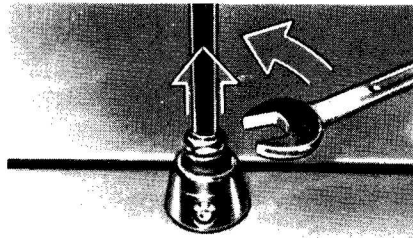
Antenna will run in when switching off the radio.

Note:

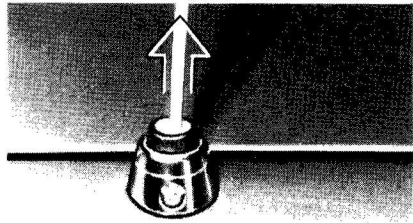
Radio cannot be turned on when ignition key is turned to position "0".

65 22 040 REPLACING TELESCOPE FOR AUTOMATIC ANTENNA

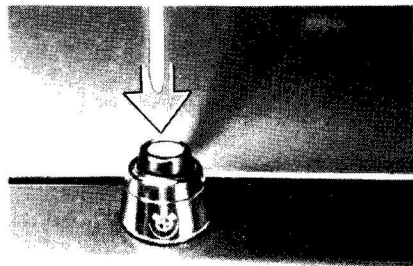
The automatic antenna remains in the car when replacing telescope.
Telescope is replaced together with the plastic cable.



28 65 026



28 65 027

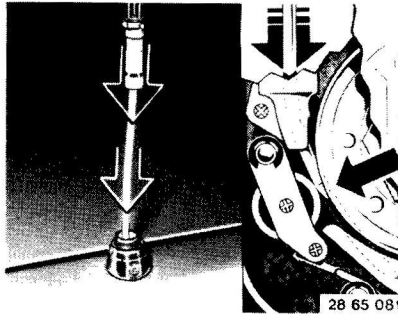


28 65 028

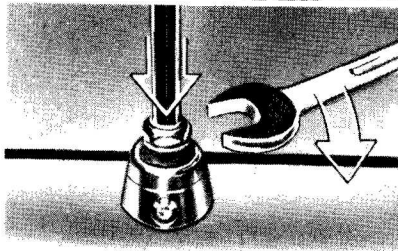
Turn on radio to run out telescope as far as possible.
Unscrew threaded sleeve.

Remove telescope and plastic cable.
This requires firm pulling, especially if, for example, a bent telescope cannot be run out fully.

Slide straightened, pointed plastic end of new telescope into antenna adapter until resistance is felt on the contact roller.



28 65 089



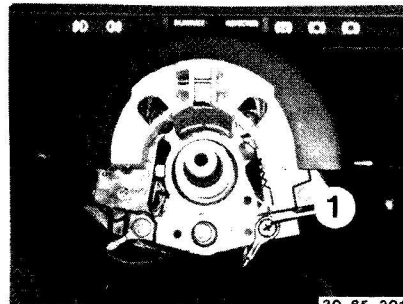
28 65 030

Turn off radio to run in the antenna.
Push in cable slightly until it is pulled in automatically by the drive.
Guide in plastic cable and telescope by hand at same time.

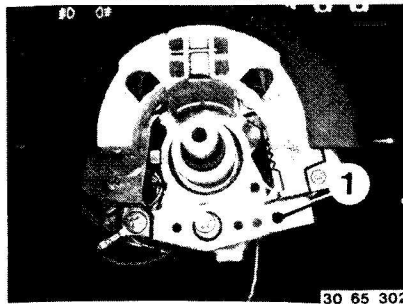
Screw in threaded sleeve tight and run telescope out and in several times.

65 71 000 SERVICE INSTALLING
CRUISE CONTROL

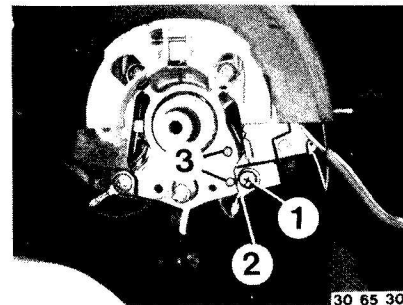
Disconnect battery ground lead.
Remove steering wheel 32 33 000.
Remove instrument panel trim at bottom left
- 51 45 180.
Remove lower steering column casing section
- 32 31 020.



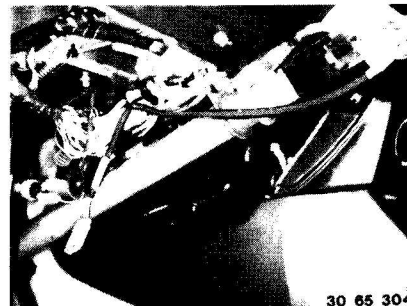
Unscrew bolt (1).



Drill out tapped hole (1) to 5.5 mm (0.216") diameter.

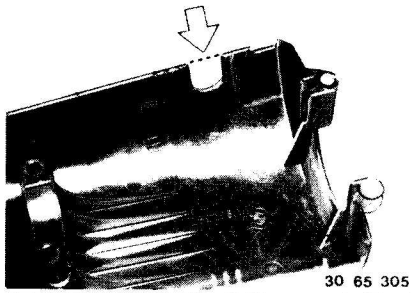


Mount selector switch with a M 5 x 15 screw (1) and a washer.
Also mount ground lead (2).
Both tabs must protrude into bores (3).



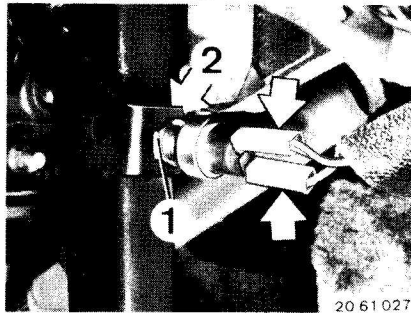
Route the wire harness along the standard wire harnesses.

Cut out marked opening in steering column casing.
Install steering column casing.



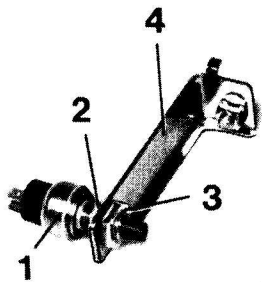
30 65 305

Only Cars with Manual Transmission:
Loosen lock nut (1) on stop light switch.
Unscrew nut (2).
Remove stop light switch.



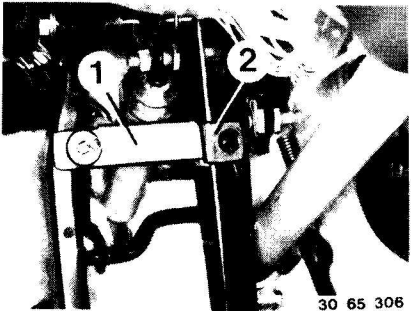
20 61 027

Only Cars with Manual Transmission:
Mount clutch switch (1) on bracket (4) with
nuts (2 and 3).

