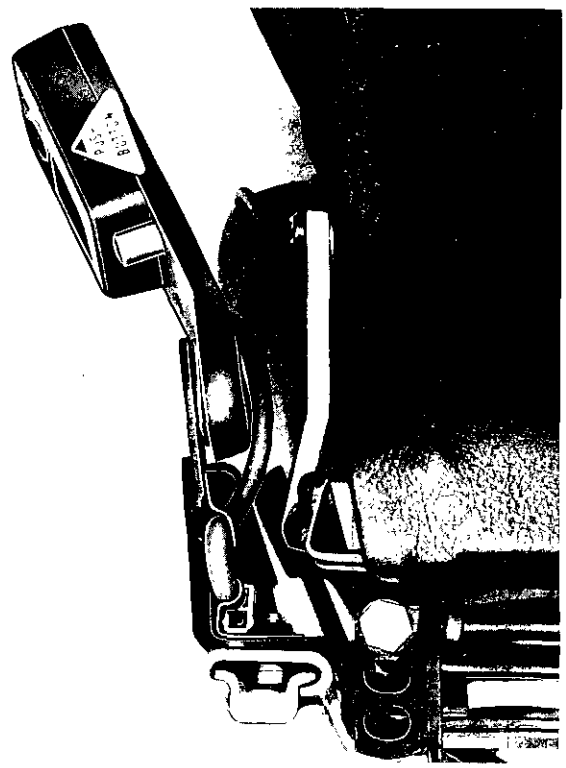
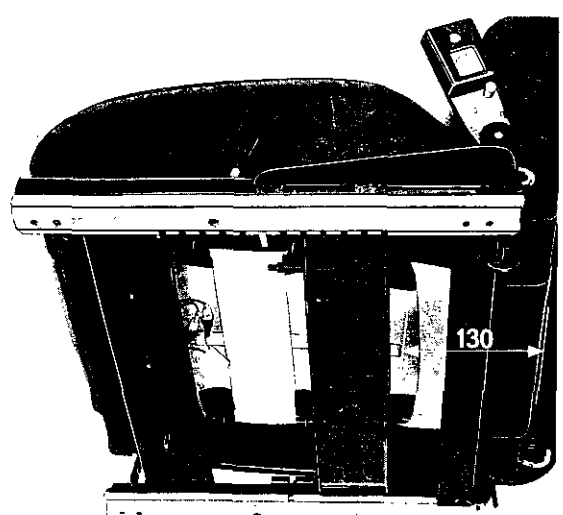
Removing and Installing Safety Belt Lock in the Sport Seat



Remove both countersunk screws and take the plastic cover off. The rear cover should be pushed to the side to clear the lock assembly retaining bolt and permit its removal.

Pry both wire retaining clips open to free the wire and detach it at the plug connector.

Removing and Installing Seat Contact Switch in Passenger's Seat (Sport Seat)



Remove seat (see Group 8, page SB 21 and 22).

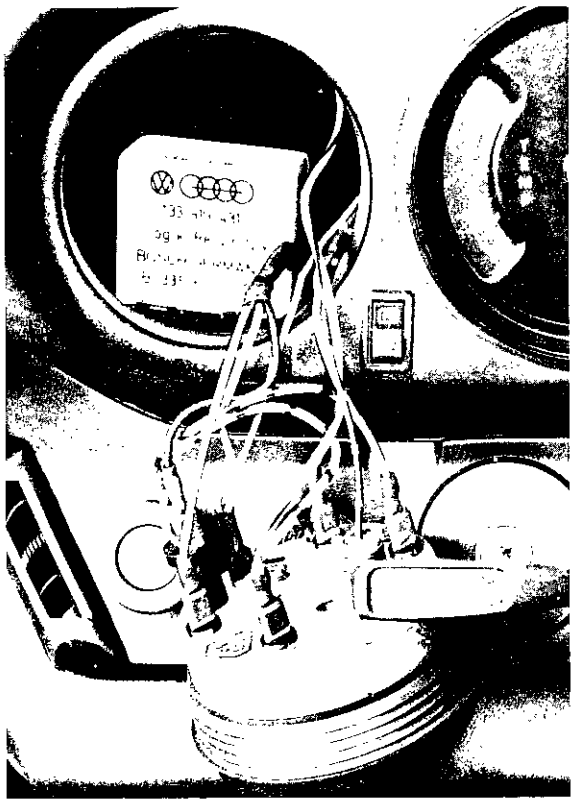
The seat contact switch is freely accessible on the seat underside and can be removed once the wires are disconnected.

Make sure during installation that the seat contact switch is reinstalled in its original position (note dimensions). To prevent the seat contact switch from relocating itself sideways, it should be glued to the seat underside with a commercial adhesive.

Polarity is of no consequence when the electrical connections are made.

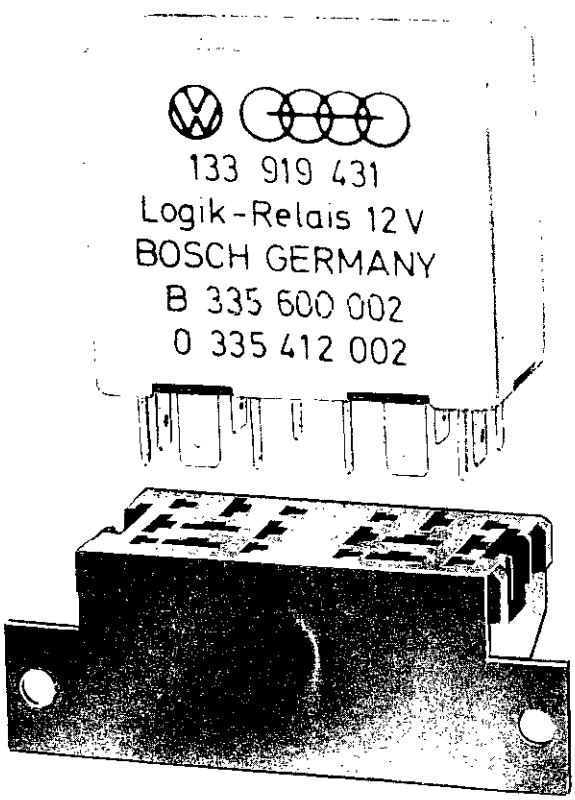
(Dimensions shown are in mm)

SAFETY BELT WARNING SYSTEM 1974 MODELS



Removing and Installing Logic Relay Switch

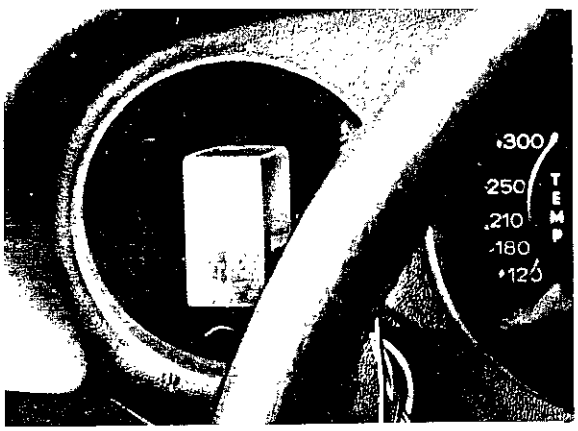
The logic relay switch rests in a socket which is attached to the luggage compartment floor and is accessible upon removal of the small combination instrument. The asymmetrically arranged contact prongs ensure proper installation of the relay, which is with the inscription facing rearward in relation to the direction of travel.

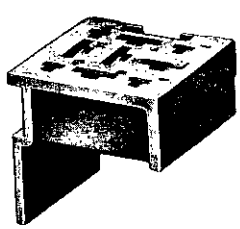


SEAT BELT INTERLOCK SYSTEM - 1976 MODEL

Removing and Installing Time Relay

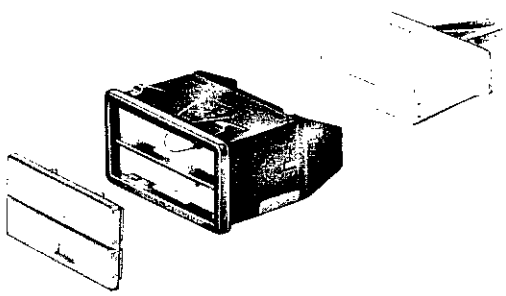
The time relay, installed since February 1975 is just as accessible as the logic relay after removal of the small combination instrument.





Removing and Installing Seat Belt/Brake Warning System Indicator Housing

A housing containing the indicator lights for both warning systems (seat belts and brakes including parking brakes) is installed in the 1976 model. It replaces the previous FASTEN SEAT BELT indicator light. Consequently, the brake warning light in the combination instrument is no longer installed.



Removal and installation is the same as previously for the single indicator housing.

SAFETY BELT WARNING SYSTEM 1974 MODELS

Troubleshooting Safety Belt Warning System

If the starter does not work despite properly attached safety belts, proceed as follows to eliminate the problem:

1 - Replace logic relay switch.
If this does not correct the problem the malfunction may be in the following component areas:

a - in the starter itself
b - in the ignition/starter switch
c - in the connecting wire between the two
d - in the wires between belt and seat contacts, and logic relay switch.

2 - Remove logic relay and connect jumper wire between terminal C and 50 in the logic relay socket. The jumper wire must be provided with flat contact tabs to ensure good connection.
If starting is now possible, the defect will be found in the wires which connect the belt or seat contacts with the logic relay switch.

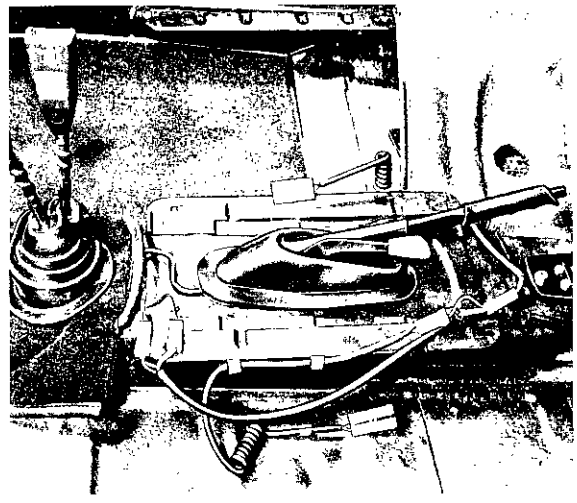
3 - Remove seats and check electrical connections according to the wiring diagram.
If the starter fails to work despite the jumper wire connection, check starter, starter/ignition switch, or wires connecting the two.

Other possible malfunction areas are:

a - Malfunction in the optical and accoustic warning devices when belts are not buckled.

b - Activation of the warning devices despite proper handling of the safety belts.

In either case, first replace the logic relay switch and then, if necessary, check the electrical connections and wires in the safety belt warning system by following the wiring diagram.

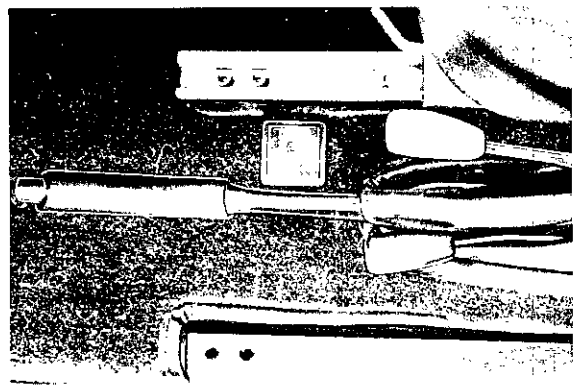


NOTE

Upon rectification of the problem be sure to remove the jumper wire and replace the logic relay switch, otherwise the entire safety belt warning system will remain inoperative.

CONTROL ILLUMINATION

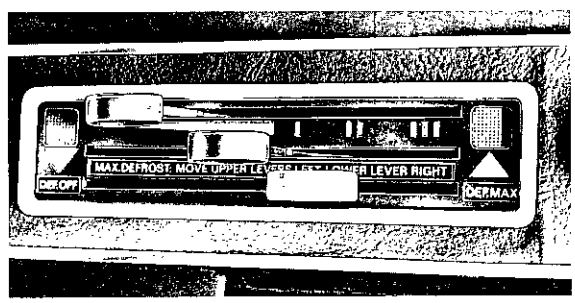
Illumination of the Heater Control Lever



A square, illuminated plaque showing the function of the heater control lever is located on the center tunnel adjacent to the lever.

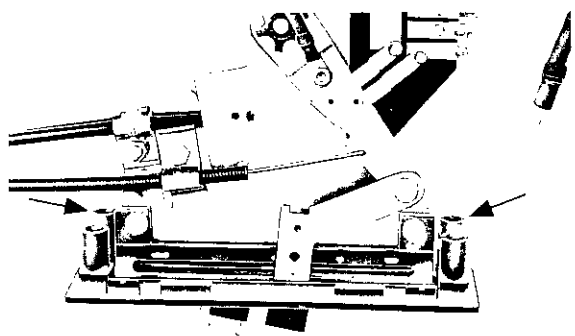
The plaque can be lifted off to gain access to the wedge-base bulb (12V, 1.2 W).

Illumination of the Fan Control Switch



Located behind the inscriptions "DEF. OFF" and "DEF. MAX." in the lower part of the fan control switch are wedge-base bulbs (12V, 1.2 W), one on each side.

The socket-mounted lamps are seated in their receptables on the rear side of the switch. The bulbs are easily accessible from beneath the instrument panel without removing the knee guard.



Beginning with 1974 models, a third bulb is installed. It is located above the DEF.OFF field.

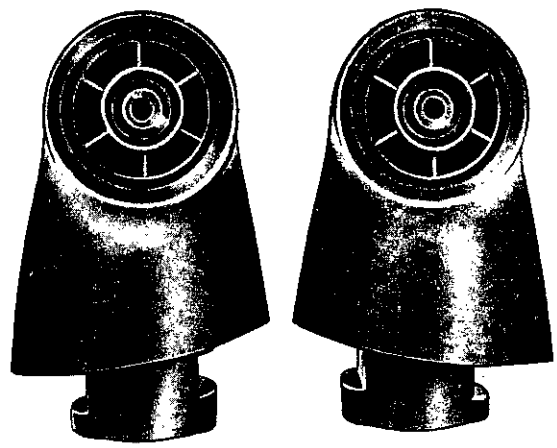
The control lamp located in the hazard warning switch is connected to the light switch through a 150 Ohm resistor. Thus the lamp fulfills the requirement of illuminating the hazard warning switch, although it burns with less intensity.

HEADLIGHT WASHERS

Removing and Installing Spray Jets

1 - Remove turn signal housing from bumper. Remove water container on left side of car (refer to page 4.4 - 1/1).

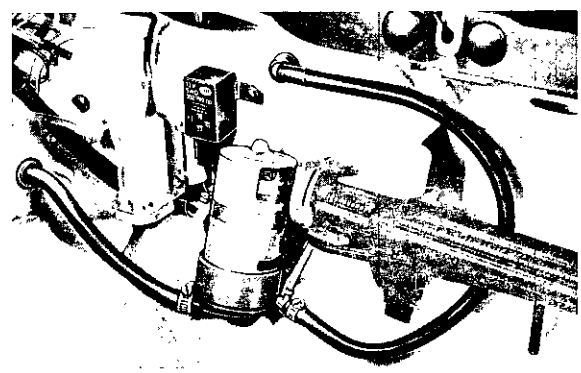
2 - Push spring out toward rear and lift out spray jet. When installing note that both jets are different for the left and right sides.

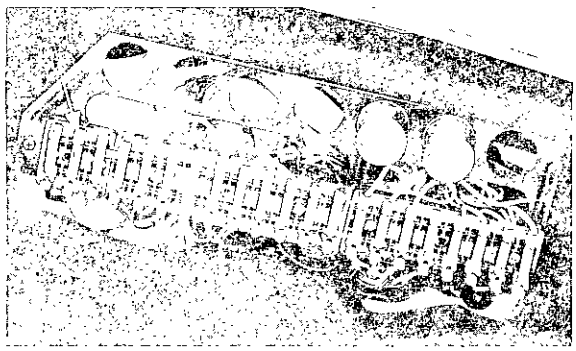


Removing and Installing Water Pump

1 - Disconnect hoses and electric wiring at pump.

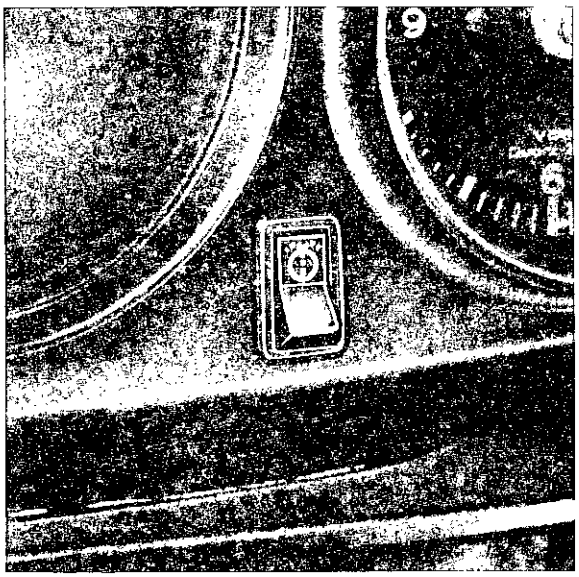
2 - Loosen strap and remove pump. When installing make sure that hoses and wiring are connected correctly.





Note

A 25 ampere fuse is used for the water pump.



Removing and Installing Switch

1 - Disconnect battery.

2 - Pull out switch and disconnect wires.

Adjusting spezifications

Use a locally manufactured tool to aim spray jets. This tool is inserted over the jet and extended by pulling out the mandrel. The jets are aimed correctly when the mandrel touches the center of the lens.

CAUTION

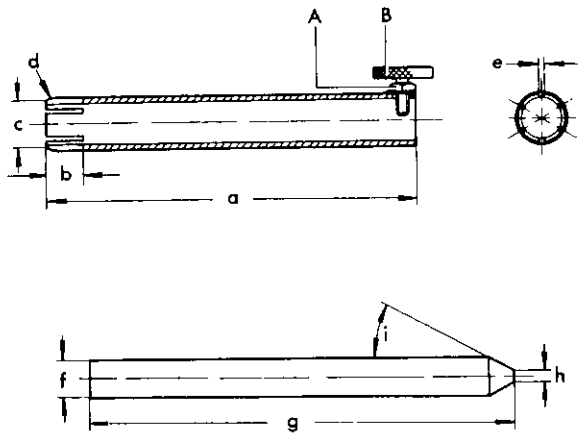
When adjusting the jet insert, hold the spray jet tightly to prevent damage to the jet.

Tool dimensions

a =	100	mm	
b =	10	mm	
c =	12.5	mm	
d =	5	mm	
e =	1+0.2	mm	
f =	10.5	mm	dia.
g =	115	mm	
h =	3	mm	dia.
i =	30°		

A = M 4 nut, soldered
B = M 4 knurled head screw

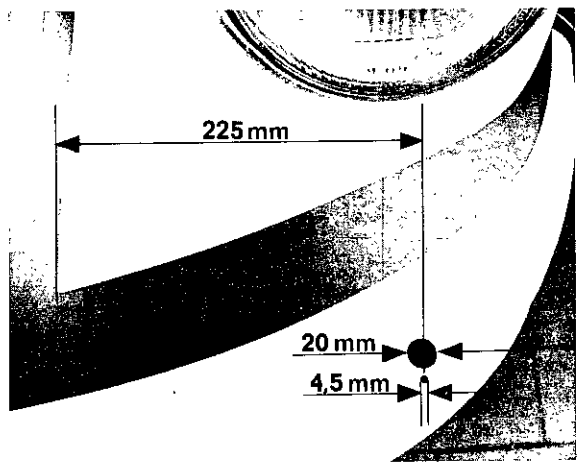
Tube 14 x 1.5 mm



Service Installation of Headlight Washers

beginning with 1974 Models

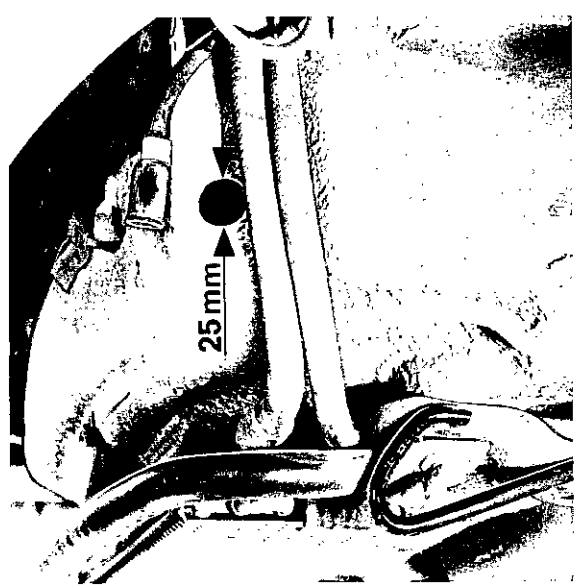
1. Mark and drill nozzle mounting holes in bumper. To locate hole centers place the rubber grommet on the bumper. Note that the nozzles and rubber grommets are different for left and right sides.