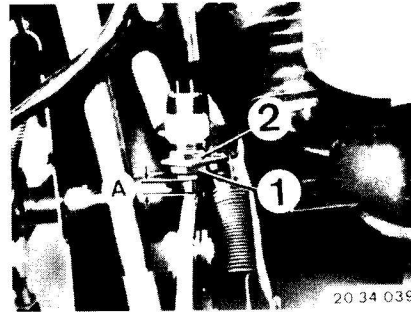


28 65 321

Only Cars with Manual Transmission:
Mount holder (1) with clutch switch on bracket (2) with a M 6 x 12 screw and spring washer.
Adjust clutch switch with nuts that 4 to 5 mm (0.157 to 0.197") of contact button is visible when clutch pedal is released.

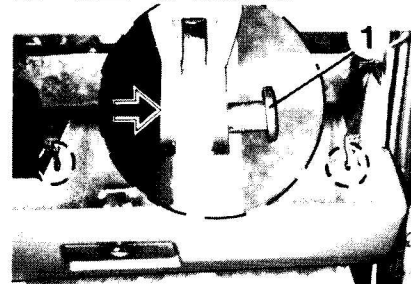


30 65 306



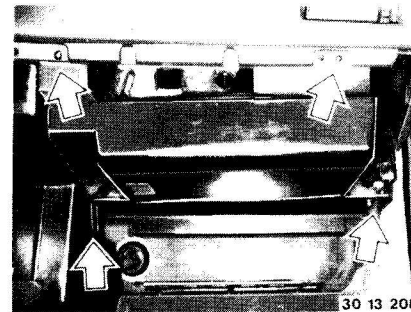
20 34 039

Only Cars with Manual Transmission:
Install stop light switch.
Adjust stop light switch with nut (1) and lock nut (2) that distance A = 5 to 6 mm (0.197 to 0.236") of contact button is visible when brake pedal is released.



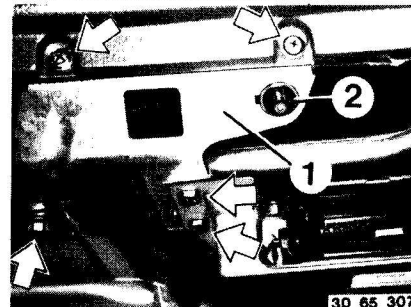
28 13 207

Open glove box.
Pull out pins (1) of both retaining straps.



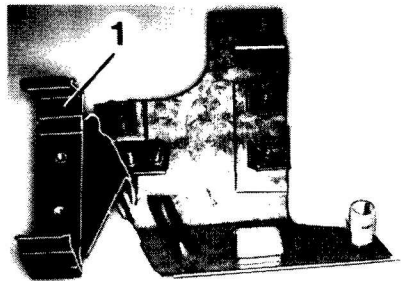
30 13 208

Unscrew screws and lay cover aside.



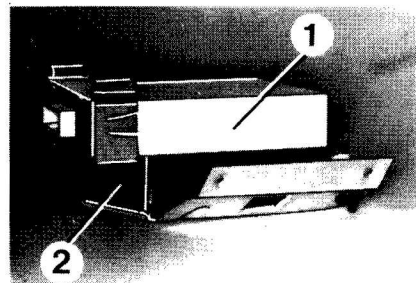
30 65 307

Remove bracket (1).
Pull plug off of switch (2).



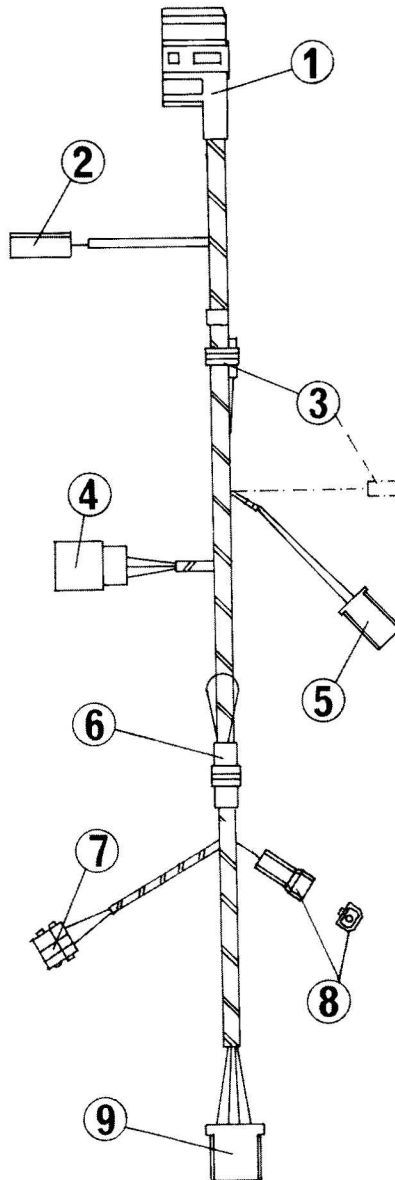
30 65 308

Mount holder (1) for control unit with 4.2 x 13 mm self-tapping screws.



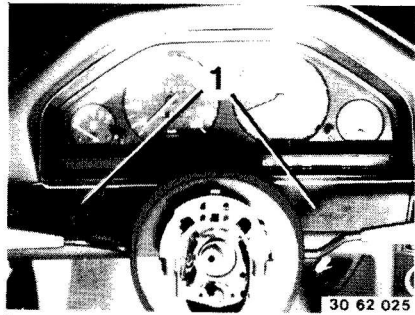
30 65 309

Slide control unit (1) into holder (2).



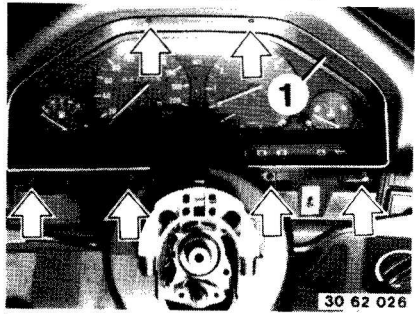
Route extra wire harness from installation kit from driver's side via center console to place of control unit installation.
 Connect extra wire harness on control unit (see wire harness sketch).
 Install holders.
 Install casing and trim panels.

- Explanations for Wire Harness Sketch:
- 1 = Connection for control unit
 - 2 = Connection for speedometer
 - 3 = Connection for range indicator (only cars with automatic transmission)
 - 4 = Connection for operating motor
 - 5 = Connection for special equipment plug
 - 6 = Wire bridge
 - 7 = Connection for clutch switch
 - 8 = Connection for ground
 - 9 = Connection for selector switch



30 62 025

Unscrew mounting nuts for cover (1) and lift out cover.

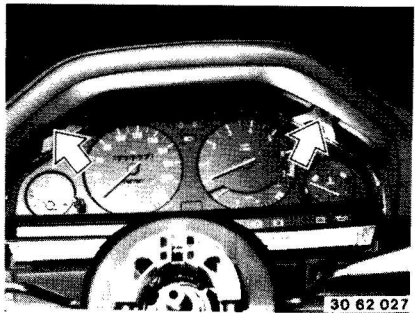


30 62 026

Unscrew screws. Lift out trim (1).

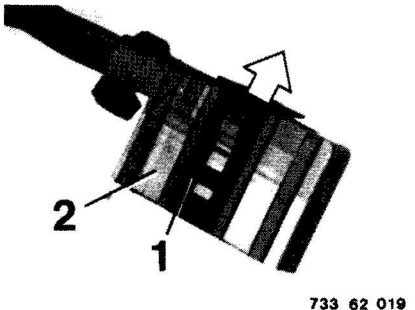
Caution!

The two inside screws must not be mixed up with outside screws (max. length: 9.5 mm)!



30 62 027

Unscrew bolts.

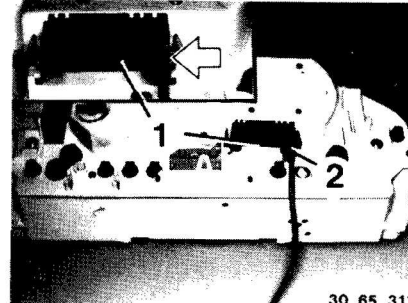


733 62 019

Lift instrument carrier out of instrument panel. Pull off all plugs.

Note:

First pull out slider (1) on combination plug (2) to be able to pull off combination plug on instrument carrier.

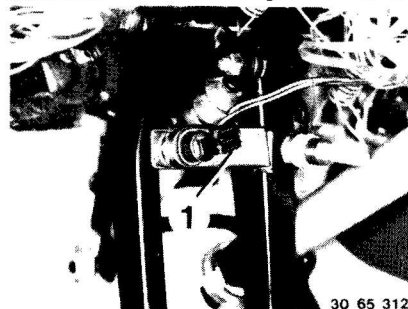


30 65 311

Insert adapter (1).

Connect plug (2) of extra wire harness (see wire harness sketch).

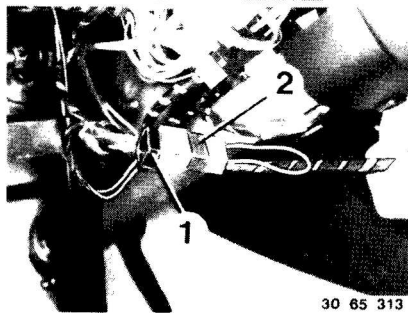
Install instrument carrier.



30 65 312

Only Cars with Manual Transmission:

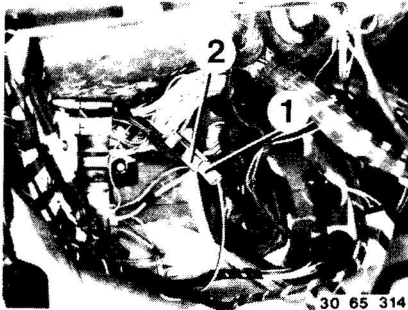
Connect plug (1) of extra wire harness on clutch switch (see wire harness sketch).



30 65 313

Only Cars with Automatic Transmission:

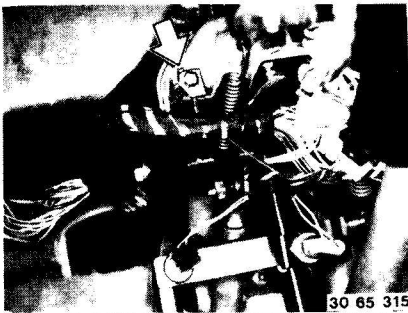
Connect plug (1) on extra wire harness for clutch switch with wire bridge (2) (see wire harness sketch).



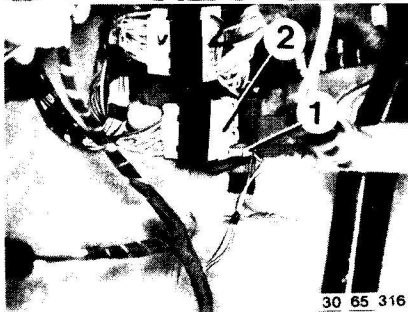
30 65 314

Only Cars with Automatic Transmission:

Connect plug (1) tied back on extra wire harness with plug (2) tied back in car (see wire harness sketch).

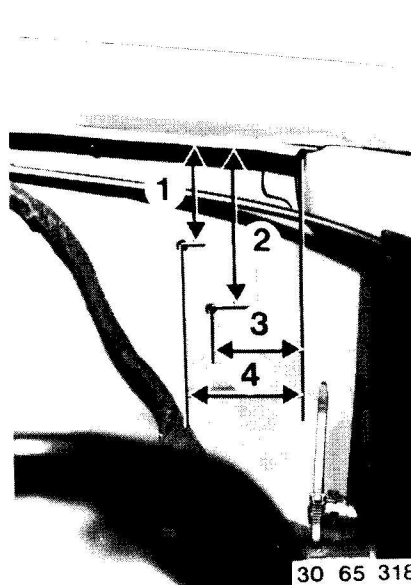
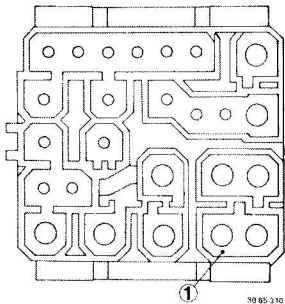


Connect ground wire of extra wire harness on ground wire, which is mounted on central ground point (1) (see wire harness sketch).



Connect plug (1) of extra wire harness on special equipment plug (2) (see wire harness sketch).

Note:
1 = Connection for cruise control



Mark location of holes on left front wheel house.

Distance 1 = 68 mm (2.677")

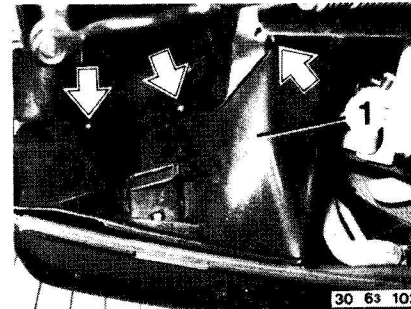
Distance 2 = 104 mm (4.094")

Distance 3 = 50 mm (1.968")

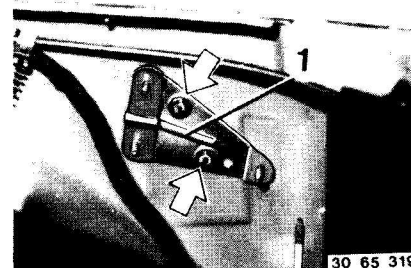
Distance 4 = 62 mm (2.441")

Punch mark points of intersection and drill 6 mm (0.236") diameter holes.

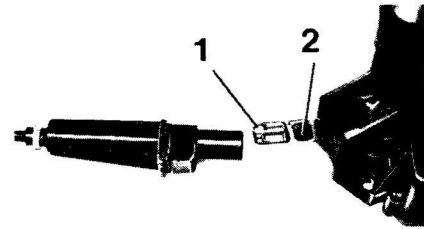
Deburr and coat edges of holes with zinc dust paint.



Take off splash guard (1).



Mount holder (1) with M 5 x 15 screws, spring washers and nuts.