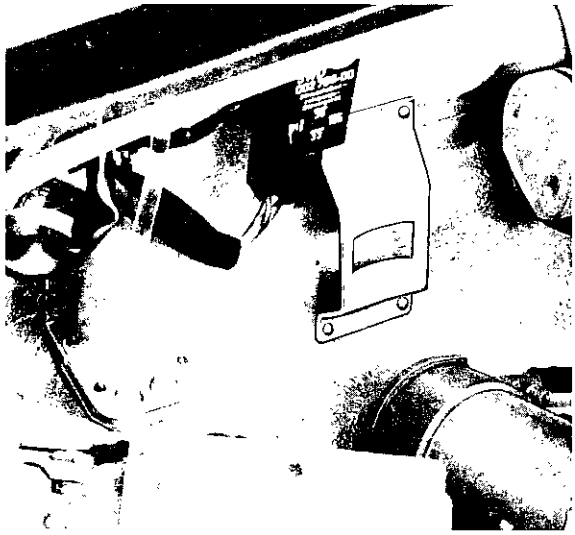


The spray jets are positioned slightly off center (of headlight) the distance between jets is 1250 mm (49 1/4 in.)

2. Remove bumper. If an angle drill motor is not available, the front apron will also have to be removed.

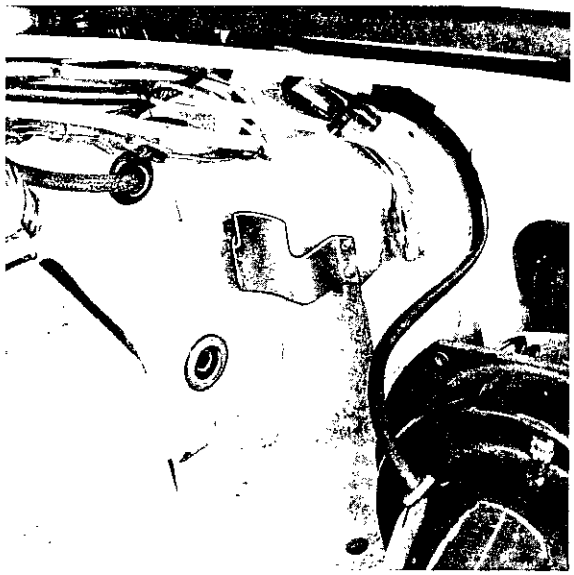
3. Drill 25 mm (1 in.) hole for water feed hose and insert grommet. (Be careful not to damage hoses in this area of cars equipped with an air conditioner.)





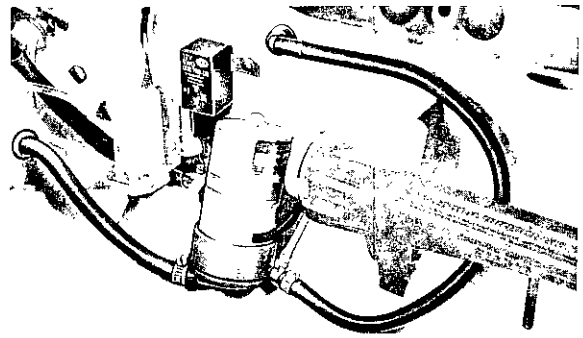
4. Remove present fluid container and install new container.

5. Drill two holes on each side of water pump bracket and bolt or rivet holder to lock panel. Location of bracket itself is different for cars with or with-out an air conditioner. Locate bracket in cars with an air conditioner so that the inlet adaptor of the pump has its opening at the same height as the water feed hose.

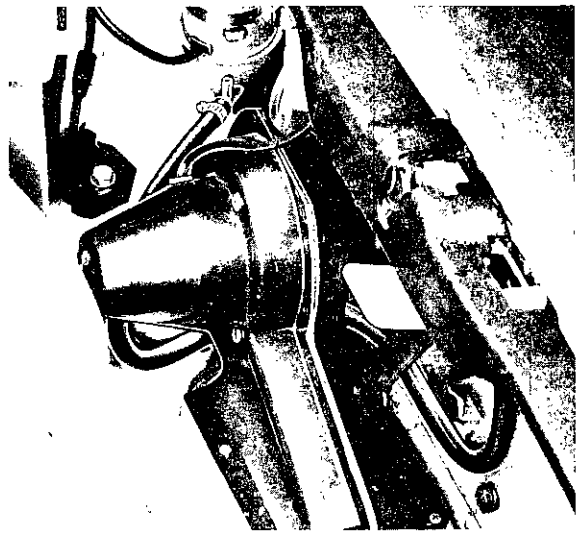


6. Install front apron.

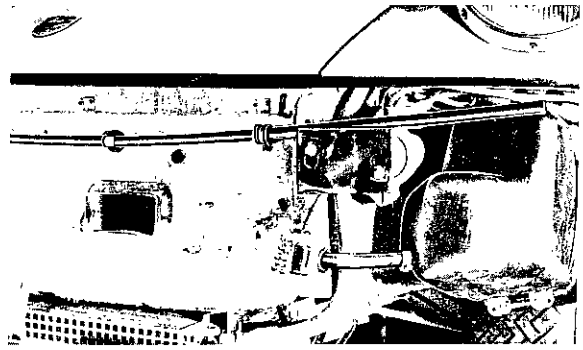
7. Install water feed hose on intake neck and molded hose on pressure adaptor of pump with hose clamps. Use longer molded hose on models with air conditioners and shorten water feed hose to a length of about 100 mm/4in.

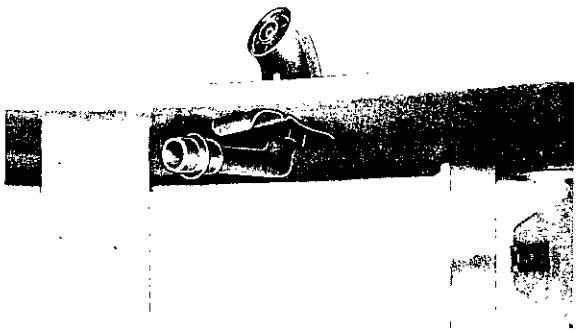


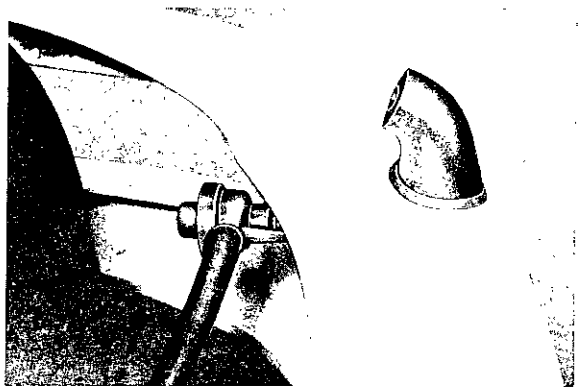
Insert molded hose (detach condenser blower of cars with an air conditioner), slide feed hose through grommet toward outside, clamp hose to water container adaptor with clamp and secure pump to bracket with clamp.



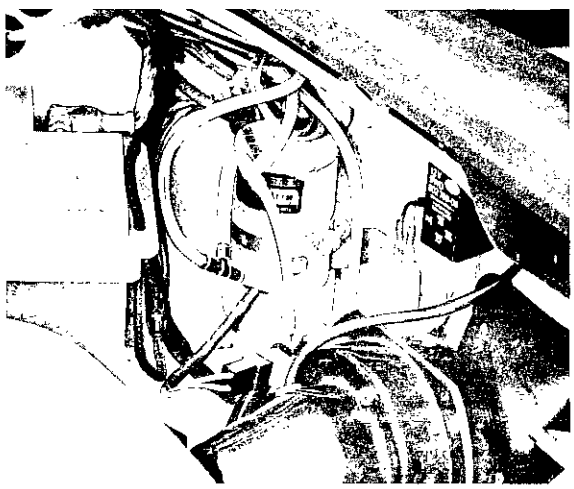
8. Connect both outlet hoses to adaptor (short hose left), locate hole for adaptor by placing in front of lock panel and drill 18 mm (3/4in.) dia. hole. Place adaptor and rubber grommet through hole and connect molded hose. Secure both hoses leading to nozzles with clamps. Insert pressure control valves on ends of hoses.







9. Secure nozzles and rubber grommets to bumper with spring locks, connect them to pressure control valves and install bumper.



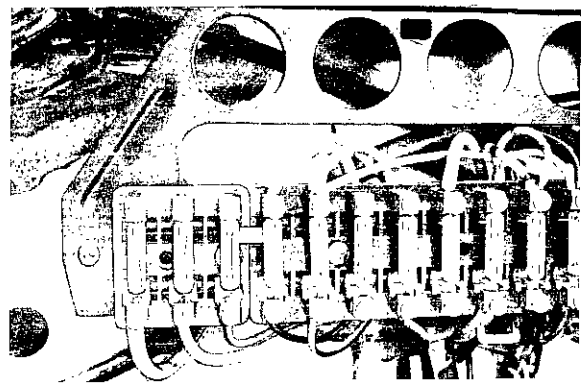
10. Disconnect hose at center connection of adaptor and connect it to center connection of valve adaptor.

Note

Use a longer hose for cars without an air conditioner.

Connect the open center connection of adaptor with S and the outlet adaptor of the water pump with P on valve adaptor.

11. Secure relay to lock panel with sheet metal screw. Disconnect battery ground cable. Connect wires to relay and water pump. Connect brown wire to body ground. Place wires behind fusebox and secure with clamps. Install an extra 3-position fusebox so that the brass rails on the back face upward. Bridge adjacent fuse with a shunt. Connect gray wire to fuse 2 (second fuse from front) at top, red/white wire to fuse 20 (center fuse of 3-position fusebox) at bottom. Use 25 ampere fuses.

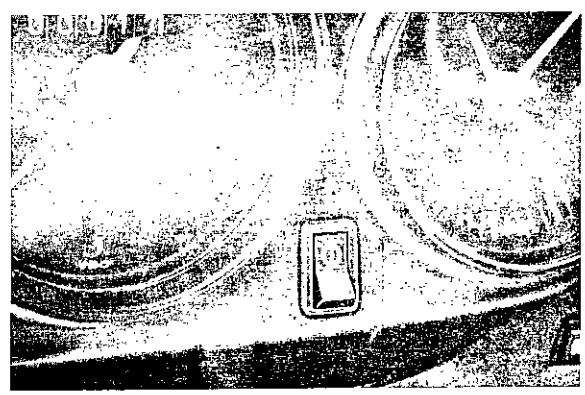


Note

Use open fuse connection of the 3-position fusebox already installed in cars with special equipment (e.g. air conditioner). Install 25 ampere fuse!

12. Locate wires toward instrument panel, remove instrument and clock, take off square cover between tachometer and clock and place wires through opening. Connect switch and press into opening.

13. Connect battery. Fill fluid container and check operation. Aim spray jets.

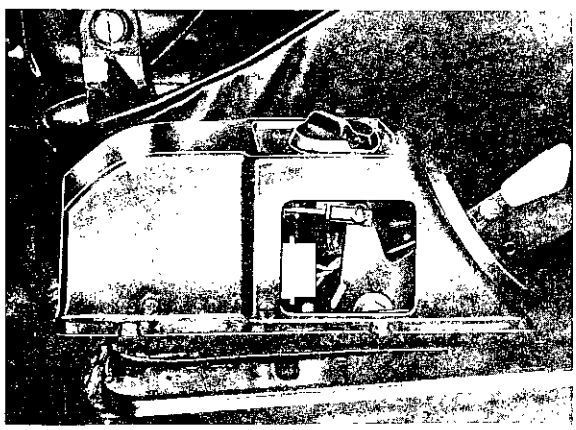


AUTOMATIC HEATING CONTROL

Removing and Installing Control Unit

1. Pry both side covers off of control unit.

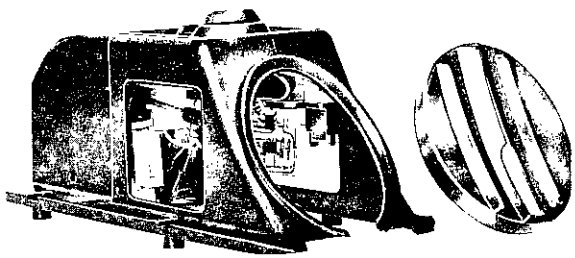
2. Detach connecting rod between servo-motor and heater lever.



3. Remove the four bolts, lift control unit carefully and disconnect the three plugs at the control unit.

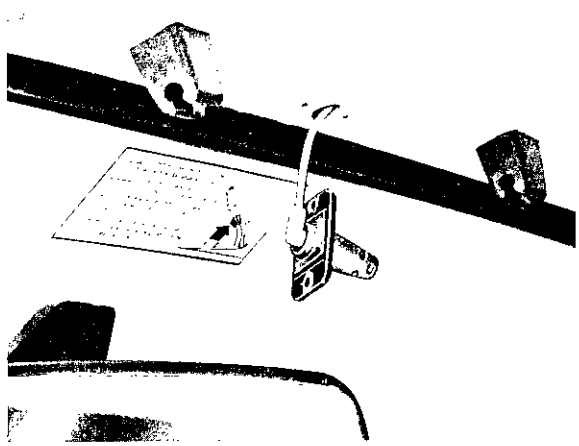
4. Remove rubber seal and slide control unit forward past heater and parking brake levers to remove.

5. After installation of the control unit turn off the heater with the ignition on and let the heater lever move all the way down. Check, whether both heater flaps are closed. If not, adjust the heater cables to remove any play.



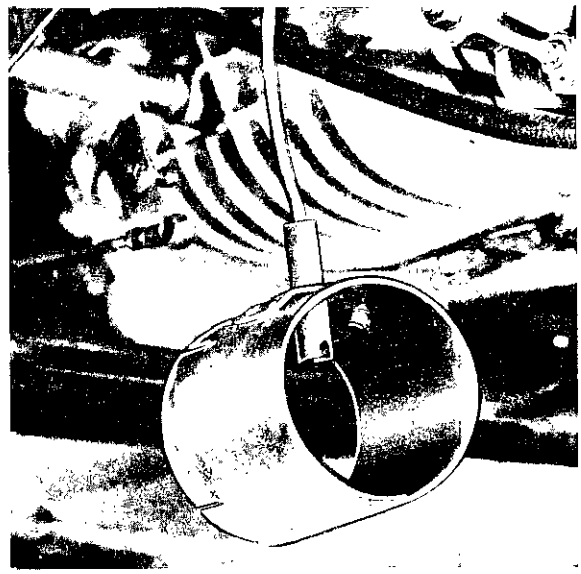
Removing and Installing Interior Sensor

1. Remove both Phillips screws and pull down sensor carefully.



2. Pull angled plug off of sensor.

Removing and Installing Heat Sensor in Heater Flap Housing

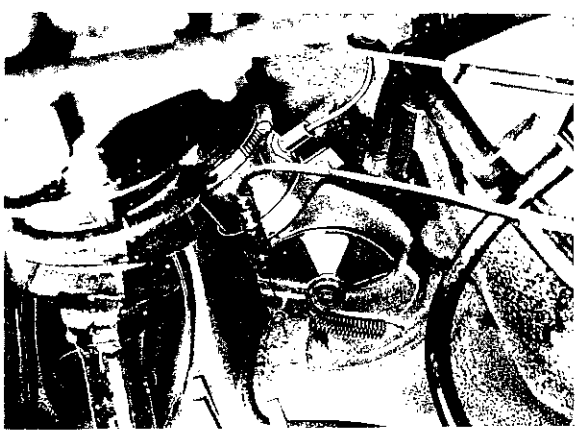


1. Loosen control unit and pull off the front 2-pole male plug.

2. Loosen carpet along center tunnel and clear cable up to grommet in kick plate.

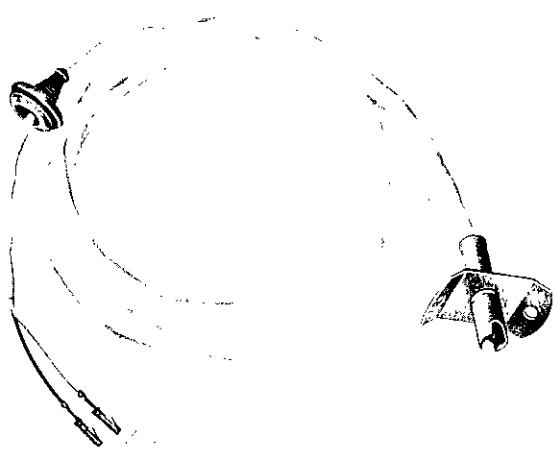
3. Pull both wires out of male plug housing (be sure to depress terminal retainer) and push out grommet.