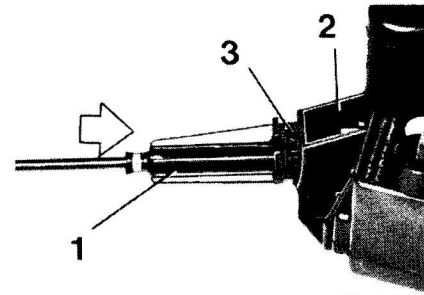
Connect cable (1) in holder (2) of operating motor.

Note:

Check color codes.

Model	Color Code
318 i	green
325 e	blue

28 65 312

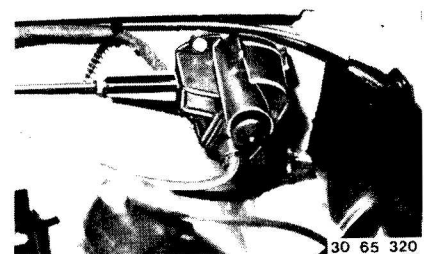


Insert cable (1) in holders (2) until spring retainer (3) engages.

Note:

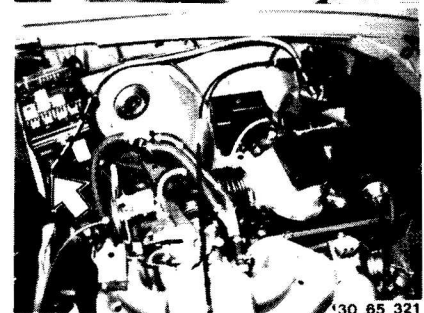
Cable holder is guided into cable.

28 65 313



Mount operating motor on holder with nuts and spring washers.

30 65 320

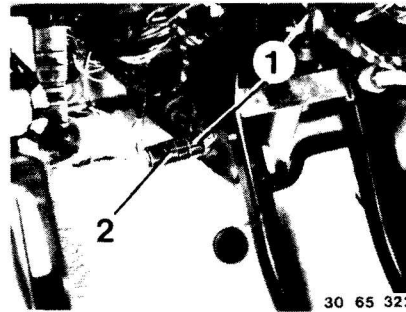


Route wire harness from operating motor along standard wire harness into passenger compartment.

Note:

Cut open standard rubber grommet.

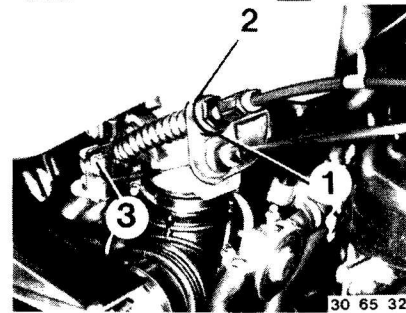
30 65 321



Connect plug (1) of operating motor wire harness with plug (2) of extra wire harness (see wire harness sketch).

Install trim panel.

30 65 322



Only BMW 318 i:

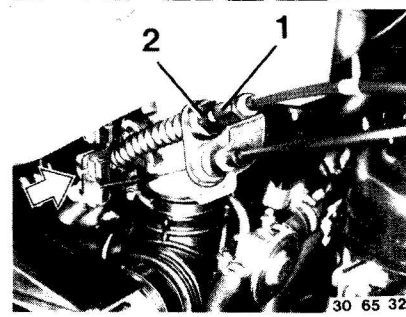
Guide cable through holder (1) and insert rubber grommet (2) in holder.

Lift out nipple bearing (3).

Connect cable in nipple bearing.

Clip on nipple bearing again.

30 65 327

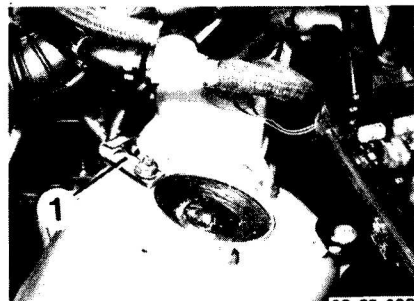


With the throttle closed and operating motor unactivated (engine running at idle speed), adjust cable on hexagon (1) that a gap of 1 to 2 mm (0.040 to 0.080") is provided between the nipple and holder.

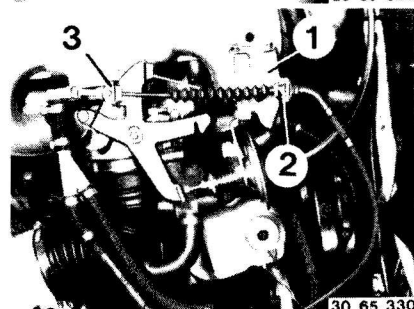
Counterhold on hexagon (2).

30 65 328

Only BMW 325 e:
Attach holder (1) for cable.

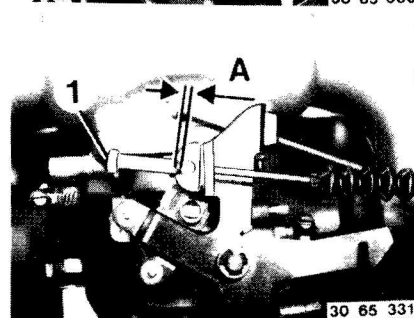


30 65 329



30 65 330

Guide cable through holder (1) and insert clamp (2) in holder.
Connect cable with white nipple bearing (3).



30 65 331

With throttle closed and operating motor unactivated (engine running at idle speed), adjust gap (A) to 1 ... 2 mm (0.040 ... 0.080") on knurled nut (1).

OPERATION

The electronic cruise control operates in a range from approx. 45 km/h (28 mph) to almost top speed. The system regulates the car's speed to a stored road speed with a tolerance of approx. ± 2 km/h (1 mph).

The system stops when the actual road speed drops below the set road speed by about 15 %. This measure is provided to protect the engine against overloads from, for example, uphill trailer hauling.

If the actual road speed increases by 6 to 8 km/h (4 to 5 mph) over the set road speed, a quick action clutch opens and the throttle moves into idle position. The clutch closes and the system operates again when the car reaches the set road speed.



28 65 339

Brief Tipping to CONSTANT (4)

Instantaneous road speed is maintained and stored in memory.

Holding in CONSTANT (4)

Car accelerates until desired road speed is reached; release lever. Reached road speed is maintained and stored in memory.

Pulling to CALL (2)

The control unit accelerates car to a previously stored road speed when lever is pulled in CALL direction.

Up - Down OFF (1/3)

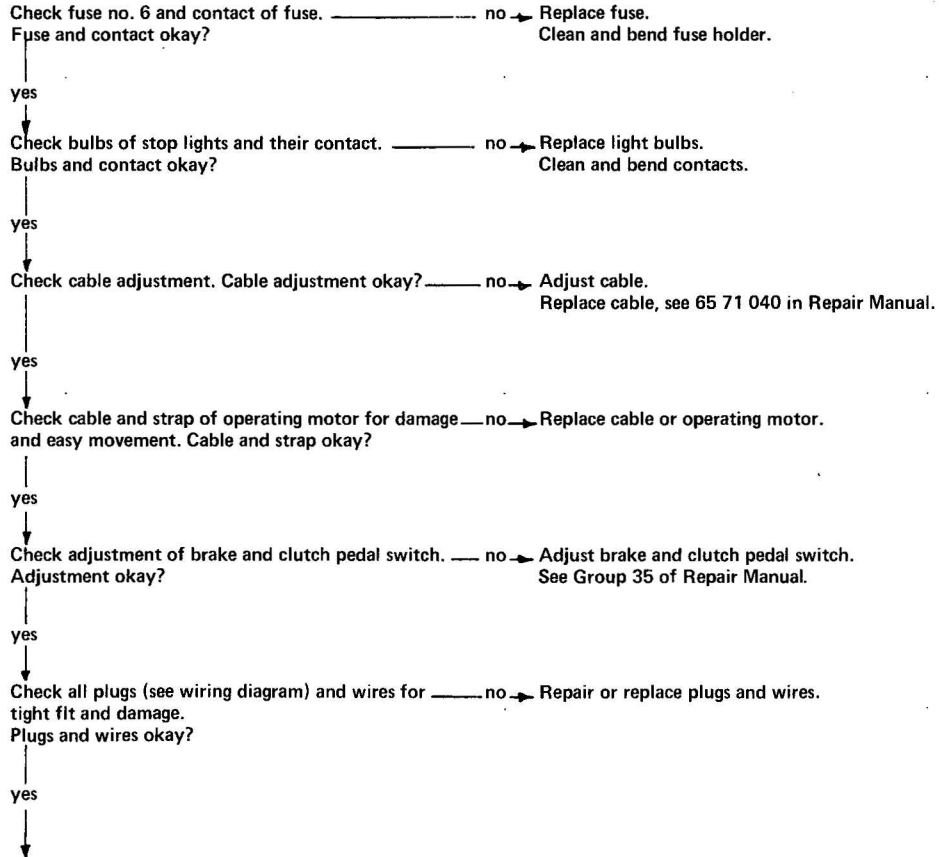
Cruise control switched off.
Stored value is cancelled only after turning off the ignition.