4. Remove adaptor on left heater flap housing.



5. Pull out cable and remove rivets on the adaptor.

6. Rivet new heat sensor to adaptor rout cable and press in grommet.

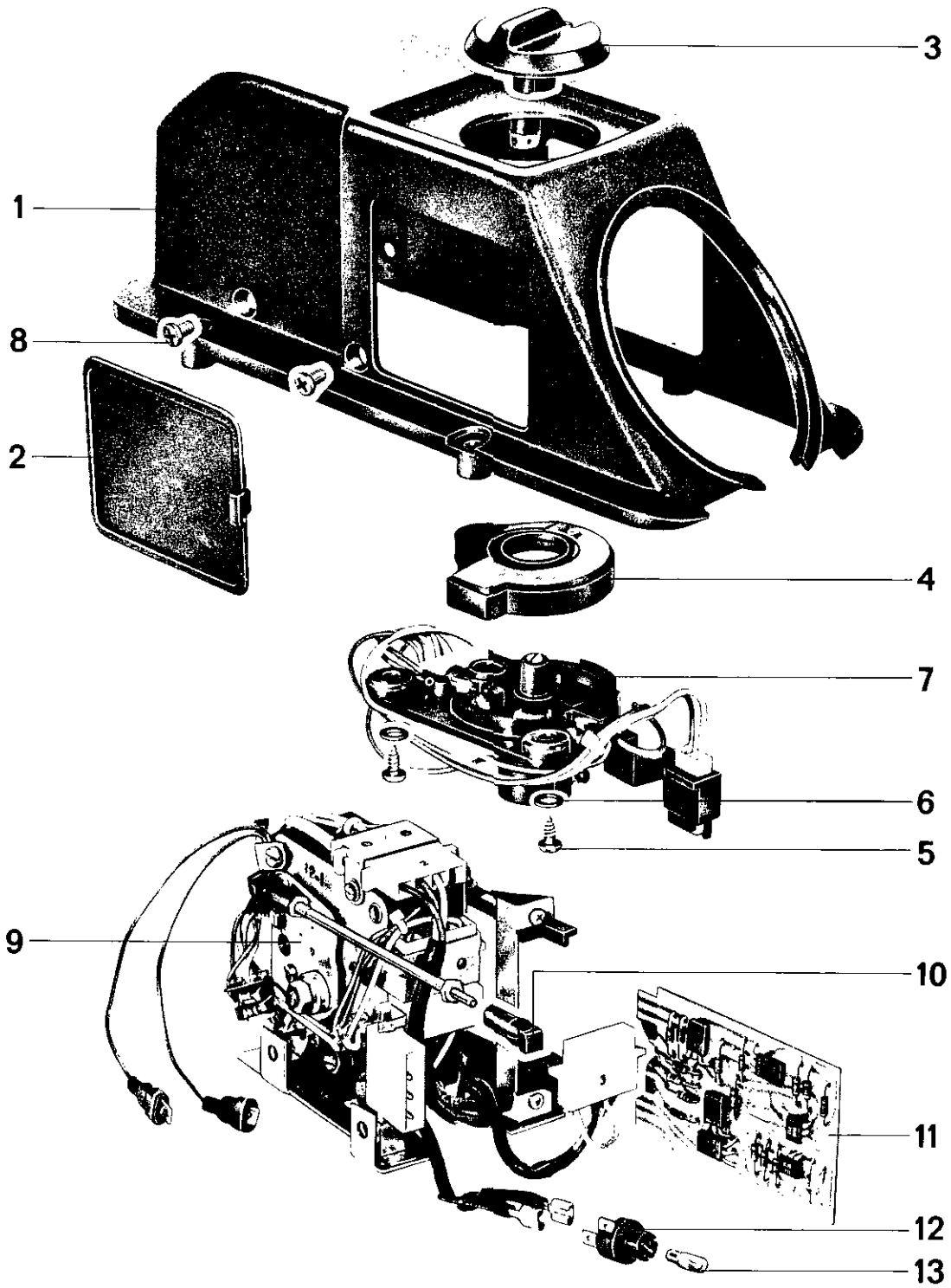


7. Install adapter. Make sure that the heater flaps are adjusted evenly on both sides.

8. Secure plug housing to cable. The black wire must be located on the side of the housing with a tab.

9. Place cable inside of car, glue carpets, connect plug to control unit and secure control unit again.

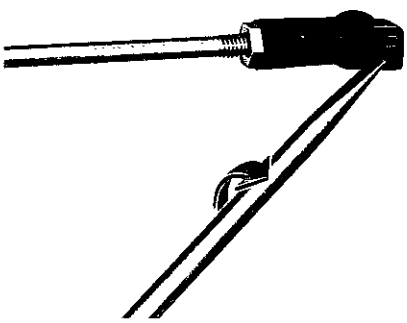
Disassembling and Assembling Control Unit



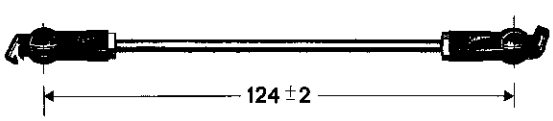
No.	Description	Qty.	Note When Removing	Note When Installing	Special Instructions
1	Housing	1			
2	Cover	2			
3	Knob	1	Pull off		
4	Light mask	1			
5	Screw	3			
6	Washer	3			
7	Switch	1			
8	Phillips screw	4			
9	Control unit	1			
10	Ball socket	2			see page 6.5 - 1/6
11	Card	1		Push in completely	
12	Bulb holder	1			12 V, 1.2 W
13	Bulb	1			

Installation Instructions

Prior to removing the connecting rod, detach clamp at ball socket with a screwdriver.



When replacing ball sockets adjust to 124 $^{+}_{-}$2 mm as shown in figure.

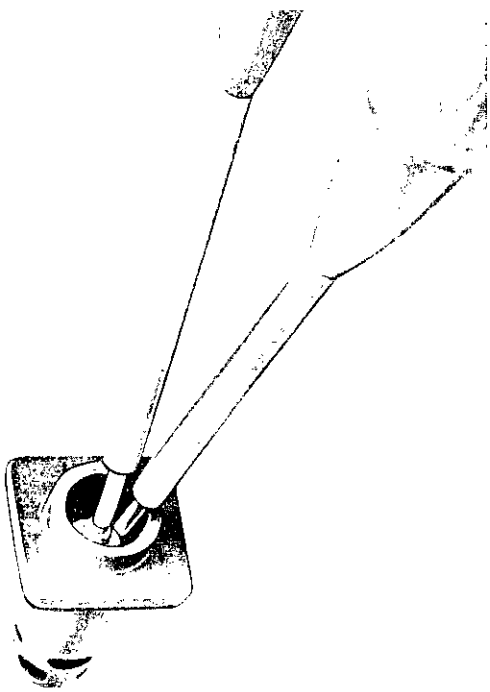


TROUBLESHOOTING AUTOMATIC HEATING CONTROLS

Checking Interior Sensor

1. Remove interior sensor.

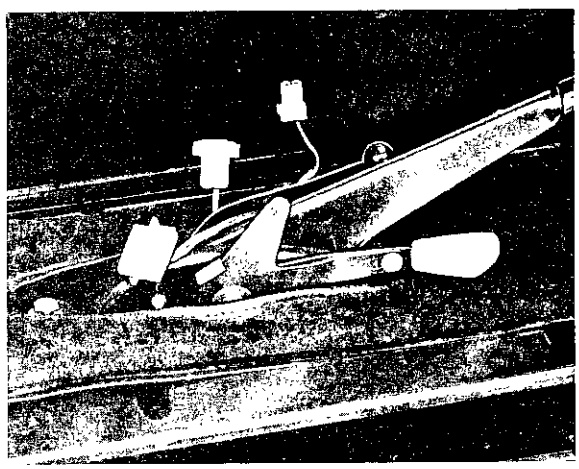
2. Using an ohmmeter with an appropriate testing range, check the resistance between both coaxial connections on the sensor (use test points). The resistance is very dependent on the temperature and should be about 1.5 kOhm at room temperature. Replace the temperature sensor if the resistance is about ∞ ohm (open circuit in sensor) or about O ohm (short circuit in sensor).



Checking Heat Sensor in Heater Flap Housing

1. Remove control unit.

2. Connect ohmmeter to 2-pole plug of heat sensor. The resistance must be 135 ohm with warm engine at 100°C/212°F. Replace heat sensor if resistance is way off (see "Checking Interior Sensor").

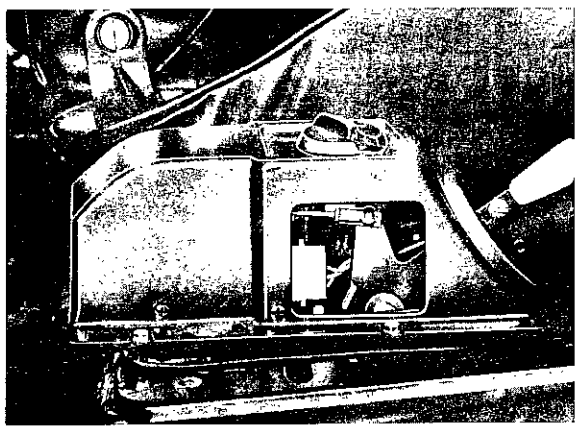


Note

An open circuit in one of the sensors or in the wires to the control unit will show a too low inside temperature or, a short circuit, a too high inside temperature. This will result in an improper movement of the heater lever up or down.

Checking Power Supply to Control Unit

1. Remove right side cover of control unit.



2. Disconnect 3-pole plug.

3. Turn on ignition and parking lights.

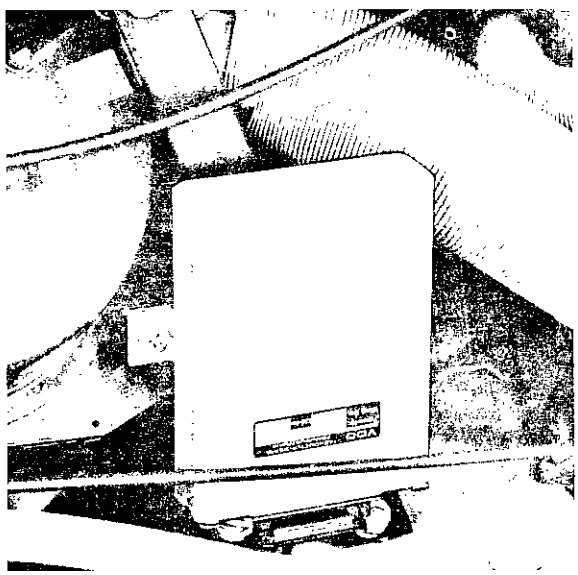
4. Connect test lamp between brown and red/white as well as brown and gray/blue cables. Test lamp must come on in both cases.

If both temperature sensors and the power supply operate correctly, but the heater controls do not operate properly, replace the complete control unit.

AUTOMATIC SPEED CONTROL

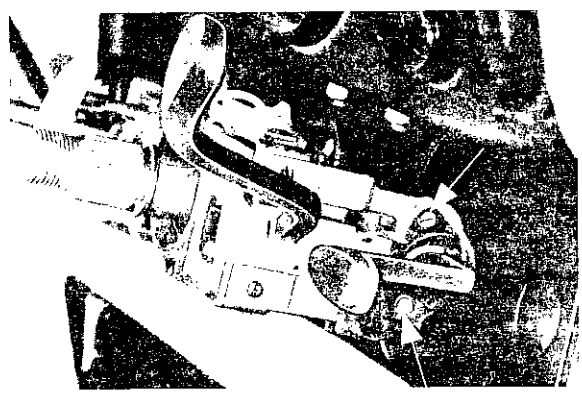
Removing and Installing Regulator

1. Remove cover in luggage compartment.
2. Pull plugs off of regulator.
3. Remove Phillips head screws and take out regulator.



Removing and Installing Engagement Switch

1. Remove steering wheel and switch housing.
2. Remove engagement switch screws and take off switch.
3. Detach plug. If car has an air conditioner, loosen duct on driver's side.

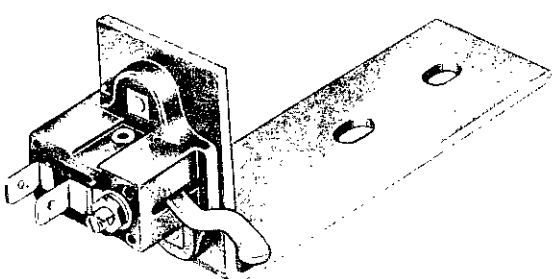


Removing and Installing Clutch Pedal Switch

1. Remove front tunnel cover.

2. Unscrew nuts on bracket, pull off wires and remove bracket with switch.

3. When installing make sure switch is adjusted correctly for clutch pedal. Adjust bracket in slots so that switch is not damaged when pulling back clutch pedal to check clutch play.

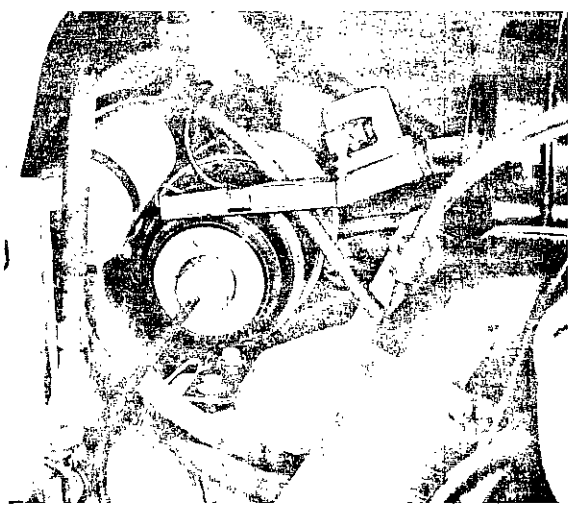


Removing and Installing Servo

1. Take out hose between heater air connection and blower motor.

2. Pull off plugs on servo and solenoid.

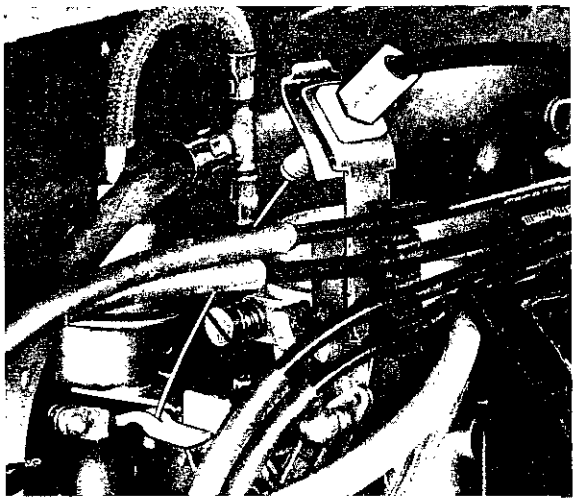
3. Unscrew mounting screws, detach vacuum line (small hose) on servo.



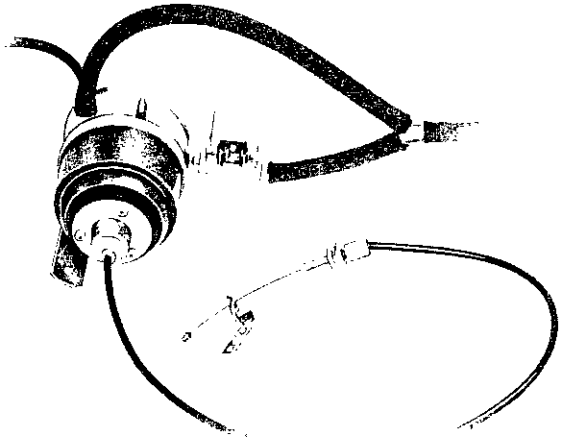
Note

The vacuum hose is connected to an adaptor near the throttle housing.

4. Unscrew holder on throttle lever.



5. Pull off cable clip on holder upward and remove servo with cable.

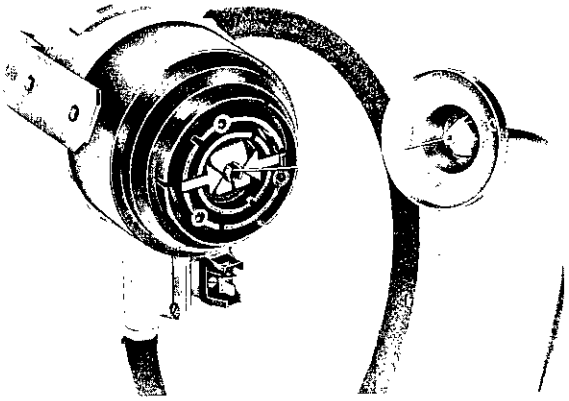


Removing and Installing Cable

1. Detach cable at throttle.

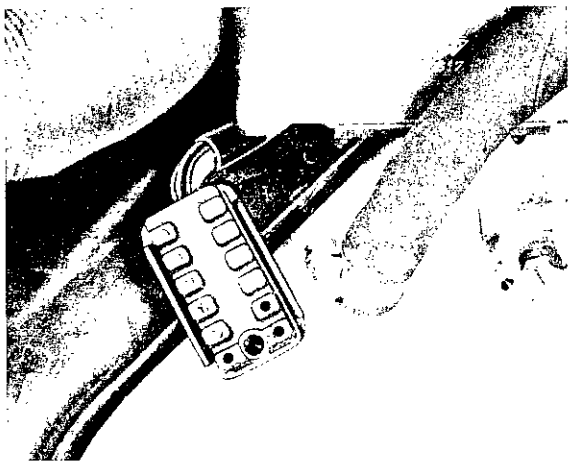
2. Unscrew cap on servo.

3. Press black clip together, slide in and detach cable.



Troubleshooting Automatic Speed Control

1. Disconnect plugs at speed control regulator.



2. Connect ohmmeter between ground and terminal 3 of plug. Ohmmeter must show $\infty\ \Omega$.

   Depress clutch. Ohmmeter now shows about 10 ohms. If resistance remains at $\infty\ \Omega$, either the clutch pedal switch or the solenoid on the servo is defective or not connected.

Note

On models with a sportomatic transmission operate the selector lever. (If the selector lever is not moved, the ohmmeter will show an additional 20 ohms.)

3. Connect ohmmeter between terminals 3 and 7. Reading must be between 11 and 17 ohms. If not, replace servo.

4. Terminal 12 must go directly to ground.

5. Connect ohmmeter between terminal 11 and ground. Move car; ohmmeter must deflect periodically.

6. Connect ohmmeter between terminal 6 and ground. Ohmmeter must show open circuit, provided that the stop lights operate properly.

7. Turn on ignition. Connect voltmeter between terminal 6 and ground. Depress brake pedal; instrument must show 12 volts.

8. 12 volts must be supplied to terminal 9, if the engagement switch is moved up.

9. Supply 12 volts to terminal 8. Terminal 8 must be dead when moving engagement switch toward steering wheel.

10. Supply 12 volts to terminal 10, if engagement switch is moved down.

The regulator must be replaced if all readings are within specifications and there is still a problem.

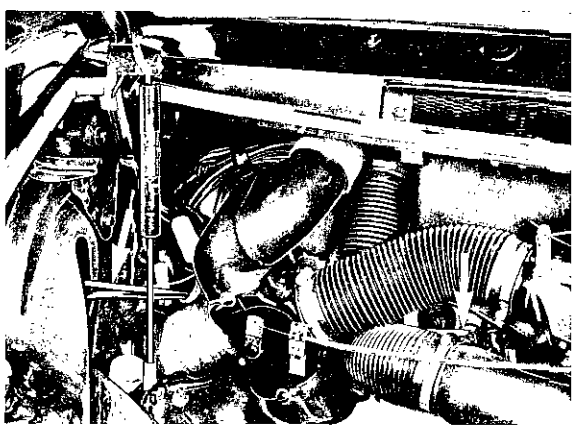
REMOVING AND INSTALLING AUTOMATIC ANTENNA

1. Disconnect battery.

2. Pull off wire (term. 30) on light switch and ground wire underneath instrument panel.

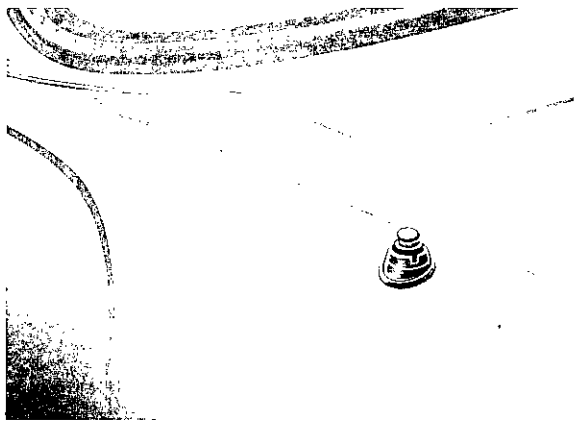
3. Disconnect control wire for antenna on radio and antenna wire on radio.

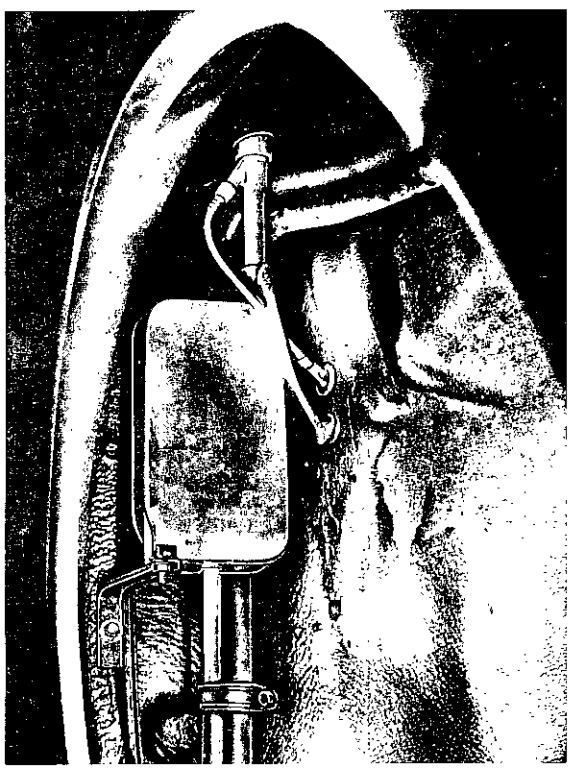
4. Disconnect front area mat and unscrew luggage compartment trim.