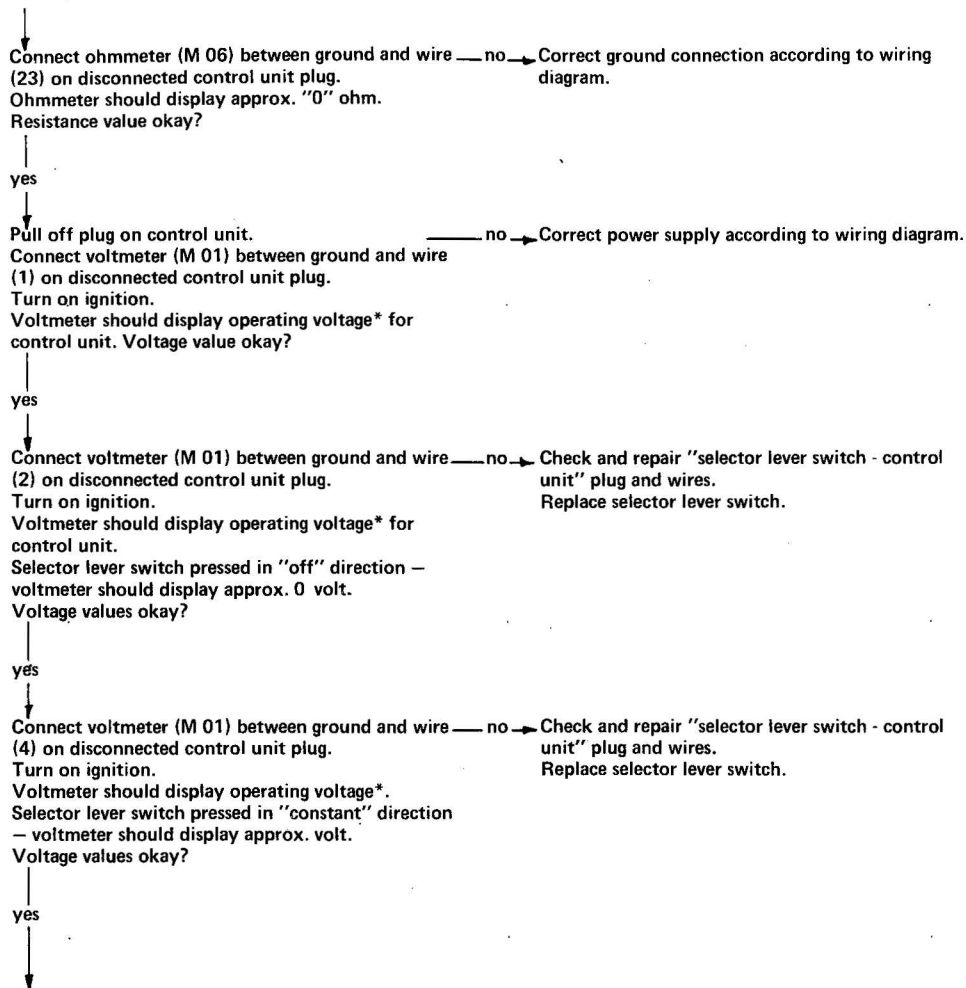
TESTING PROCEDURES FOR ELECTRONIC CRUISE CONTROL

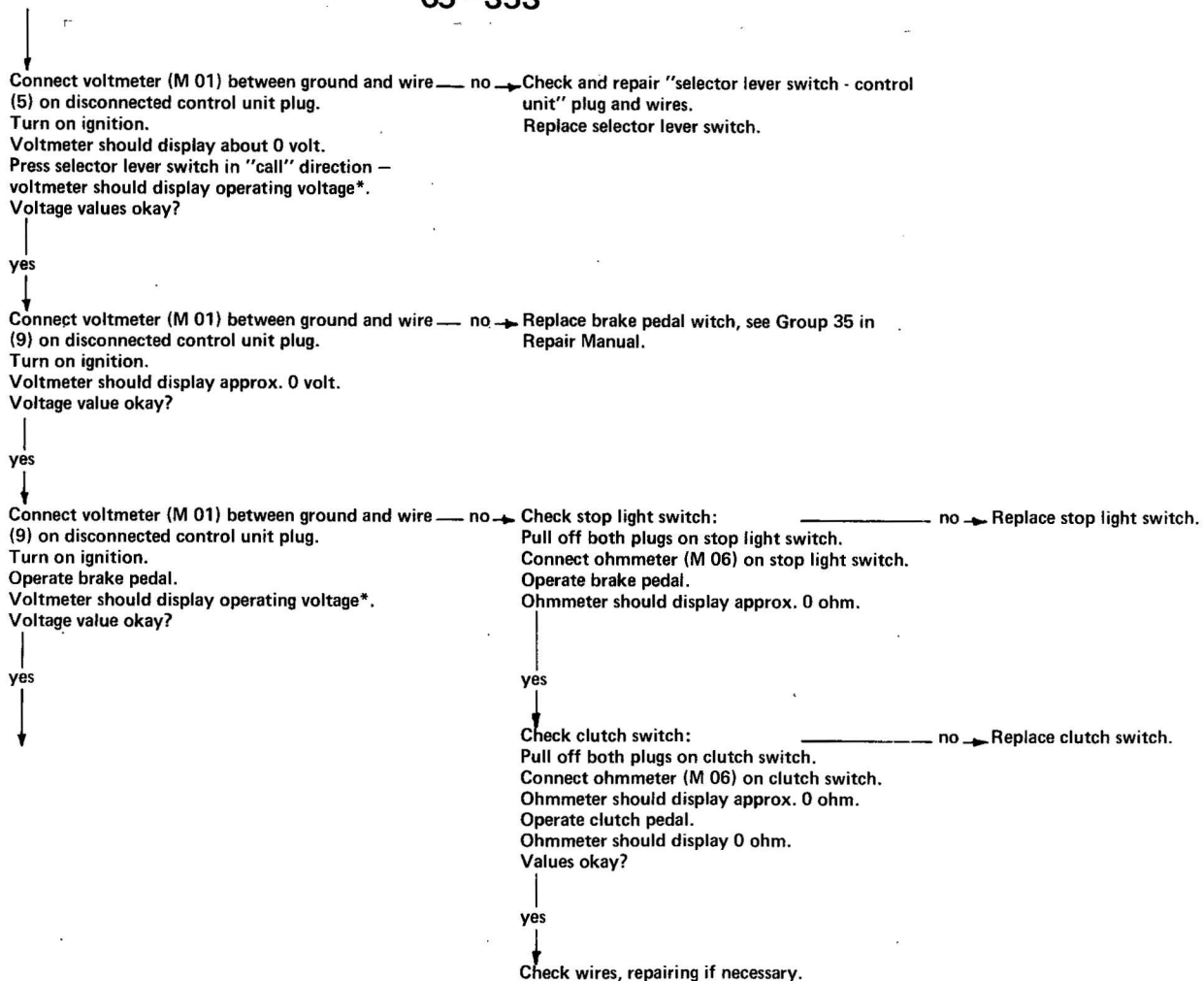
Test Requirement:

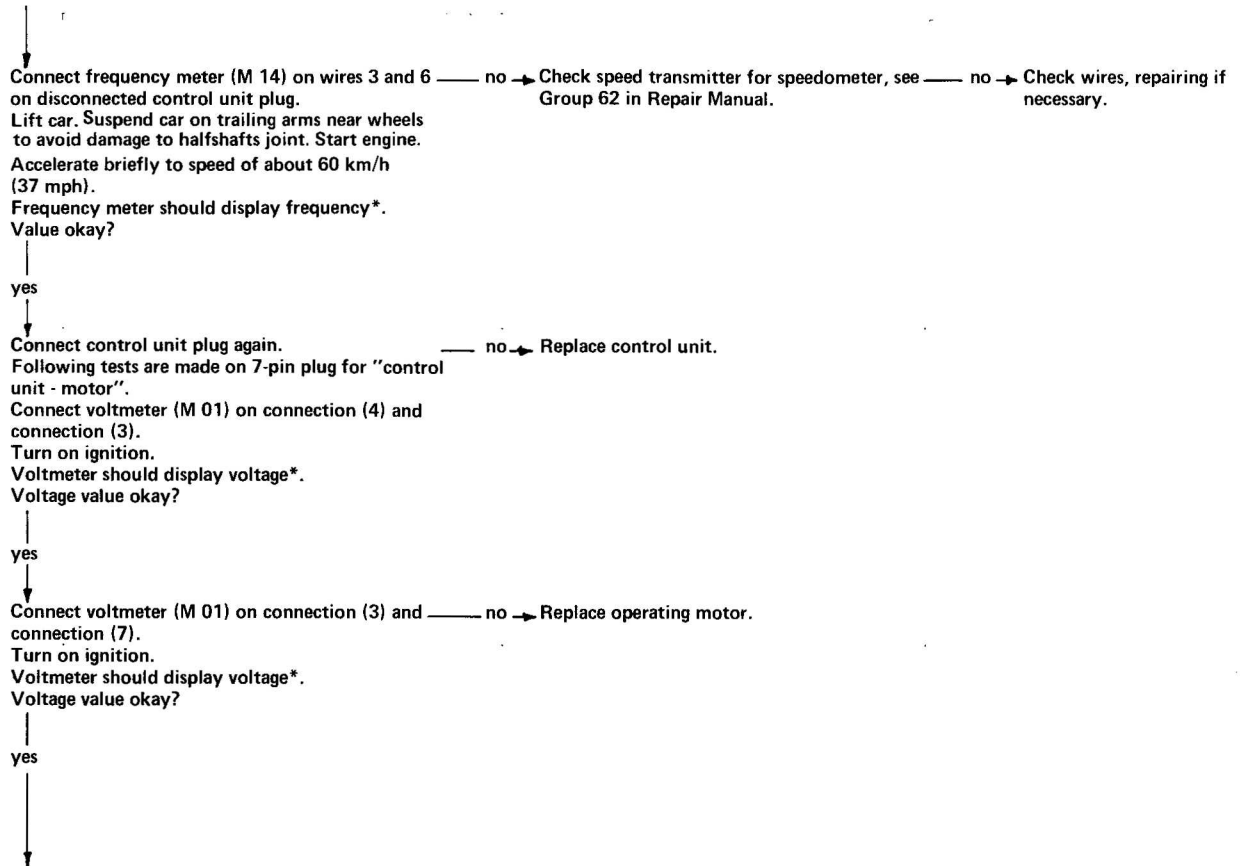
Battery charged – battery voltage okay. > 11,5 V

Specified multimeter functions (e.g. M 01) are in reference to the BMW SERVICE TEST. The following multimeter functions are required: 01/06/14. The following test procedures do not include sources of defect, which are outside of the electronic cruise control system.











Disconnect "control unit - operating motor" 7-pin plug. — no → Replace operating motor.

Connect connection (1) on ground.
Connect connection (6) on B + (12 V).
Clutch must be heard to switch on.
Clutch switching?

yes



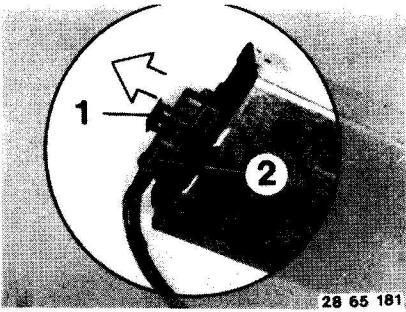
Connect ground on connection (2) and B + on connection (5) of 7-pin plug of operating motor. — no → Replace operating motor.
Operating motor must be heard to run.
Motor running.

yes



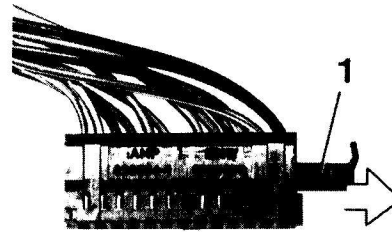
Replace control unit.

Important Information for 26 Pin Central Plug:
 Pull back holding clip (1).
 Pull off central plug (2).



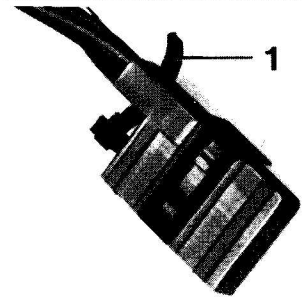
28 65 181

Pull out slide control (1).



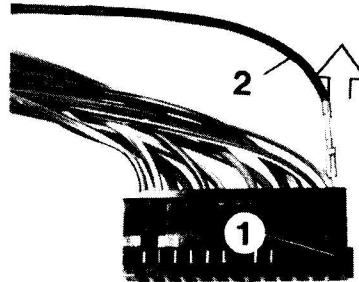
28 65 185

Cut off wire strap (1).



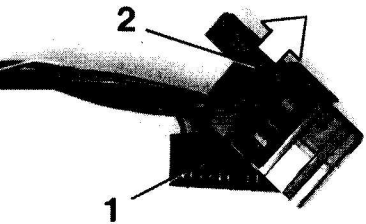
28 65 182

Push on pertinent wire window with a screwdriver and pull wire (2) out of plug receptacle.



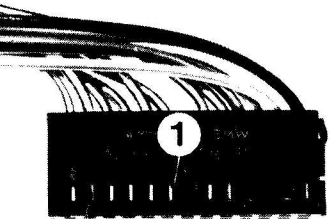
28 65 186

Pull plug cartridge (1) out of housing (2).



28 65 183

Testing on a disconnected central plug, e.g. for troubleshooting, can be performed with test clips on windows (1).



28 65 184

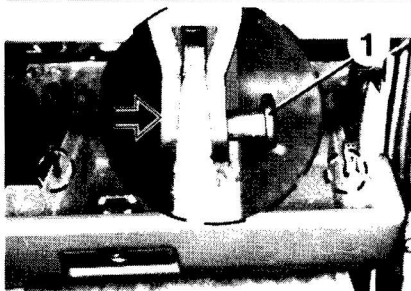


65 81 030 REMOVING AND INSTALLING OR REPLACING ON-BOARD COMPUTER

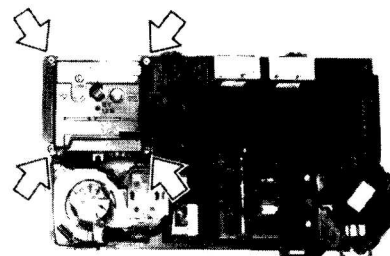
Lift out radio mask.
Or remove radio



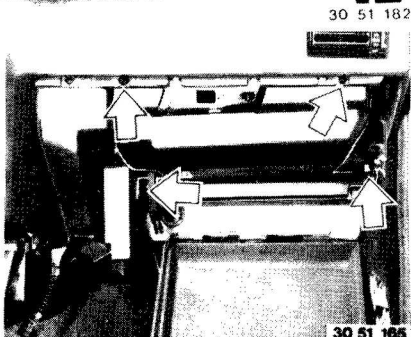
Unscrew screws and remove cover.



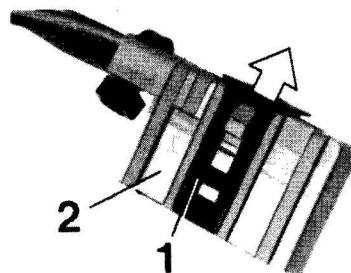
Open glove box.
Pull out pins (1) of both retaining straps.



Unscrew screws and take out on-board computer.



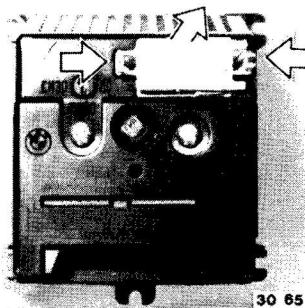
Unscrew screws and pull down cover.



Pull out slider (1) and pull off plug (2).



Pull off wire plug and remove cover.

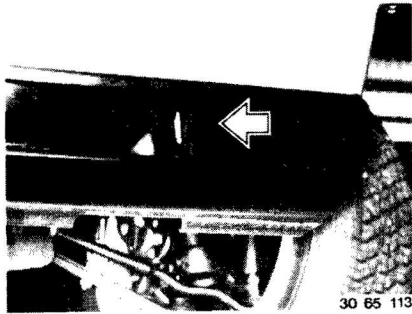


Replacing Coding Plug*:
Compress retainers and pull out coding plug.

* See Specifications

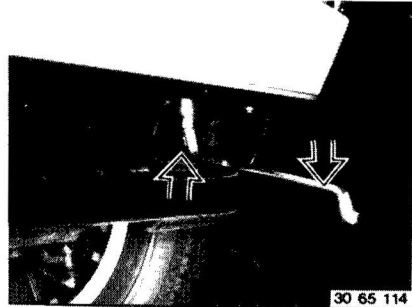
65 81 060 REMOVING AND INSTALLING AIR TEMPERATURE SENSOR

a) Before 9/85:
The temperature sensor is located in the air inlet opening of the front spoiler.



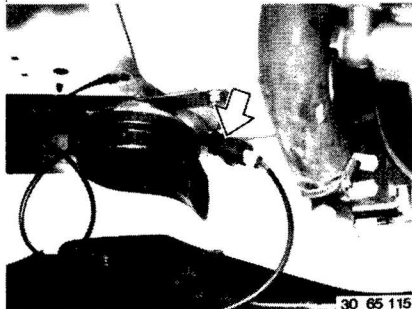
30 65 113

Press out temperature sensor with a bent 8 mm ring wrench.

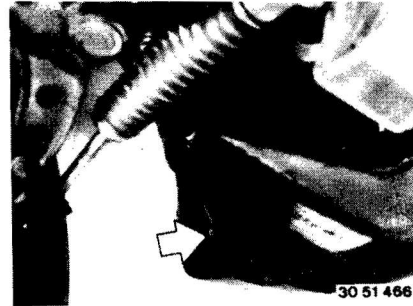


30 65 114

Pull plug out of holder and disconnect. (The front spoiler had been removed for better understanding, but this is not necessary to remove the temperature sensor.)

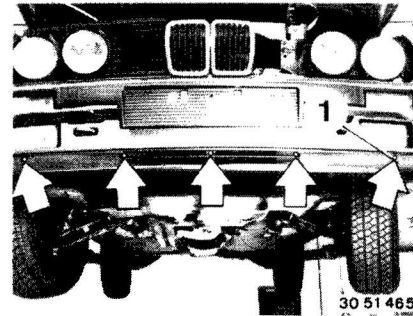


30 65 115



30 51 466

b) Since 9/85:
Unscrew front spoiler screws in left and right front wheel houses.



30 51 465

Unscrew screws.
Take off front spoiler.
Disconnect plug on temperature sensor (1).
Press out temperature sensor.

TESTING INSTRUCTIONS FOR ON-BOARD COMPUTER (GENERATION II)

These testing instructions are compiled in logical sequence, but the test steps could also be taken separately. The specified pin numbers must be used – danger of short circuits!