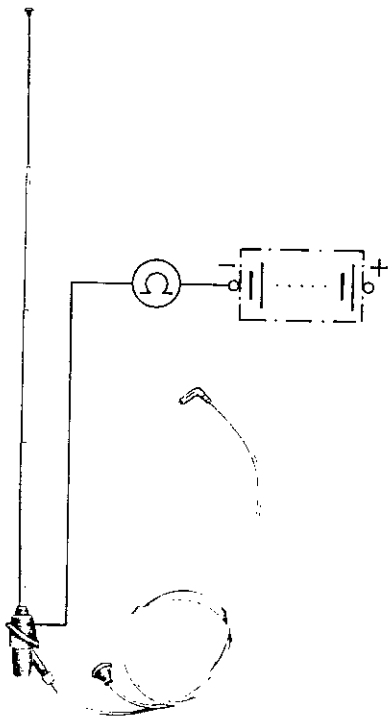
Pull wires into wheel well.

5. Unscrew antenna and remove from below.



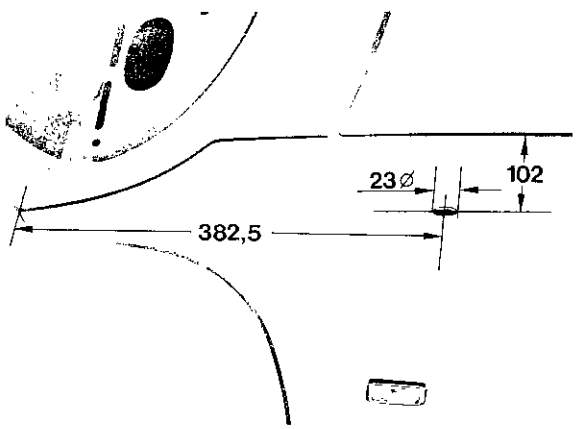


When installing antenna make sure there is perfect ground contact between base of antenna and fender.



Base ground to battery negative pole = 0 ohm.

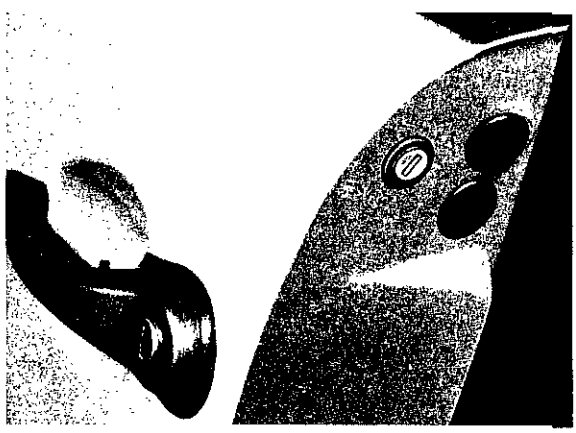
Installed distance for automatic antenna.



911 ALARM SYSTEM

Function

The alarm system is switched on and off with a separate key. The alarm switch is located on the face of an opened driver's door.



The key must be turned clockwise 90° to switch on the system.

The alarm will be set off by opening the driver's and/or passenger's door, the engine hood and when turning on the ignition.
After setting off the alarm system a separate alarm horn will sound off intermittently for about 30 seconds (or constant tone for Swiss version cars) and could be set off again by the measures described above. At the same time the engine cannot be started.

Setting off the alarm system with the doors is accomplished via the door contact switches which also operate the inside light. Consequently when turning off the alarm system the driver's door must only be opened far enough to insert the key in the alarm switch lock.

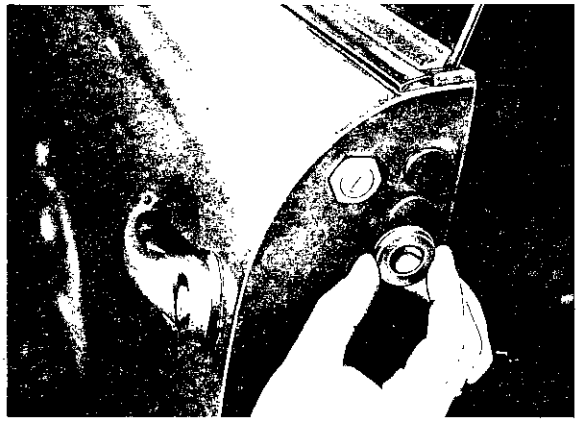
Note

Spare keys are not available for the alarm switch. The alarm switch must be replaced, if the key is lost.

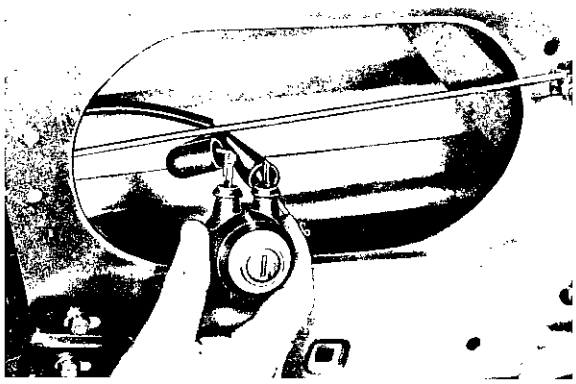
Removing and Installing Alarm Switch

1. Take off left door panel.

2. Pull off rubber escutcheon on alarm switch and unscrew hexagon nut.



3. Remove alarm switch through inside of door and pull off flat plug.

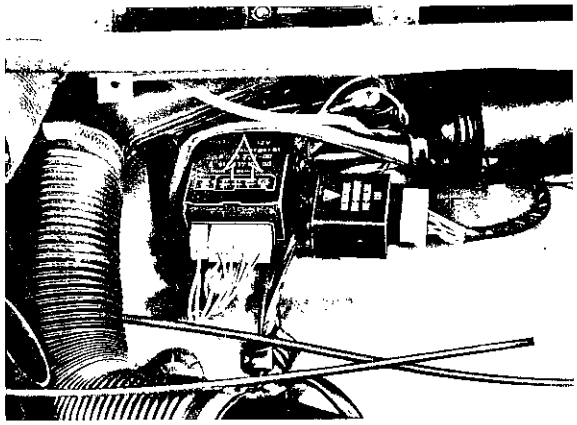


Removing and Installing Alarm Control Unit

1. Disconnect and remove front area mat. Unscrew luggage compartment trim.

2. Remove fresh air blower.

3. The alarm control unit is held by a holding clip and can be pulled off in direction of instrument panel.



Removing and Installing Alarm Horn

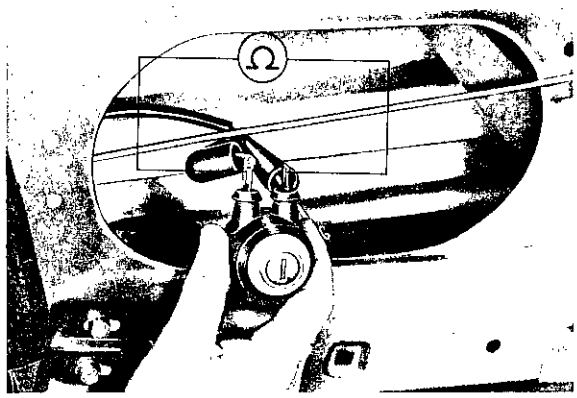
1. Unscrew bottom guard on front axle.

2. Unscrew alarm horn and pull off wire plug.

Troubleshooting Alarm System

Checking Alarm Switch

1. Remove alarm switch and measure ohm values between contacts.



Alarm switch on
(key positioned horizontally)
= 2 to 3 k-ohms)

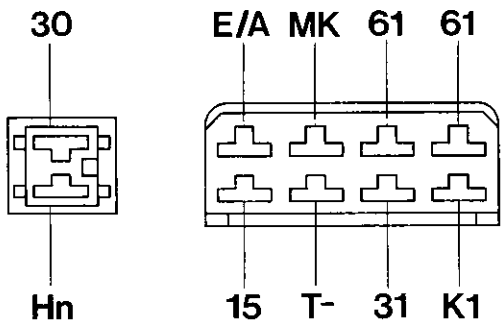
Alarm switch off
(key positioned vertically)
= 4 to 5.5 k-ohms

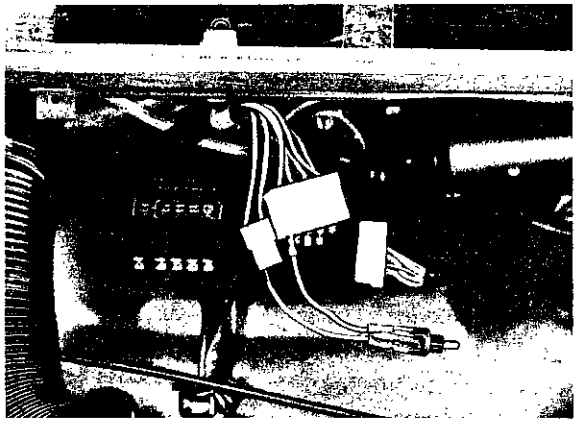
If measured values are higher or lower than specified ohm values, replace alarm switch.

Checking Lines and Connections

1. Remove alarm control unit. Pull off both plugs on alarm control unit.

2. Connect test lamp (max. 3 W) on double contact plug (term. 30 and Hn).
   If lamp comes on, there is battery voltage and wire to alarm horn is okay.





3. Leave test lamp connected on term. 30 and make other lamp connection on term. K 1. Lamp should come on.

4. Connect test lamp on term. 30 and 31. Lamp should come on.

5. Connect test lamp on term. 30 and T-. Open and close both doors separately. Lamp should come on while opening.

6. Connect test lamp on term. 31 and 15. Lamp should come on when turning on ignition.

7. Connect test lamp on term. 30 and 61 (connect on both terminals separately).

   Lamp comes on and goes out when turning on ignition.

   Lamp comes on and goes out after starting and running engine at high speed.

8. Connect test lamp on term. 30 and MK. Operate trunk light contact switch by hand.
   Lamp should come on and go out when pushing in switch.

9. Terminal E/A must be checked with an ohmmeter. Connect meter between term. E/A and 31. Alarm switch must be connected.

   Test as described in point 1.1 (checking alarm switch). The same ohm values apply.

Checking Function of Control Unit

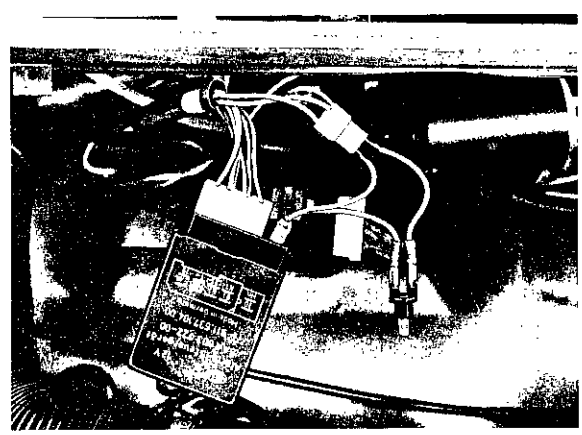
Note

It is recommended to use a test lamp instead of the alarm horn (no noise).

1. Connect eight-pin plug with alarm control unit. Two-pin plug remains disconnected.

   Connect red wire on two-pin plug and term. 30 of control unit with a piece of wire.

   Connect test lamp between term. HN on control unit and red/white wire of two-pin plug.



2. Turn on alarm system and open door wide. Lamp should flash.
   Also check passenger's door and trunk lid.

3. Set off alarm by opening a door. Leave system turned on and close door again. The alarm must last about 30 seconds.
   Don' t turn off alarm system.
   When opening door again, alarm should also be set off again.

4. Turn on ignition after alarm has stopped. Lamp should flash.
   Start engine. Engine should not run.

5. Disconnect test lamp and connect two-pin plug on control unit.
   Install control unit.
   Check function of alarm horn by setting off alarm system once again.

Replace alarm control unit if functions are not fulfilled.

Note

Even with the alarm system turned off a defect in the control unit could cause failure of the fuel pump under certain circumstances.

If a new control unit were not immediately available, help could be provided by the following measure.

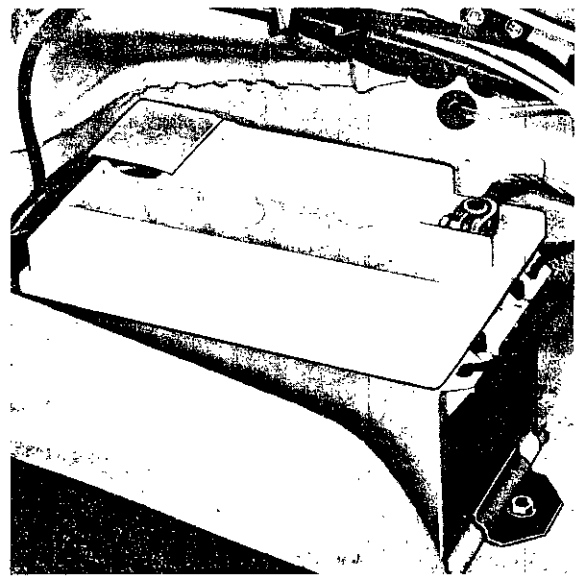
Remove alarm control unit and pull off eight-pin plug. Bridge both terminals 61 on plug with a piece of wire. This will eliminate function of the alarm system.

BATTERY - 1974 MODELS

Removal and Installation

Beginning with 1974 models, all vehicles are furnished with only one battery. The battery has a capacity of 66 Ah. A battery with a capacity of 88 Ah is available on special order.

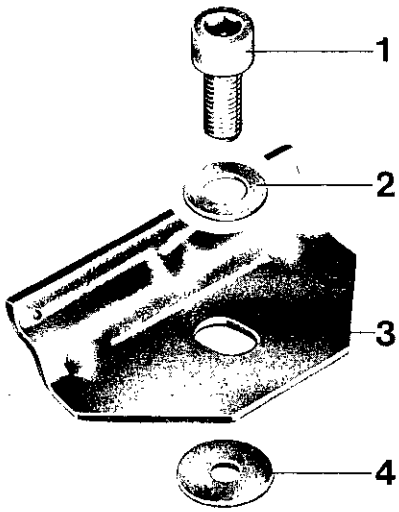
The battery is located in the left forward part of the luggage compartment and is easily accessible upon removal of the cover mat.



To remove the battery, disconnect battery leads from the battery terminals, disconnecting the ground strap first. Then remove the bracket retaining bolt in the compartment floor and take the bracket off.

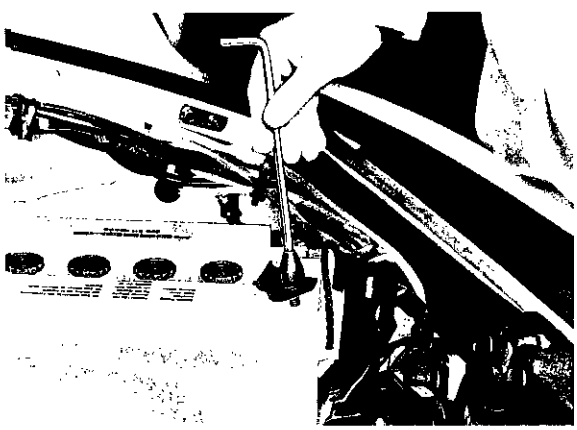
A special tool for removal and installation of the 88 Ah battery is supplied with the car from 1981 models on.

Angled driver for hexagon socket with holder and extension.



No.	Description	Qty.	Note When: Removing	Installing	Special Instructions
1	Socket head bolt M 8 x 20	1			
2	Washer A 8.4	1			
3	Bracket	1			
4	Rubber washer 18 x 5.5 x 1.5	1			

To install battery place bolt head in angled driver and holder.



SPARK PLUGS

Beginning with the 1972 models, the following spark plugs can be used in the 2.4 liter engines:

Vehicle Type	Spark Plug Type	Electrode Gap
911 T USA	BOSCH W 235 P 21 BERU 235/14/3 P or similar	0.55 mm 0.55 mm
911 E and 911 S	BOSCH W 265 P 21 BERU 265/14/3 P or similar	0.55 mm 0.55 mm

Coat spark plug threads with a molybdenum paste (such as MOLYKOTE HTP-White or similar) before installing.

Torque spark plugs to 2.5 - 3 mkp (18.1 - 21.7 ft. lbs.).

SPARK PLUGS

The following spark plugs are approved for use in 1974 model engines:

Vehicle Type	Spark Plug Type	Electrode Gap
911	BOSCH W 215 P 21 BERU 215/14/3 P	0.55 mm 0.55 mm
911 S	BOSCH W 235 P 21 BERU 235/14/3 P	0.55 mm 0.55 mm
Carrera 2.7	BOSCH W 265 P 21 BERU 265/14/3 P	0.55 mm 0.55 mm

Coat spark plug threads with a molybdenum paste (MoS_2), such as MOLYKOTE HTP WHITE, prior to installation.

Torque spark plugs to 2.5 - 3.0 mkp (24.5 - 29.4 Nm).

NOTE

Use only spark plugs approved by PORSCHE.

SPARK PLUGS

Spark plugs - 1976 / 1977 models

Model	Spark Plug	Electrode Gap
911 S	Bosch W 235 P 21 Beru 235/14/3P	0.55 mm/0.022 in. 0.55 mm/0.022 in.

Spark plugs - 1978/1979

Model	Spark Plug	Electrode Gap
911 SC	Bosch W 8 D (W 145 T 30) Beru 14-8 C (145/14/3 A)	0.8 mm/o.031 in. 0.8 mm/0.031 in.

Spark plugs - 1980

Model	Spark Plug	Electrode Gap
911 SC	Bosch W 5 D (W 225 T 30) Beru 14-5 D (225/14/3 A)	0.7 mm/0.028 in. 0.7 mm/0.028 in.

Specifications concerning installation of plugs remain unchanged.

Equipment Tables - 1980 Model

Ignition Transformer

Type/Model	Version	Remarks
911 SC	901 602 502 00 Bosch No. 0 221 121 001	

Distributor

Type/Model	Version	Remarks
911 SC	930 602 021 06 Bosch No. 0 237 304 016	With double vacuum unit (retard and advance) without rev. limiter

Spark Plugs

Type/Model	Version	Remarks
911 SC	Bosch W 5 D (W 225 T 30) Beru 14/5 D (225/14/3A)	0.7 mm (0.028 in.)

Control Unit

Type/Model	Version	Remarks
911 SC	930.602.702.0 Bosch No. 0 227 300 004	Capacitor discharge ignition (CDI), breakerless

IGNITION LEADS

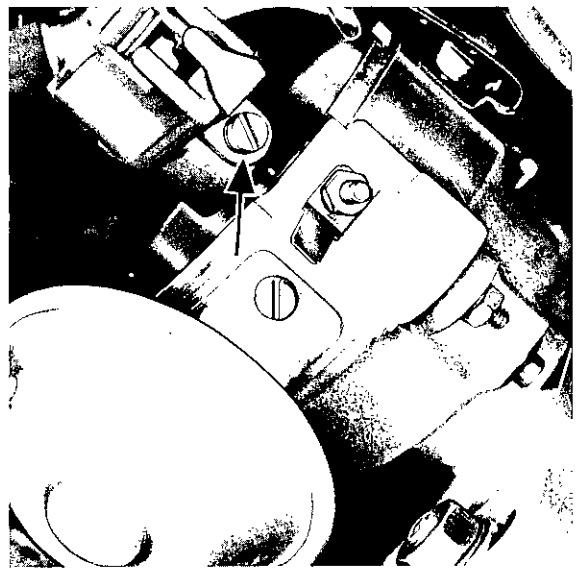
Beginning with 1972 models, ignition lead lengths are as follows:

From distributor to:	Cylinder 1	=	330 mm (13 in.)
	Cylinder 2	=	390 mm (15-11/32 in.)
	Cylinder 3	=	510 mm (20- 5/64 in.)
	Cylinder 4	=	880 mm (34-21/32 in.)
	Cylinder 5	=	900 mm (35- 7/16 in.)
	Cylinder 6	=	990 mm (38-63/64 in.)

These lengths must be maintained for proper radio noise suppression.