- Testing Requirements: The on-board computer II calling and storing in memory are according to operating instructions (chapter 2).
- Testers Required: Universal adapter with connecting lead as well as BMW service test unit (multimeter tests).
- Data stored in on-board computer II is cancelled with the connecting switch of the test adapter (between BC II wire harness plug and BC II).
- Functions in ignition lock pos.
 - 0: No display background lighting, not possible to operate buttons.
 - R: Display board illuminated, operation possible, code function free.
 - 15: Same as R, however also distance/time/consumption functions, code function locked.
 - 50: Same as 15, but in this case the starting interlock must only function 6 seconds after taking away the term. 50 signal.
- Universal adapter HWB No. 81 12 9 425 091
 - Conn. lead wire harness 26-pin 096
 - Conn. lead control unit 26-pin 097

Note: The type of coding plug* can be called in ignition lock position 15 by pressing buttons 1 and 100 simultaneously. If calling is not possible, check power supply between pins 10 (= B –) and 7 (= term. 15).

Malfunction Operation	Possible Defect	Test / Specification	Not As Specified Sources of Defect / Information
1. PPPP appears in display	<ul style="list-style-type: none"> – in coding plug* on back – on its plug pins – or on BC II 	Coding test	<ul style="list-style-type: none"> – Replace coding plug, disconnect power supply, reconnect, perform coding test. – Replace BC II. After replacing BC II check coding and compensate reserve volume: If the tank volume does not equal reserve range, pull the fuel level transmitter out of tank far enough that float is on bottom stop. Remove anti-tamper lock on BC II (left side next to button 1000). Ignition lock in position 15. Correct the displayed liter value* with a screwdriver after pressing buttons 1 and 1000 simultaneously. Reinstall anti-tamper lock.
Note: The driving range display could be changed after calling the tank volume.			
2. AAAA appears in display	Internal BC II defect		Replace BC II; also refer to point 1.
3. No display	Power supply missing	Between pin 10 (= B–) and pin 6 (= B+). Specification: $U \geq 10 \text{ V}$.	Wires to and from instrument cluster; plug connections.
4. Weak time display, but no other operations are possible in ignition lock position R	<ul style="list-style-type: none"> – No voltage on term. R – BC II defective (e.g. buttons) 	Between pin 10 (= B–) and pin 5 (= term. R). Specification: $U \geq 10 \text{ V}$.	<ul style="list-style-type: none"> Wires to and from instrument cluster; plug connections. Replace BC II (see point 1).

Malfunction Operation	Possible Defect	Test / Specification	Not as Specified Sources of Defect / Information
5. Ignition lock from position R display board background button lighting (with lights on) not working	<ul style="list-style-type: none"> - Term. 31 g, term. R, term. 58 power supply missing - Lights in BC II defective 	<ul style="list-style-type: none"> - Between pin 10 (= term. 31) and pin 5 (= term. R). Specification: 10 V (button board lighting only works with lights on) - Between pin 9 (= term. 31 g) and pin 8 (= term. 58 k). Specification: U = U battery, depending on switch position. 	<ul style="list-style-type: none"> - Break in wire - Replace light bulbs; depending on defect pull out light slider with a small pliers (check printed voltage data when testing externally) or light bulb for button lighting (12 V, 1.2 W).
6. None or wrong SPEED display	<ul style="list-style-type: none"> - Wrong coding plug* in BC II Speed signal missing - Defect in input signal - BC II defective 	<ul style="list-style-type: none"> - See point 1 - Simulate speed signal on speed transmitter wire plug connection with BMW service test unit. - With simulation of 256 Hz, ignition on (engine not running), on BC II button SPEED and button SET-RES Displayed value see coding plug table*. 	<ul style="list-style-type: none"> - Follow signal up to BC II. - Replace BC II (see point 1).
7. None or wrong CONSUMPTION display	<ul style="list-style-type: none"> - Wrong coding plug* in BC II - Defect in input signal - BC II defective 	<ul style="list-style-type: none"> - See point 1 - With engine running there must consumption signal on pin 17 and pin 10 (= B-). 	<ul style="list-style-type: none"> - Check signal from L-Jetronic control unit pin 12 or wire 11 from 2BE control unit with BMW service test unit. Scope test or BMW digital tester II: ms-test, possibly compare with signal of cyl. 1 or 2. - Replace BC II (see point 1).

Malfunction Operation	Possible Defect	Test / Specification	Not As Specified Sources of Defect / Information
8. TEMP function Considerable difference in temperature display between pos. R and 15 Displays: - 30 ^o C	- Fuel level transmitter or its wires		- Fuel level transmitter/connections - Short circuit in wire - Break in wire
	- Temperature sensor or its wires	- Measure resistance* between pin 16 and pin 10 (= B-) (BC II not connected) and compare with actual temp..	- Wires - Temperature sensor
Wrong TEMP function	- Temp. sensor defective	- See Specifications* for value	- Replace temperature sensor
	- BC II defective		- Replace BC II (see point 1).
9. Gong not working	- Defect in gong signal transmitter/wires - BC II defective	Turn ignition lock to pos. R or 15, connect pin 10 and pin 2 - gong must gong	No Gong: - Defect in wires - Defect in gong (check gong externally) Gong: - Replace BC II (see point 1).
10. No activation of parked car heating Note: parked car heating being prepared for E 30.	- Relay for parked car heating defective/wires - BC II	Connect pin 14 with pin 6 (= B+): relay must switch.	Measure resistance between pin 14 and pin 10, BC II not connected, ignition lock in position 0; specification: between 80 and 120 (see wiring diagram). - Relay defective - Defect in wiring - BC II defective (see point 1)
11. No activation of horn relay	- Relay box for horn activation defective - Wires - BC II	Connect pin 1 and pin 10 (= B-). Horn relay must be activated and horn must sound.	- Defect in relay box, wiring, horn. Horn function okay: - Replace BC II (see point 1).

Malfunction Operation	Possible Defect	Test / Specification	Not As Specified Sources of Defect / Information
12. No activation of starter interlocking relay	<ul style="list-style-type: none"> - Defect in relay box, activation of interlock defective - Wires - BC II 	Connect pin 11 and pin 10 (= B-) and turn ignition lock to R or 15: relay in relay box must operate.	<p>See point 10, but between pin 6 and pin 11.</p> <p>Replace BC II (see point 1).</p>
13. No function of remote control	<ul style="list-style-type: none"> - Steering column switch defective - Wires - BC II 	Ignition lock in R or 15. Pin 10 (= B-) connected briefly with pin 4 several times: Information in display must change each time.	<ul style="list-style-type: none"> - Defect in steering column switch (check without BC II) - Wiring - Replace BC II (see point 1).
14. Driving range function wrong	<ul style="list-style-type: none"> - Coding plug - Reserve volume balance - Speed signal - Consumption signal - Fuel level transmitter / reserve contact 	<ul style="list-style-type: none"> - See point 1 - See point 6 - See point 7 - Fuel gauge display in instrument cluster correct 	<ul style="list-style-type: none"> - Connection from instrument cluster to BC II - Wires to instrument cluster