ADJUSTING AND CHECKING DISTRIBUTOR

Adjusting Ignition Breaker Points



1. Remove distributor cap, rotor, and dust cover (BOSCH only). In MARELLI distributors, loosen retaining screw in rotor.

2. Turn crankshaft pulley until a distributor cam lifts the breaker arm to its highest point.

3. Adjust gap with feeler gauge (basic setting):

BOSCH	0.35 mm
MARELLI	0.40 mm

4. Check dwell angle with an appropriate tester and adjust, if necessary, by changing breaker point gap:

BOSCH	$38^{o} \pm 3^{o}$
MARELLI	$40^{o} \pm 3^{o}$

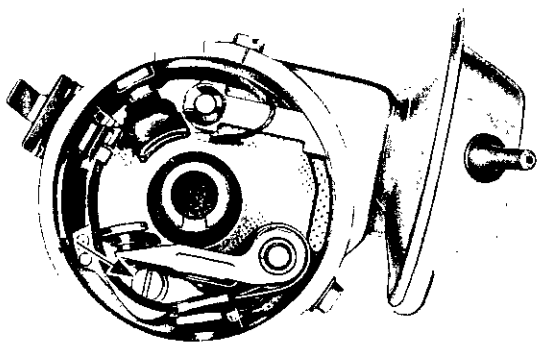
Large breaker point gap	=	small dwell angle
Small breaker point gap	=	large dwell angle

5. Tighten breaker point plate retaining screw.

Note
Always check ignition timing after adjusting dwell angle since dwell angle changes affect timing.

Beginning with 1973 model vehicles, the following specifications apply to MARELLI distributors:

Breaker gap	0.35 mm
Dwell angle	$37^{o} \pm 3^{o}$

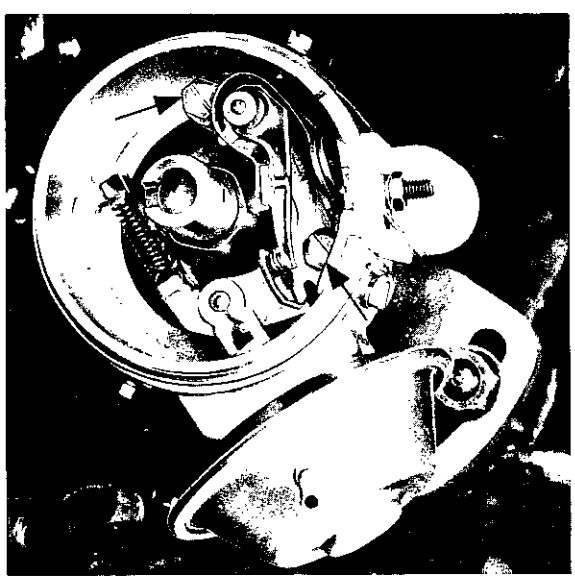


Changing Breaker Points

1. Remove distributor cap, rotor, and dust cover.

2. Remove slotted screws and disconnect wire from Terminal 1. (In MARELLI distributor loosen nut at Terminal 1.)

3. Remove breaker points.



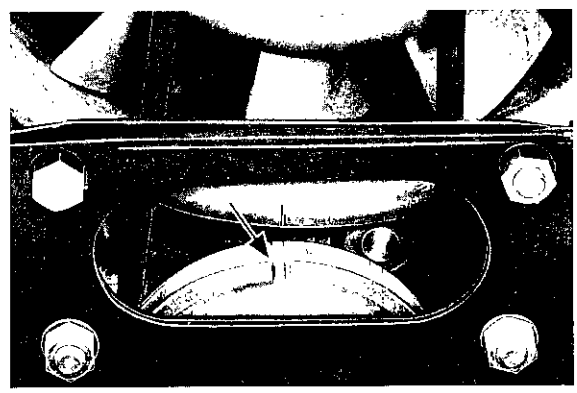
Install in reversed order. Lightly coat the cam with distributor cam lubricant. Keep lubricant off breaker points.

Adjusting Ignition
(All 2.4 and 2.7 liter engines, except 2.7 CARRERA)

Check dwell angle before adjusting ignition timing, correct if necessary.

1. Connect engine to engine tester.

2. The adjustment should be made with a stroboscopic timing light when engine oil temperature is 80° C (176° F). The notch located to the left of the Z 1 mark on the crankshaft pulley (5° crankshaft rotation after TDC) must align with the notch in the blower housing at 900 ± 50 rpm. The vacuum hose must remain connected to the ignition distributor. Timing is changed by loosening the distributor clamping nut and turning the distributor body.



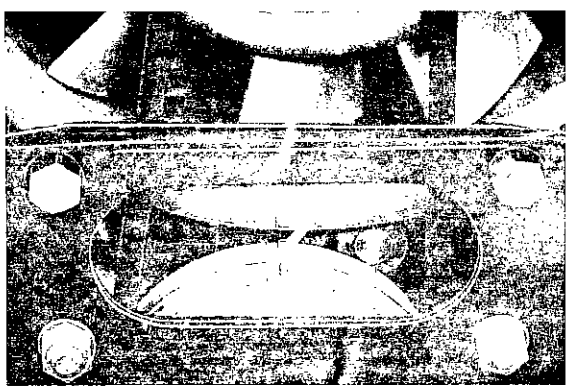
NOTE

The firing point may vary by ± 1° crankshaft rotation at 900 rpm. The variation must be within the tolerance limits of the spark advance curve at 6000 rpm. The timing must not advance past 38° of crankshaft rotation above 6000 rpm.

Adjusting Ignition (2.7 liter engines)

The dwell angle must be checked, and corrected if necessary, prior to adjusting the ignition timing. Apply same values as those applicable to the 2.4 liter engines.

1. Connect engine to the engine tester.



2. The adjustment is to be made with a stroboscopic timing light when engine oil temperature is 80° C (176° F). The Z1 mark on the crankshaft pulley must align with the notch in the blower housing when the engine is running at 850 - 950 rpm. The vacuum hose must remain connected to the ignition distributor. Timing can be changed by loosening the distributor retaining nut and rotating the distributor body.

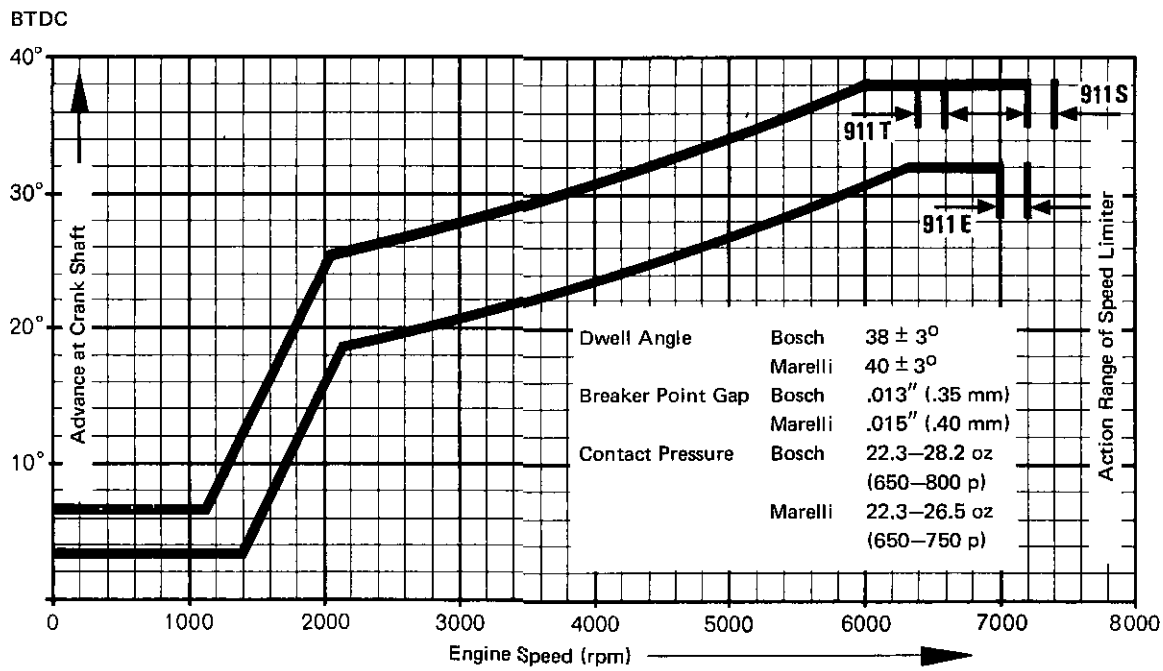
NOTE

The ignition timing may vary by ± 1° crankshaft rotation at 900 rpm. The variation must be within the tolerance limits of the advance curve when the engine is running at 6000 rpm. The timing must not advance past 38° of crankshaft rotation at speeds above 6000 rpm.

Checking Timing Advance Curve

1. Remove vacuum hose and compare advance curve with chart below at 1000 - 1500 - 2000 - 4000 - 6000 rpm. The readings must be within the two lines on the chart.

Ignition Advance Curve for Distributor for 2.4 l- and 2.7 l-Engines Bosch and Marelli except Carrera



Beginning with 1973 model vehicles, the following specifications apply to MARELLI distributors:

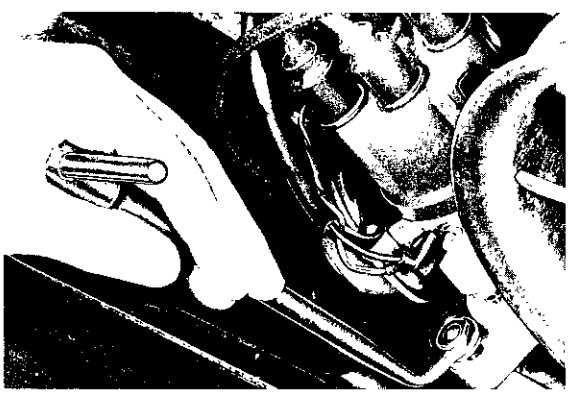
Breaker gap	0.35 mm
Dwell angle	37° ± 3°

Checking Distributor Advance Curve on Test Stand

The advance curves may be checked only on a test stand equipped with CDS hookup.

Centrifugal Advance

1. Remove distributor and mount in test stand.



2. Remove distributor cap and connect according to test stand manufacturer. Terminal 4 of the ignition transformer must be connected to the test stand spark display unit by an ignition wire.

3. Position the test stand selector lever to "auxiliary ignition coil"; the CDS unit will then be switched on.

4. Move distributor and bridge so that one of the light-markers will stop at 0°.

Note
The vacuum hose must be disconnected and speed reduction avoided during this test.

5. Increase speed and compare rpm with the degrees of advance (BTDC) with the chart below.

Degrees Advance	Distributor Shaft RPM
1°	600 - 750 rpm
7°	900 - 1050 rpm
9°	1000 - 1650 rpm
12°	1950 - 2550 rpm
14°	2550 - 3050 rpm

At 3500 rpm, the advance must be between 14.3° and 15.7°.

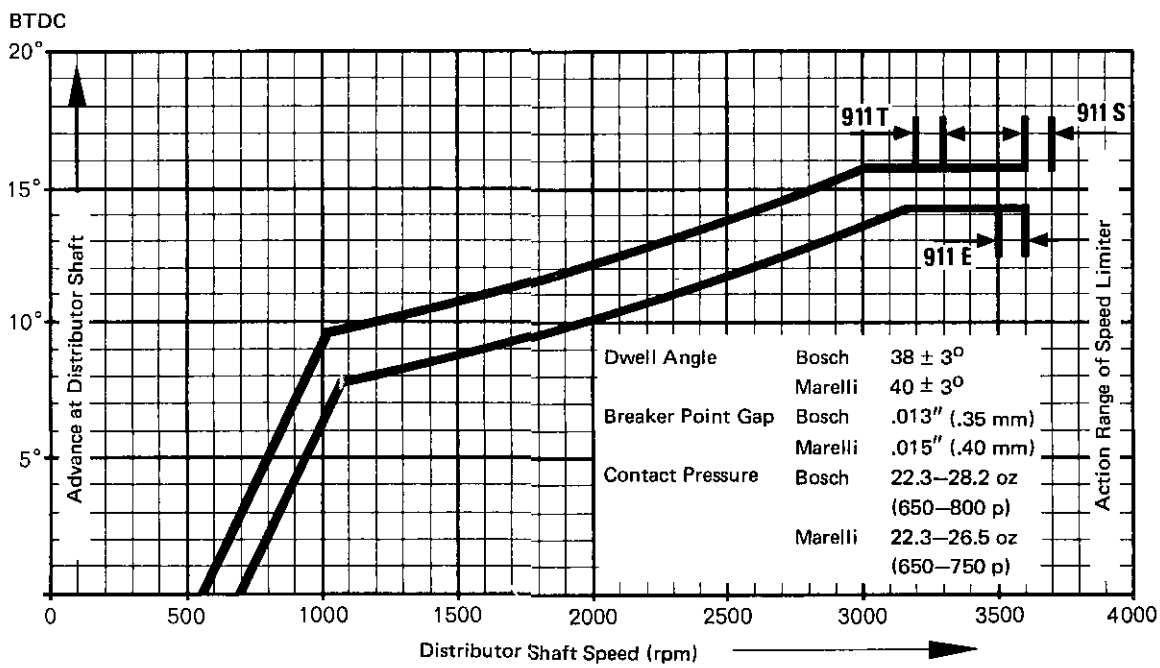
Contact Bounce

The light marker must not deviate by more than 1° at 300 rpm, or 2° at 3500 rpm.

Measurement Errors (cam displacement)

Run distributor at 300 rpm. The 6 visible light markers on the protractor must be spaced at 60° intervals (± 1° deviation per cam).

Centrifugal Advance Curve for Distributor for 2.4 l- and 2.7 l-Engines Bosch and Marelli except Carrera



Beginning with 1973 model vehicles, the following specifications apply to MARELLI distributors:

Breaker point gap: 0.35 mm Dwell angle: 37° ± 3°

Vacuum

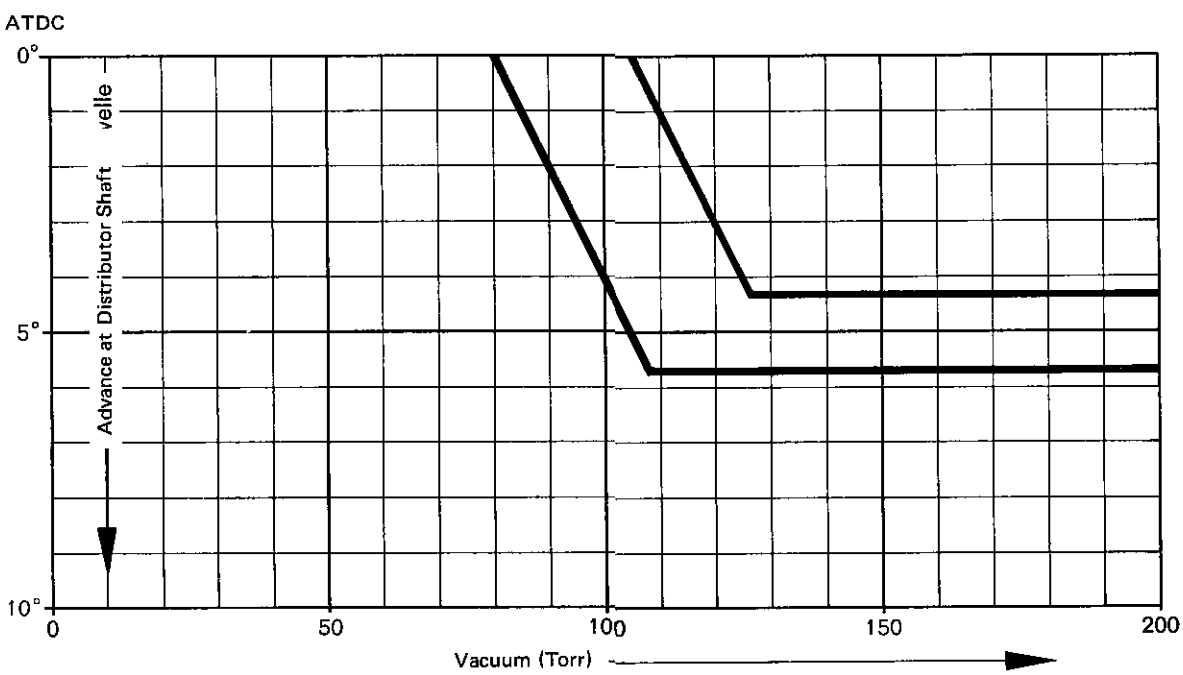
1. Connect vacuum line of test stand to distributor vacuum chamber.

2. Set speed to 300 rpm and do not change during the test.

3. Check vacuum at the indicated degrees advance (ATDC):

Degrees Advance	Vacuum
1°	85 - 110 Torr (3.3 - 4.3 in.)
4°	100 - 125 Torr (3.9 - 4.9 in.)

Vacuum Advance Curve for Distributor for 2.4 l- and 2.7 l-Engines Bosch and Marelli except Carrera



Speed Limiter

1. Mount cap on distributor and connect according ro rest stand manufacturer. The ignition lead must be removed from the spark display unit and connected to the distributor cap so that connection is made between ignition transformer and distributor.

2. Adjust spark display to 5 mm distance.

3. Increase speed until sparks stop. The sparks must stop at the following speeds:

Distributor for Vehicle Type	Cut-off RPM
911 T	3250 ± 50 rpm
911 E	3550 ± 50 rpm
911 S	3650 ± 50 rpm

Beginning with 1973 models, speed limiter tolerances are as follows:

Distributor for Vehicle Type	Cut-off RPM
911 T	3250 ± 100 rpm
911 E	3550 ± 100 rpm
911 S	3650 ± 100 rpm

Beginning with 1974 models, the cutoff speed for Type 911 (2.7 liters) and 911 S (2.7 liters) engines is

3250 ± 100 rpm

Dwell Angle

1. Connect standard ignition condenser between Terminal 1 of the distributor and the ground.

2. Position test stand selector lever to the "Dwell Angle" position.

3. Attach test stand connecting wire to Terminal 1 of the distributor.

4. Adjust speed to 300 rpm and turn bridge so that the end of a light marker lines up with the 0° mark on the protractor. The length of the light marker indicates dwell angle.

Remove the ignition condenser after completing the test. Connect vacuum hose and adjust ignition timing after reinstalling the distributor in the vehicle.

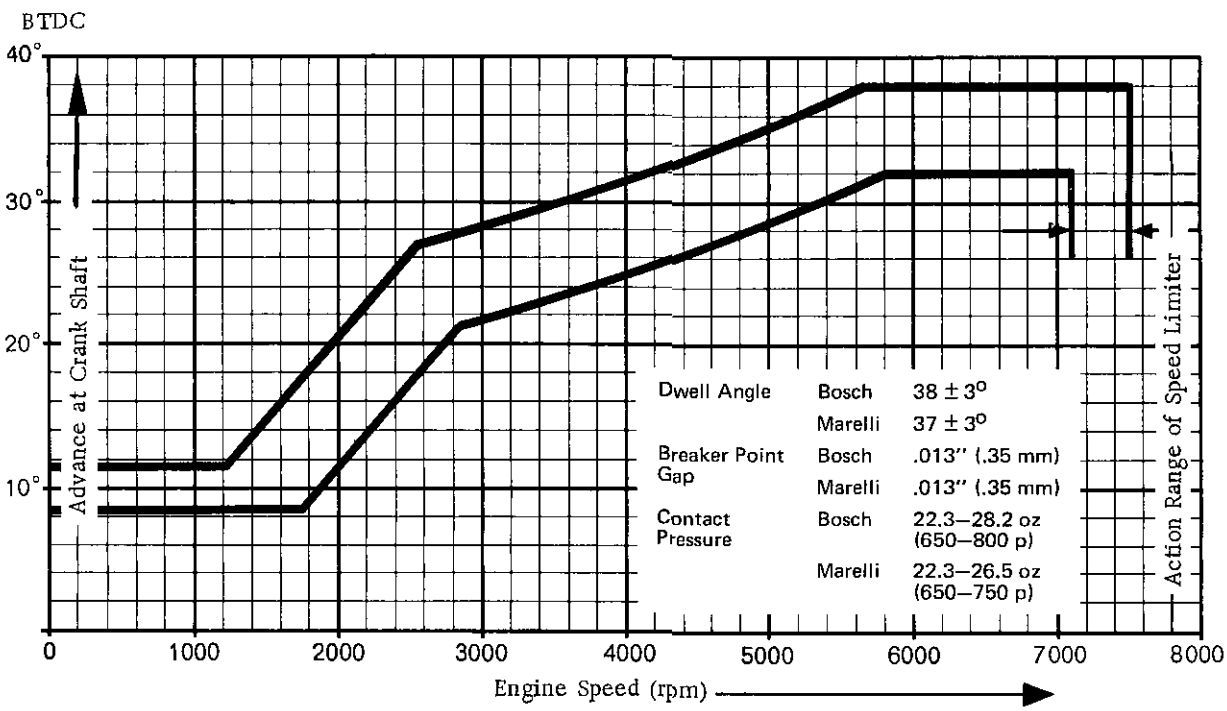
Ignition Advance Curves for

2.7 Liter Carrera Engine

Testing is accomplished in same manner as that for distributors in 2.4 liter engines. The values differing from those applicable to the 2.4 liter engines are shown below.

Values shown in the advance curve graph apply to a distributor installed in the engine with the vacuum hose detached. A prerequisite for the test is proper adjustment of the ignition timing at idle speed.

IGNITION DISTRIBUTOR ADVANCE CURVE FOR 2.7 LITER CARRERA ENGINE - BOSCH AND MARELLI

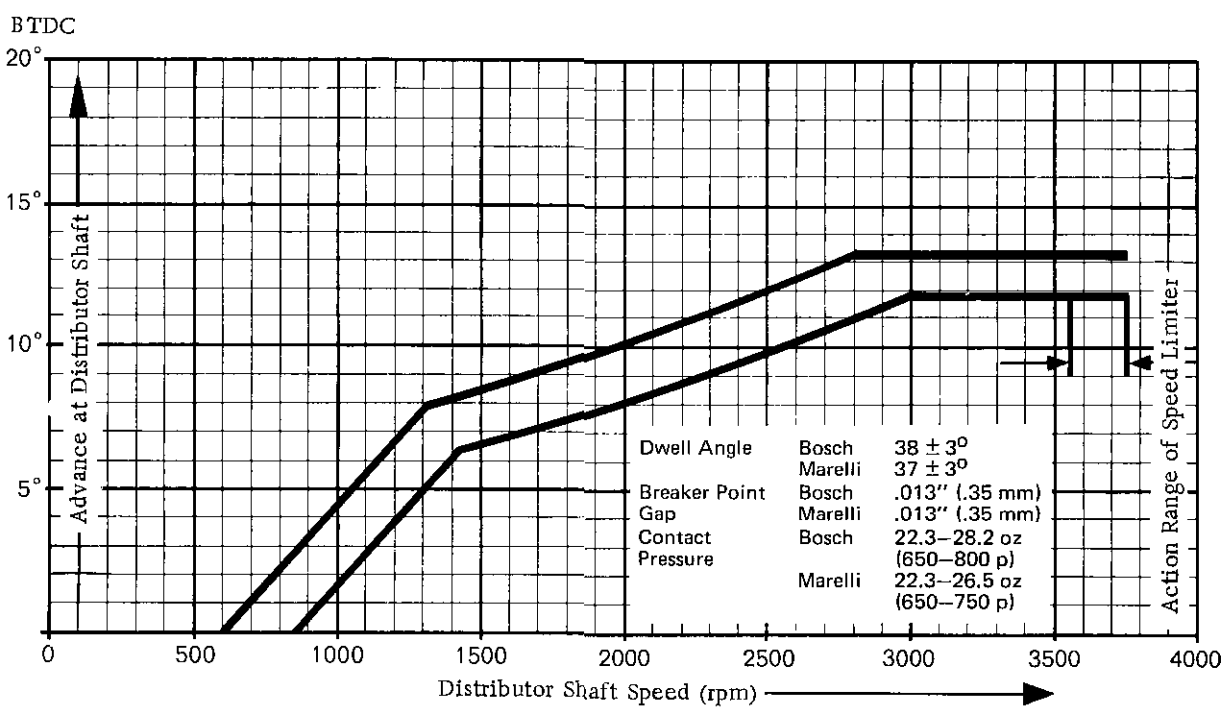


The mechanical advance curve graph applies to a distributor mounted in the test stand.

Degrees Advance (BTC)	Distributor Shaft Speed
1°	700 - 950 rpm
6°	1140 - 1380 rpm
8°	1350 - 1930 rpm
11°	2250 - 2770 rpm

The ignition advance point must be between 11.8° and 13.3° at 3500 rpm.

CENTRIFUGAL ADVANCE CURVE FOR 2.7 LITER CARRERA ENGINE - BOSCH AND MARELLI



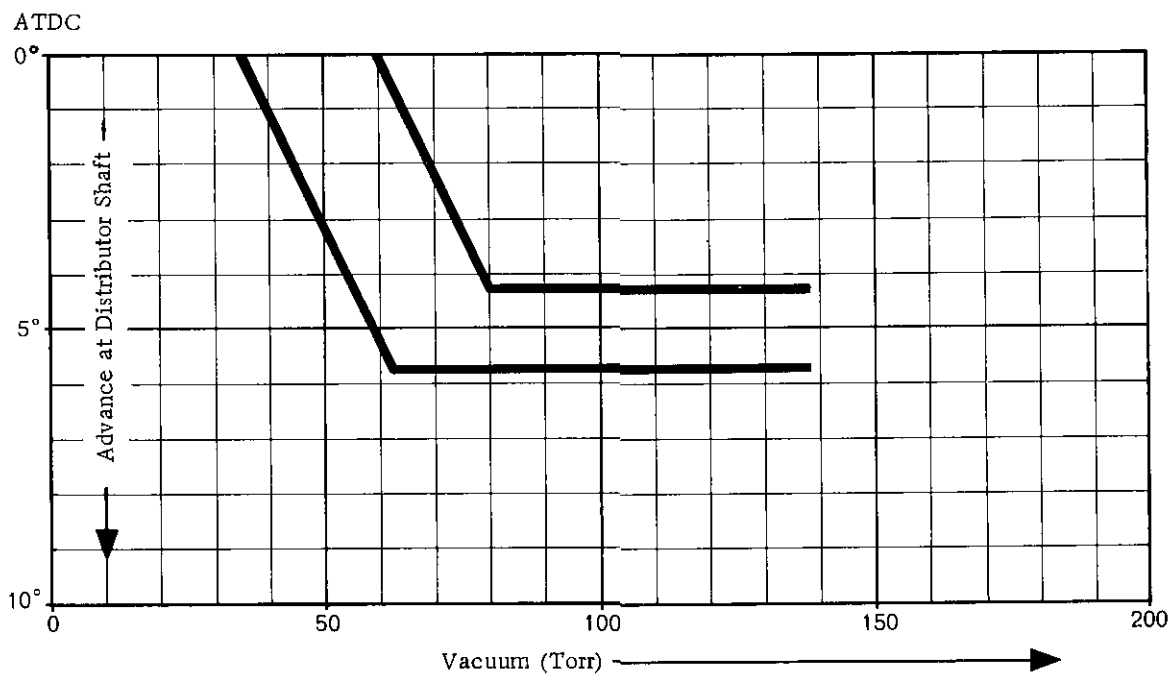
Testing of vacuum advance is accomplished on the distributor test stand.

Vacuum Advance (ATC)	Vacuum
1°	40 - 65 Torr
4°	54 - 78 Torr

The advance point must be between 4.3^{o} and 5.7^{o} when vacuum is at 100 Torr.

The distributor cut-off speed in 2.7 liter Carrera engine is 3550 - 3750 rpm.

VACUUM ADVANCE CURVE FOR DISTRIBUTORS IN 2.7 LITER CARRERA ENGINE - BOSCH AND MARELLI

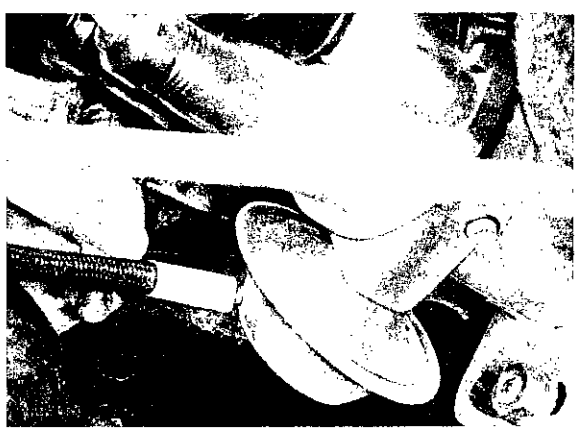


ADJUSTING IGNITION TIMING
(Type 911 S - 1977 Model)

USA Version

Adjust to $0^{\circ} \pm 2^{\circ}$ (Z 1 mark) at an oil temperature of 80° C/176° F and idle speed of 900 to 1000 rpm.

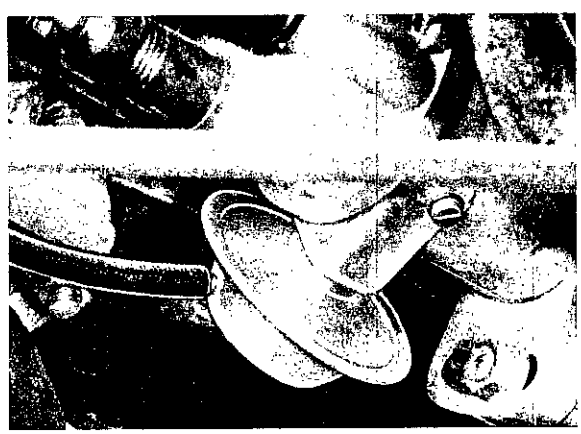
The plug between the vacuum hose and vacuum advance unit must be installed and may not be removed, not even while adjusting.



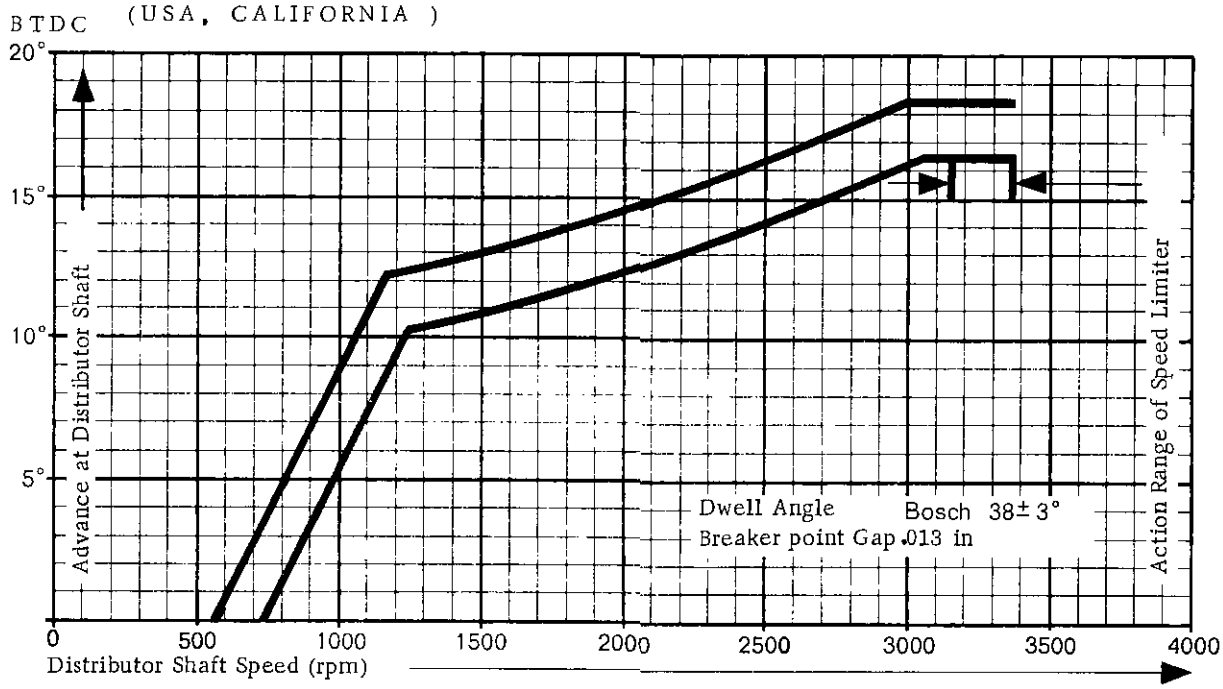
California Version

Adjust to $15^{\circ} \pm 2^{\circ}$ ATDC at an oil temperature of 80° C/176° F and idle speed of 950 to 1050 rpm.

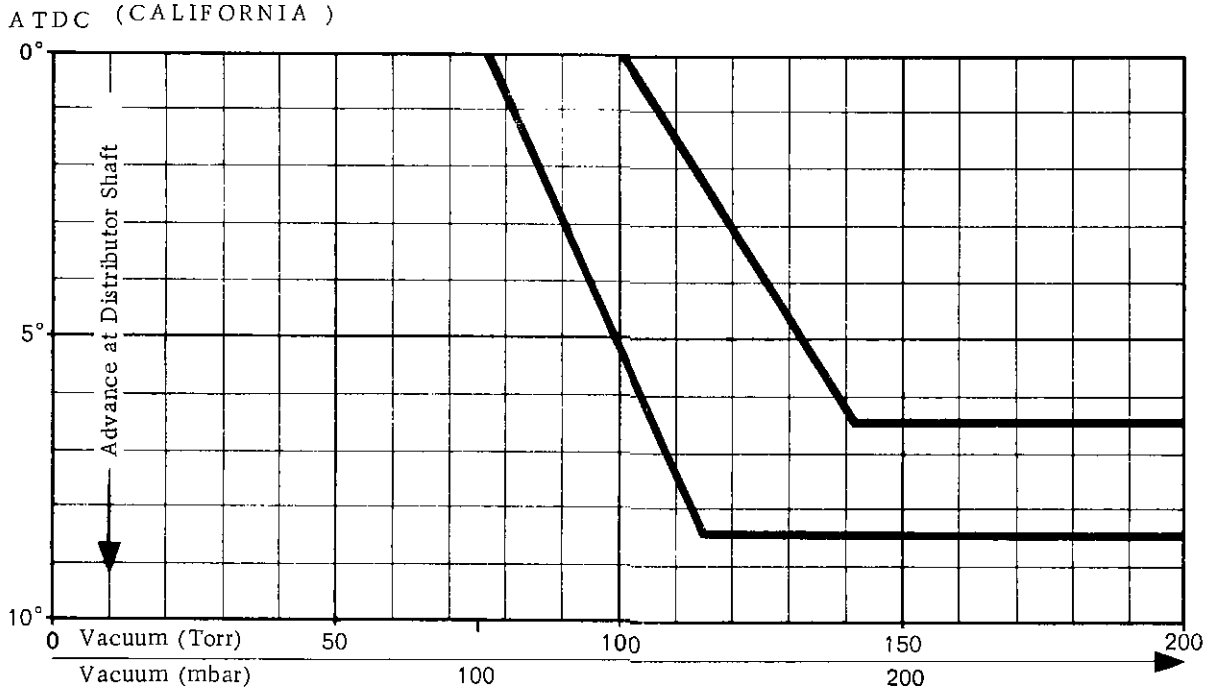
No plug is installed between the vacuum hose and vacuum advance unit. The vacuum hose must remain connected for adjustments.



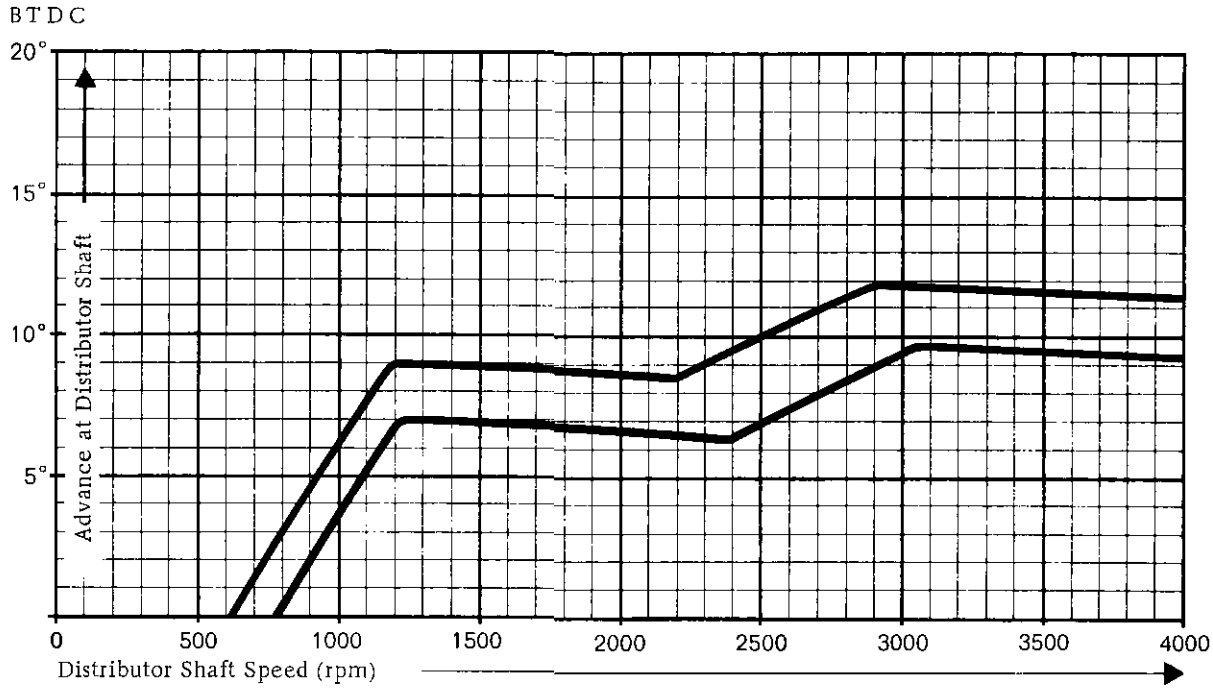
CENTRIFUGAL ADVANCE CURVE TYPE 911 S FROM MODEL 77 (USA, CALIFORNIA)



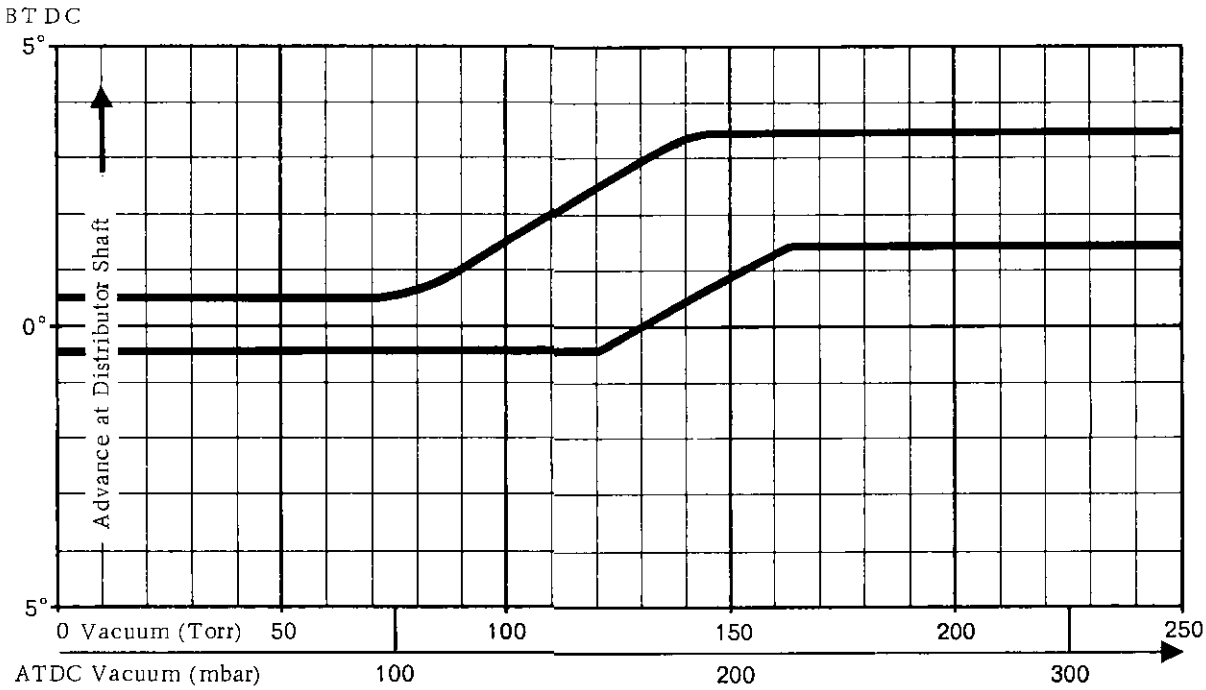
VACUUM ADVANCE CURVE TYPE 911 S FROM MODEL 77 (CALIFORNIA)



CENTRIFUGAL ADVANCE CURVE TYPE 911 SC - MODEL 78



VACUUM ADVANCE CURVE TYPE 911 SC - MODEL 78



Adjusting Ignition Timing as from 1978 Models

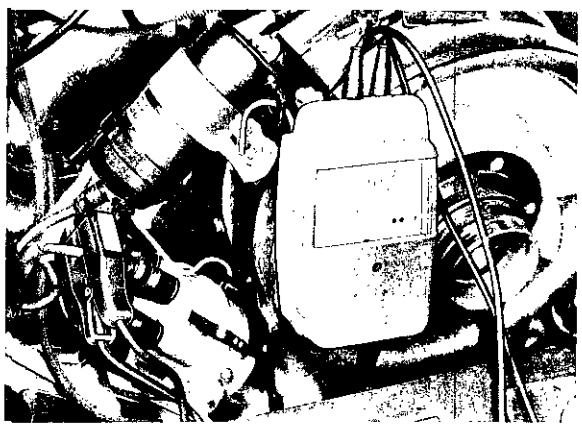
Adjusting value:

Europe: $5^{o} \pm 2^{o}$ BTDC at 900 $\pm$ 50 1/min
USA: $5^{o} \pm 2^{o}$ BTDC at 950 $\pm$ 50 1/min

1. Adjustment must be made on an engine with oil temperature of approx. 80° C. The 5° mark on pulley must align with notch on fan housing at specified engine speed.

The vacuum hose of USA version models can remain attached.

To measure engine speed, use a tester with an inductive speed recorder (clips).



2. After adjustment of ignition timing, check ignition timing advance.

   Europe: $35^{o} \pm 2^{o}$ BTDC at 6000 1/min
   USA: $26^{o} \pm 2^{o}$ BTDC at 6000 1/min
   (vacuum hose detached)

   If these control values are not reached, remove distributor and inspect in a test bench.

Note

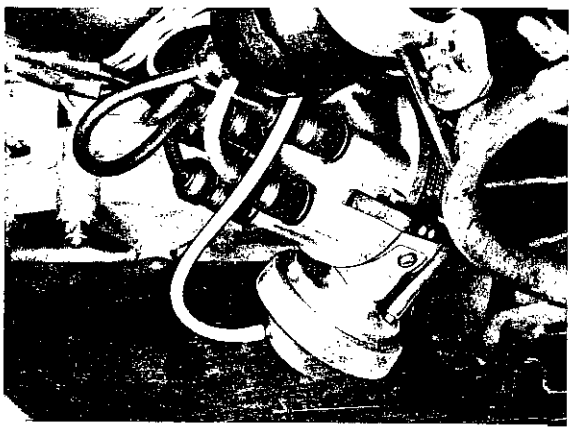
An inspection or adjustment of the dwell angle is not possible and also not necessary on the breakerless ignition system installed as from 1978 models.

Adjusting Ignition Timing - 1980 Models

1. Run engine to operating temperature (oil temperature approx. 90° C/194° F).

2. Connect engine tester.

   Adjusting Values: 5° before TDC at 950 ± 50 rpm



Pull off vacuum hoses.
Adjust speed to 950 ± 50 rpm.

3. Connect timing light.
   At specified engine speed the 5° mark on pulley must be opposite notch on blower housing.

Adjust idle speed after connecting the vacuum hoses.

Checking Ignition Retard/Advance - 1980 Models

Requirements:
Ignition timing adjusted to specifications.

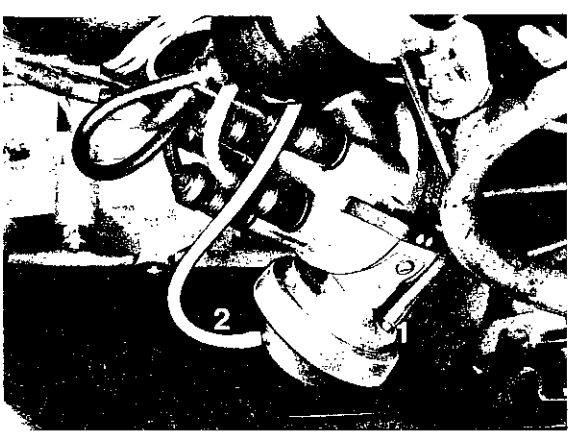
1. Centrifugal Advance
   (vacuum hoses detached)

   Ignition timing must be between 15 and 20° before TDC at 3000 rpm or 19 and 25° before TDC at 6000 rpm.

2. Vacuum Retard/Advance
   (measured at idle speed)

   Checking Vacuum Retard

   Connect blue hose at connection 1 of double vacuum box and disconnect red hose at connection 2.



1 = Retard (blue)
2 = Advance (red)

Ignition timing must be between 3 and 7° <u>after</u> TDC.

Checking Vacuum Advance

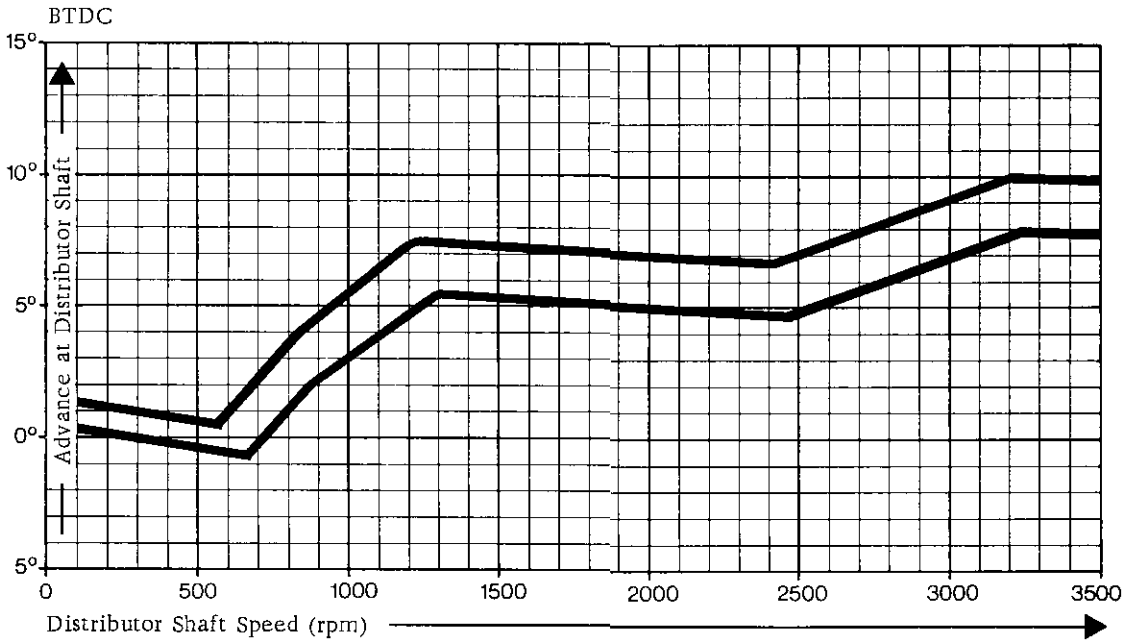
Connect blue hose on connection 2. Adjust speed to 950 ± 50 rpm.

Ignition timing must be between 8 and 12° before TDC.

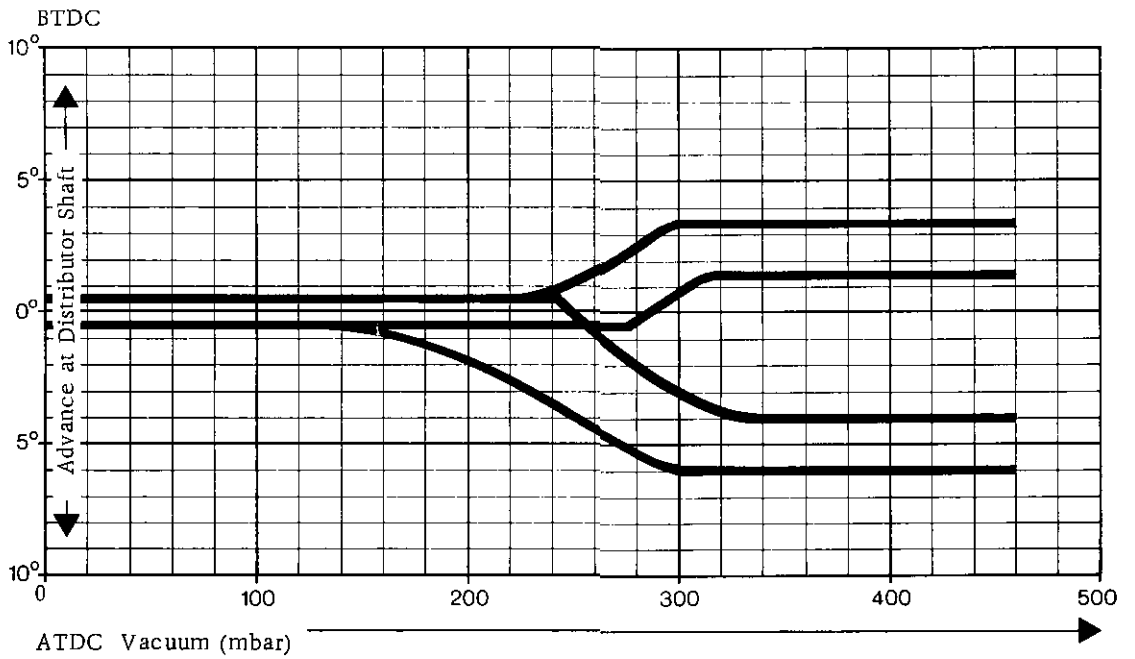
Adjust idle speed after connecting vacuum hoses.

If specified values cannot be reached, remove and check distributor on a test bench.

CENTRIFUGAL ADVANCE CURVE TYPE 911 SC - MODEL 1980



VACUUM ADVANCE CURVE TYPE 911 SC - MODEL 1980

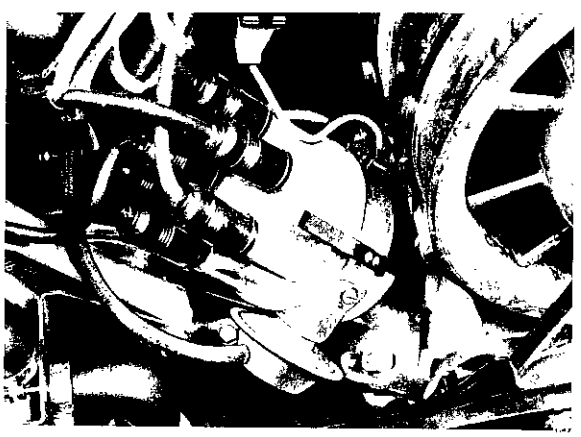


Adjusting Ignition Timing from 1981-Models

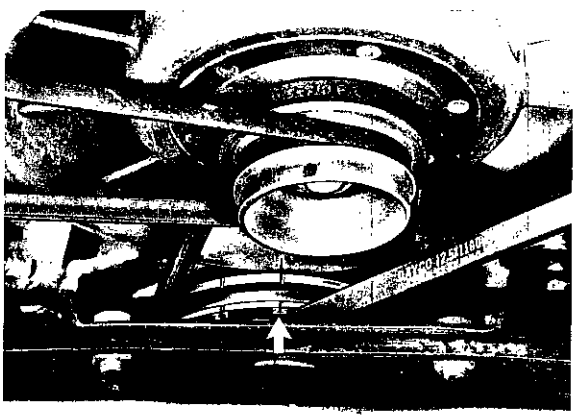
1. Run engine warm (oil temperature about 90°C).

2. Connect engine tester.

3. Pull off vacuum hose.



4. Connect ignition stroboscope lamp.
   25° mark on pulley should be opposite notch on fan housing at 4000 rpm.



Loosen and turn distributor to correct ignition timing.

5. Connect vacuum hose.

Checking Ignition Timing Control from 1981 Models

Requirements:

Ignition timing adjusted to specifications.

1. Centrifugal control (vacuum hose detached).

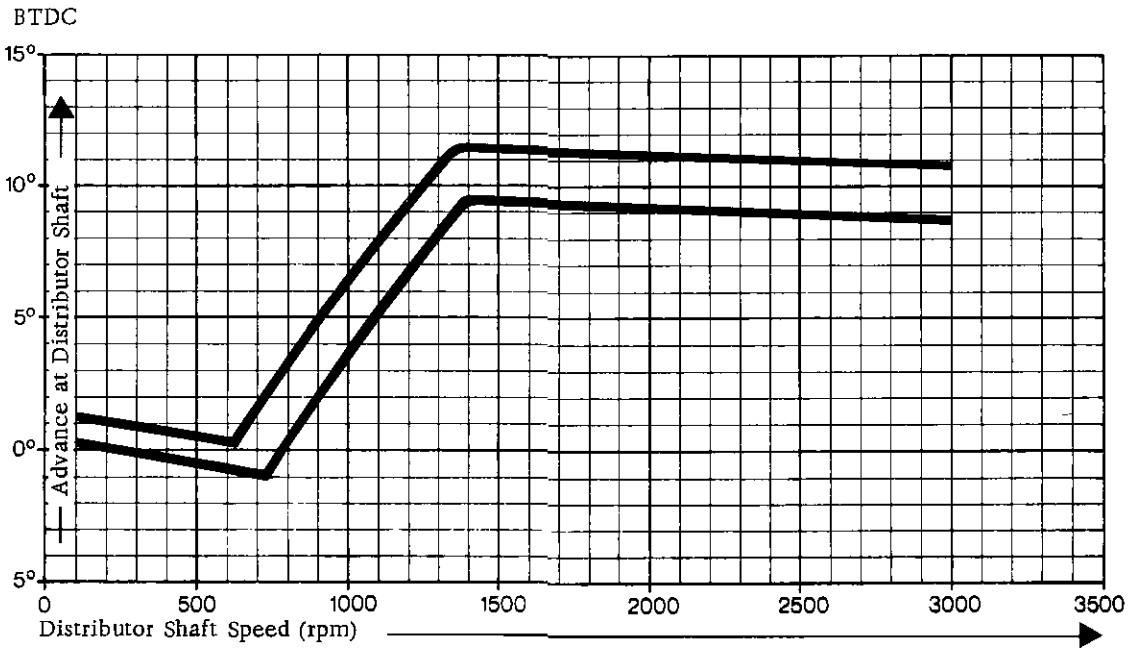
   Ignition timing should be 3 to 5° before TDC at idle speed (900 ± 50 rpm).

   At 6000 rpm ignition timing must not exceed 25° before TDC.

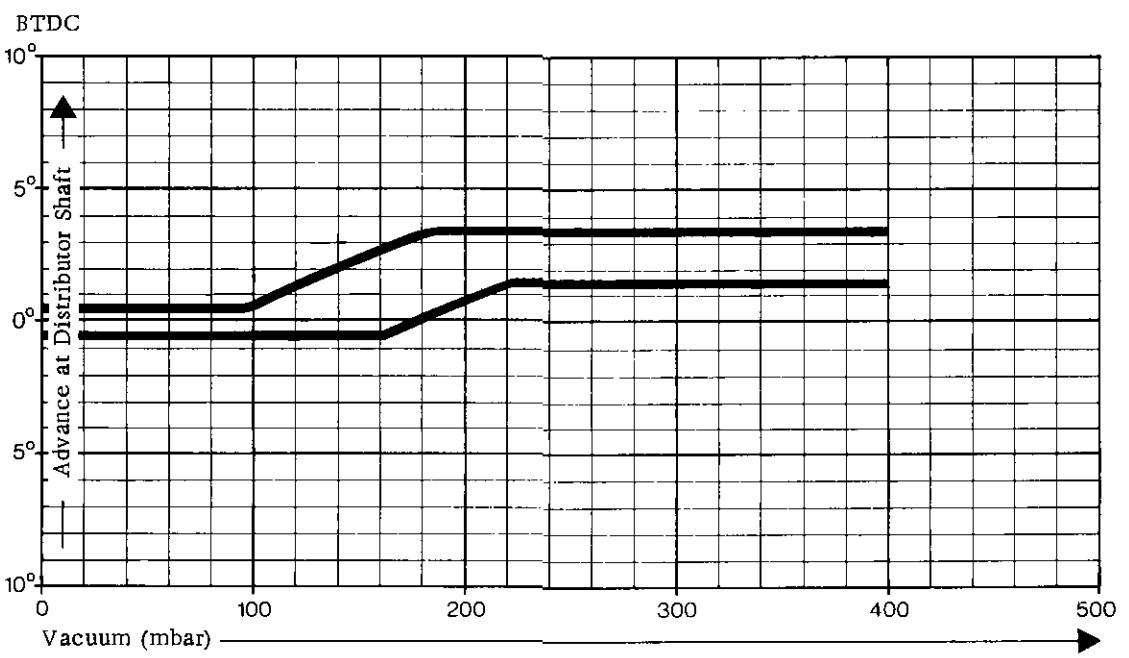
2. Vacuum control (vacuum hose connected).

   At an engine speed of 4000 rpm ignition timing should be between 28 and 32° before TDC.

CENTRIFUGAL ADVANCE CURVE TYPE 911 SC - from 1981 Models



VACUUM ADVANCE CURVE TYPE 911 SC - from 1981 Models



Wartungsarbeiten, Technische Daten
Maintenance, Specifications
Travaux d'entretien, Caractéristiques techniques
Lavori di manutenzione, dati tecnici

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2 - MAINTENANCE

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TYPE 911 SPECITICATIONS - BEGINNING WITH 1972 MODELS

MOTOR	911 T	911 E	911 S
Type	four-stroke gasoline engine with two opposing cylinder banks		
Number of cylinders	6	6	6
Cylinder arrangement	horizontal, three cylinders per bank	horizontal, three cylinders per bank	horizontal, three cylinders per bank
Bore	84 mm (3.31 in.)	84 mm (3.31 in.)	84 mm (3.31 in.)
Stroke	70.4 mm (2.77 in.)	70.4 mm (2.77 in.)	70.4 mm (2.77 in.)
Engine displacement	2341 cc (142.8 cu. in.)	2341 cc (142.8 cu. in.)	2341 cc (142.8 cu. in.)
Compression ratio	7.5 : 1	8.0 : 1	8.5 : 1
Cylinder pressure	maximum difference in compression between cylinders = 1.5 kp/cm^2 (21.3 psi), with engine oil warmed to at least 60°C (140°F).		
Horsepower rating (DIN)	140 HP	165 HP	190 HP
(SAE NET)	133 HP	157 HP	181 HP
at engine speed of	5600 rpm	6200 rpm	6500 rpm
Maximum torque (DIN)	20 mkp	21 mkp	22 mkp
(SAE)	166 ft. lbs.	174 ft. lbs.	181 ft. lbs.
at engine speed of	4000 rpm	4500 rpm	5200 rpm
Specific power output (DIN)	60 HP/ltr	70 HP/ltr	81 HP/ltr
	55 HP/ltr	65 HP/ltr	75 HP/ltr
	.93 HP/cu. in.	1.09 HP/cu. in.	1.26 HP/cu. in.
Maximum engine speed	6500 rpm	7100 rpm	7300 rpm

	911 T	911 E	911 S
Cut off speed of ignition distributor speed limiter	6500 ± 100 rpm	7100 ± 100 rpm	7300 ± 100 rpm
Fuel octane requirement	91	91	91
Engine weight	approx. 183 kp (404 lbs)	approx. 182 kp (402 lbs)	approx. 182 kp (402 lbs)
Nominal fuel comsumption	9.0 ltr/100 km 26.1 mpg	9.5 ltr/100 km 24.7 mpg	10.2 ltr/100 km 23.0 mpg
Cooling system	air cooled by axial fan on alternator shaft	air cooled by axial fan on alternator shaft	air cooled by axial fan on alternator shaft
Air fan drive	by V-belt off crankshaft	by V-belt off crankshaft	by V-belt off crankshaft
Crankshaft to fan ratio	approx. 1 : 1.3	approx. 1 : 1.3	approx. 1 : 1.3
Air flow rate	approx. 1230 ltr/sec @ 5800 rpm	approx. 1380 ltr/sec @ 6500 rpm	approx. 1380 ltr/sec @ 6500 rpm
Lubrication system	dry sump	dry sump	dry sump
Oil cooling system	oil cooler on crankcase in air stream of fan	oil cooler on crankcase in air stream of fan	oil cooler on crankcase in air stream of fan plus auxiliary oil cooler in front of vehicle
Oil pressure indication	by warning light	by warning light	by gauge in kp/cm^2
Oil pressure: engine warm 80°C (175°F) at 5500 rpm	5.5-7 kp/cm^2 (78-99 psi)	5.5-7 kp/cm^2 (78-99 psi)	5.5-7 kp/cm^2 (78-99 psi)
Max. oil temperature	130°C (265°F)	130°C (265°F)	130°C (265°F)
Oil filter type	full flow	full flow	full flow

	911 T	911 E	911 S
Oil consumption	1 1/2 - 2 ltr/100 km 1 1/2 - 2 US qts/600 mi	1 1/2 - 2 ltr/100 km 1 1/2 - 2 US qts/600 mi	1 1/2 - 2 ltr/100 km 1 1/2 - 2 US qts/600 mi
Crankcase	two-piece pressure casting of aluminum/magnesium alloy	two-piece pressure casting of aluminum/magnesium alloy	two-piece pressure casting of aluminum/magnesium alloy
Crankshaft	forged, surface-hardened	forged. surface-hardened	forged, surface-hardened
Crankshaft bearings	eight, plain journal	eight, plain journal	eight, plain journal
Main bearings 1-7	split shell, tri-metal inserts	split shell, tri-metal inserts	split shell, tri-metal inserts
Main bearing 1	thrust bearing	thrust bearing	thrust bearing
Main bearing 8	one-piece bushing, hard-lead lined	one-piece bushing, hard-lead lined	one-piece bushing, hard-lead lined
Connecting rods	forged steel	forged steel	forged steel surface-hardened
Connecting rod bearings	split shell, tri-metal inserts	split shell, tri-metal inserts	split shell, tri-metal inserts
Piston pin bushings	bronze, pressed-in	bronze, pressed-in	bronze, pressed-in
Intermediate shaft bearings	two, plain journal	two, plain journal	two, plain journal
Pistons	light-alloy, die-cast	light-alloy, die-cast	light-alloy, die-cast box-shaped
Piston pins	floating, secured with circlips	floating, secured with circlips	floating, secured with circlips
Piston rings	two compression rings, one oil scraper	two compression rings, one oil scraper	two compression rings, one oil scraper

	911 T	911 E	911 S
Cylinders	individual, grey-cast iron with integral cooling fins	individual, grey-cast iron sleeve with finned light alloy jacket	individual, grey-cast iron sleeve with finned light alloy jacket
Cylinder heads	light alloy, finned individual castings for each cylinder	light alloy, finned individual castings for each cylinder	light alloy (Y-alloy) finned individual castings for each cylinder
Valve seat inserts	shrunk-in, grey-cast iron alloy	shrunk-in, grey-cast iron alloy	shrunk-in, grey-cast iron alloy
Valve guides	shrunk-in, special bronze	shrunk-in, special bronze	shrunk-in, special bronze
Spark plug threads	14 x 1.25, machined into cylinder heads	14 x 1.25, machined into cylinder heads	14 x 1.25, machined into cylinder heads
Valves	1 intake and 1 exhaust valve per cylinder	1 intake and 1 exhaust valve per cylinder	1 intake and 1 exhaust valve per cylinder
Valve arrangement	overhead in "V"	overhead in "V"	overhead in "V"
Exhaust valves	sodium cooled, with reinforced seat	sodium cooled, with reinforced seat	sodium cooled, with reinforced seat
Valve springs	2 coil springs per valve	2 coil springs per valve	2 coil springs per valve
Valve timing	OHC, 1 camshaft per cylinder bank	OHC, 1 camshaft per cylinder bank	OHC, 1 camshaft per cylinder bank
Camshafts	cast steel, in three plain journal bearings in camshaft housing	cast steel, in three plain journal bearings in camshaft housing	cast steel, in three plain journal bearings in camshaft housing
Camshaft drive	by chain	by chain	by chain

	911 T	911 E	911 S
Valve timing with 1 mm (0.039 in.) valve clearance			
inlet opens	15° BTDC	18° BTDC	38° BTDC
inlet closes	29° ATDC	36° ATDC	50° ATDC
exhaust opens	41° BTDC	38° BTDC	40° BTDC
exhaust closes	5° BTDC	8° ATDC	20° ATDC
Intake valve lift at overlap TC with 0.1 mm (0.004 in.) valve clearance	2.3 - 2.7 mm (0.091 - 0.106 in.)	2.7 - 3.1 mm (0.106 - 0.122 in.)	5.0 - 5.4 mm (0.197 - 0.213 in.)
Valve clearance, cold, intake and exhaust	0.10 mm (0.004 in.) measured between valve stem and rocker arm	0.10 mm (0.004 in.) measured between valve stem and rocker arm	0.10 mm (0.004 in.) measured between valve stem and rocker arm
Clutch	single plate, dry, pull-actuated	single plate, dry, pull-actuated	single plate, dry, pull actuated
Pressure plate type	MFZ 225 KL, Fichtel & Sachs	MFZ 225 KL, Fichtel & Sachs	MFZ 225 KL, Fichtel & Sachs
Plate pressure	650 - 720 kp (143 - 159 lbs.)	650 - 720 kp (143 - 159 lbs.)	650 - 720 kp (143 - 159 lbs.)
FUEL SYSTEM	BOSCH intake manifold fuel injection with double row six-plunger, injection pump	BOSCH intake manifold fuel injection with double row six-plunger, injection pump	BOSCH intake manifold fuel injection with double row six-plunger, injection pump
Air cleaner	induction air silencer with cartridge filter and induction air preheating system	induction air silencer with cartridge filter and induction air preheating system	induction air silencer with cartridge filter and induction air preheating system

	911 T	911 E	911 S
Fuel pump	1 electric roll-cell pump	1 electric roll-cell pump	1 electric roll-cell pump
Transfer rate	125 ltr/h (128 qts/h)	125 ltr/h (128 qts/h)	125 ltr/h (128 qts/h)
Operating pressure	1 kp/cm^2 (14.2 psi)	1 kp/cm^2 (14.2 psi)	1 kp/cm^2 (14.2 psi)
Pressure relief valve opens at	approx. 2 kp/cm^2 (28.4 psi)	approx. 2 kp/cm^2 (28.4 psi)	approx. 2 kp/cm^2 (28.4 psi)
Fuel filter	fuel screen ahead of fuel injection pump with built-in restrictor valve	fuel screen ahead of fuel injection pump with built-in restrictor valve	fuel screen ahead of fuel injection pump with built-in restrictor valve
ELECTRICAL SYSTEM			
Operating voltage	12 volts	12 volts	12 volts
Battery capacity	2 x 36 Ah	2 x 36 Ah	2 x 36 Ah
Generator	AC, 770 watts	AC, 770 watts	AC, 770 watts
Voltage regulator	same make as generator	same make as generator	same make as generator
Ignition type	capacitive discharge system (CDS)	capacitive discharge system (CDS)	capacitive discharge system (CDS)
Firing order	1 - 6 - 2 - 4 - 3 - 5	1 - 6 - 2 - 4 - 3 - 5	1 - 6 - 2 - 4 - 3 - 5
Ignition transformer	BOSCH	BOSCH	BOSCH
Distributor (either kind)	MARELLI 50.10.974.1 BOSCH JFUDR6 0231169003	MARELLE 50.10.974.2 BOSCH JFUDR6 0231169004	MARELLI 50.10.974.3 BOSCH JFUDR6 0231169005
Spark advance	centrifugal and vacuum	centrifugal and vacuum	centrifugal and vacuum
Basic ignition timing	5° ATDC @ 900 rpm	5° ATDC @ 900 rpm	5° ATDC @ 900 rpm
Dwell angle	BOSCH 38° ± 3° MARELLI 40° ± 3°	BOSCH 38° ± 3° MARELLI 40° ± 3°	BOSCH 38° ± 3° MARELLI 40° ± 3°

	911 T	911 E	911 S
Spark plugs (either kind)	BOSCH W 235 P 21 or similar	BOSCH W 265 P 21 BERU 265/14/3 P or similar	BOSCH W 265 P 21 BERU 265/14/3 P or similar
Electrode gap	0.5 - 0.6 mm	0.5 - 0.6 mm	0.5 - 0.6 mm
Starter	BOSCH 12 V, 1.5 HP	BOSCH 12 V, 1.5 HP	BOSCH 12 V, 1.5 HP
Bulb List (12 V)			
Headlamps (Halogen) H 1	(see USA table)	55 W, 2 each lamp	55 W, 2 each lamp
Driving lamps (Halogen) H 1 and H 3	(see USA table)	55 W	55 W
Fog lamps	35 W	55 W	55 W
Stop lamp/tail lamp	(see USA table)	21/5 W	21/5 W
Directional signals	(see USA table)	21 W	21 W
Backup lamp	(see USA tabl e)	15 W	15 W
Fog tail lamp	(not for USA)	18 W	18 W
Interior lamp, luggage compart-met lamp, glove compartment lamp	10 W	10 W	10 W
Parking lamp, license plate lamp	(see USA table)	4 W	4 W
Instrument lamps, control lamps, ashtray lamp	2 W	2 W	2 W
Control lamp for ventilator and auxiliary heater	1.2 W	1.2 W	1.2 W

Bulb List	911 T	911 E	911 S
Sealed beam headlamps	50/40 W (6012)	50/40 W (6012)	50/40 W (6012)
Fog lamps	35 W	35 W	35 W
Stop/tail lamp	32/3 cp (1034)	32/3 cp (1034)	32/3 cp (1034)
Front turn signal/parking lamps	32/3 cp (1034)	32.3 cp (1034)	32/3 cp (1034)
Rear turn signal	32 cp (1073)	32 cp (1073)	32 cp (1073)
Backup lamp	15 cp (1003)	15 cp (1003)	15 cp (1003)
Sidemarker lamp	2 cp (1889)	2 cp (1889)	2 cp (1889)
Interior lamp, luggage compartment lamp, glove compartment lamp	10 W	10 W	10 W
License plate lamp	4 W	4 W	4 W
Instrument lamps, control lamps, ashtray lamp	2 W	2 W	2 W
Control lamp for ventilator and auxiliary heater	1.2 W	1.2 W	1.2 W
Fuses			
Fuse Box I			
1 - Interior lamp, luggage compartment lamp, glove compartment lamp, clock	5 A	5 A	5 A
2 - Emergency flasher	16 A	16 A	16 A
3 - Power windows	25 A	25 A	25 A
4 - Cigarette lighter (auxiliary heater)	16 A (25 A)	16 A (25 A)	16 A (25 A)
5 - Sun roof, rear window wiper	16 A	16 A	16 A
6 - Windshield wipers, windshield washer	25 A	25 A	25 A
7 - Fresh air fan, rear window defroster	25 A	25 A	25 A

	911 T	911 E	911 S
8 - Stop, rear turn signal, and backup lamps	16 A	16 A	16 A
9 - Left front turn signal lamp	5 A	5 A	5 A
10 - Right front turn signal lamp	5 A	5 A	5 A
Fuse Box II			
1 - High beam, left	8 A	8 A	8 A
2 - High beam, right	8 A	8 A	8 A
3 - Low beam, left	8 A	8 A	8 A
4 - Low beam, right	8 A	8 A	8 A
5 - Parking lamp, left	5 A	5 A	5 A
6 - Parking lamp, right	5 A	5 A	5 A
7 - License plate lamp	5 A	5 A	5 A
8 - Fog lamp	16 A	16 A	16 A
TRANSMISSION AND FINAL DRIVE			
Type	Transmission and differential unitized in one assembly	Transmission and differential unitized in one assembly	Transmission and differential unitized in one assembly
Transmission	4 forward speeds, one reverse, with Porsche synchronization (5 speeds optional)	4 forward speeds, one reverse, with Porsche synchronization (5 speeds optional)	4 forward speeds, one reverse, with Porsche synchronization (5 speeds optional)

	911 T	911 E	911 S
Gear ratio, reverse speed	3.325 : 1	3.325 : 1	3.325 : 1
Gear shift system	shift linkage with floor mounted gearshift lever	shift linkage with floor mounted gearshift lever	shift linkage with floor mounted gearshift lever
Rear axle drive	spiral bevel gears, differential unit	spiral bevel gears, differential unit	spiral bevel gears, differential unit
Rear axle ratio	7/31, 4.429 : 1	7/31, 4.429 : 1	7/31, 4.429 : 1
Power transfer	to rear wheels by drive shafts with two CV joints per shaft	to rear wheels by drive shafts with two CV joints per shaft	to rear wheels by drive shafts with two CV joints per shaft
Gearbox weight	approx. 49 kp (108 lbs), ready for installation including oil supply but without starter.	approx. 49 kp (108 lbs), ready for installation including oil supply but without starter.	approx. 49 kp (108 lbs), ready for installation including oil supply but without starter.
Limited slip differential	ZF limited slip differential optional with manual transmissions	ZF limited slip differential optional with manual transmissions	ZF limited slip differential optional with manual transmissions
Sportomatic Transmission Type	925/00	925/00	925/01
Clutch (190 mm dia)	hydraulic torque converter and vacuum actuated single plate, dry clutch MFZ 190K	hydraulic torque converter and vacuum actuated single plate, dry clutch MFZ 190K	hydraulic torque converter and vacuum actuated single plate, dry clutch MFZ 190K
Number of gears	4 forward, 1 reverse, and parking lock	4 forward, 1 reverse, and parking lock	4 forward, 1 reverse, and parking lock
Selector lever location	floor mounted on center tunnel	floor mounted on center tunnel	floor mounted on center tunnel
Torque converter ratio	2.19 : 1	2.19 : 1	2.10 : 1
Rear axle ratio	7/27, 3.857 : 1	7/27, 3.857 : 1	7/27, 3.857 : 1

	911 T	911 E	911 S
Tow-start speed in "L"	35 kmh (21 mph)	35 kmh (21 mph)	35 kmh (21 mph)
Stallspeed	approx. 2500 - 2700 rpm	approx. 2500 - 2700 rpm	approx. 2900 - 3100 rpm
Clutch speed	approx. 3000 rpm	approx. 3000 rpm	approx. 3000 rpm
CHASSIS			
Body characteristics	welded assembly, sheet metal box section, unitized with body	welded assembly, sheet metal box section, unitized with body	welded assembly, sheet metal box section, unitized with body
Wheel suspension, front	independent, with shockabsorber struts and transverse control arms	independent, with shockabsorber struts and transverse control arms	independent, with shockabsorber struts and transverse control arms
rear	independent, with triangulated control arms	independent, with triangulated control arms	independent, with triangulated control arms
Springing, front	1 round longitudinal torsion bar per wheel	1 round longitudinal torsion bar per wheel	1 round longitudinal torsion bar per wheel
rear	1 round transverse torsion bar per wheel	1 round transverse torsion bar per wheel	1 round transverse torsion bar per wheel
Rear control arm adjustment (spring plate inclination)	36° 30' to 37°	36° 30' to 37°	36° 30' to 37°

		911 T	911 E	911 S
Shockabsorbers	front	double-action hydraulic shockabsorber strub	double-action hydraulic shockabsorber strub	double-action hydraulic shockabsorber strub
	rear	double-action hydraulic shockabsorber	double-action hydraulic shockabsorber	double-action hydraulic shockabsorber
Stabilizers				transverse, 15 mm (0,59 in.) dia
Steering		rack-steering ZF	rack-steering ZF	rack-steering ZF
Mean steering ratio		17,78 : 1	17,78 : 1	17,78 : 1
Steering wheel turns, lock-to-lock		approx. 3,1	approx. 3,1	approx. 3,1
Smallest turning circle		approx. 10,7 m (35,1 ft.)	approx. 10,7 m (35,1 ft.)	approx. 10,7 m (35,1 ft.)
Toe-in.	front	± 0 '	± 0 '	± 0 '
	rear	0° to + 20 ' per wheel	0° to + 20 ' per wheel	0° to + 20 ' per wheel
Chamber	front	0° ± 10 '	0° ± 10 '	0° ± 10 '
	rear	- 1° ± 10 '	- 1° ± 10 '	- 1° ± 10 '
Caster		6° 5 ' ± 15 '	6° 5 ' ± 15 '	6° 5 ' ± 15 '
Inclination		10° 55 '	10° 55 '	10° 55 '
Difference angle, front wheels turned 20°		0 to 30 '	0 to 30 '	0 to 30 '

	911 T	911 E	911 S
Wheels	steel, 5 1/2J x 15, optional 6J x 15 steel or light alloy	steel, 6J x 15 or optional light alloy	6J x 15 light-alloy
Tires	165 HR 15	185/70 VR 15	185/70 VR 15
Tire pressures (cold)			
front	2.0 atm (29 psi)	2.0 atm (29 psi)	2.0 atm (29 psi)
rear	2.4 atm (35 psi)	2.4 atm (35 psi)	2.4 atm (35 psi)
Service brake	hydraulic, dual-circuit, vented - disc brakes on all four wheels	hydraulic, dual-circuit, vented - disc brakes on all four wheels	hydraulic, dual-circuit, vented - disc brakes on all four wheels
Total effective braking surface (foot brake)	210 cm^2 (32.55 sg.in.)	210 cm^2 (32.55 sg.in.)	257 cm^2 (39.84 sg. in.)
Effective brake disc diameter front	235 mm (9.25 in.)	235 mm (9.25 in.)	228 mm (8.98 in.)
rear	244 mm (9.61 in.)	244 mm (9.61 in.)	244 mm (9.61 in.)
Parking brake	mechanical, to rear wheels	mechanical, to rear wheels	mechanical, to rear wheels
BODY			
Type	all-steel body, unitized with under-body, sloping front, fastback rear in Coupe	all-steel body, unitized with under-body, sloping front, fastback rear in Coupe	all-steel body, unitized with under-body, sloping front, fastback rear in Coupe
Doors	2 doors attached to the body A-pillars	2 doors attached to the body A-pillars	2 doors attached to the body A-pillars

	911 T	911 E	911 S
Door opening angle	approx. 70°	approx. 70°	approx. 70°
Windows			
Windshield	one-piece, constant radius, convex contour, laminated safety glass	one-piece, constant radius, convex contour, laminated safety glass	one-piece, constant radius, convex contour, laminated safety glass
Door windows	crankdown windows	crankdown windows	crankdown windows
Rear side windows	open and lock in position	open and lock in position	open and lock in position
Rear window	one-piece, convex contour, electrically heated	one-piece, convex contour, electrically heated	one-piece, convex contour, electrically heated
Windshield wipers	electric, 2 parallel wiping arms, 3 speeds	electric, 2 parallel wiping arms, 3 speeds	electric, 2 parallel wiping arms, 3 speeds
Front hood	opens from front of vehicle, with hydraulic stays, hood release under instrument panel	opens from front of vehicle, with hydraulic stays, hood release under instrument panel	opens from front of vehicle, with hydraulic stays, hood release under instrument panel
Engine compartment lid	opens from rear of vehicle, with hydraulic stays, lid release in left rear door post	opens from rear of vehicle, with hydraulic stays, lid release in left rear door post	open from rear of vehicle, with hydraulic stays, lid release in left rear door post
Heating	hot air heating with remote control; hot air mixable with outside air; 2 defroster outlets at the windshield, and 2 hot air outlets into passenger compartment leg area	hot air heating with remote control; hot air mixable with outside air; 2 defroster outlets at the windshield, and 2 hot air outlets into passenger compartment leg area	hot air heating with remote control; hot air mixable with outside air; 2 defroster outlets at the windshield, and 2 hot air outlets into passenger compartment leg area

	911 T	911 E	911 S
Ventilation	flap-controlled fresh air chamber, 3-speed fan, air distributor system, centralized control unit	flap-controlled fresh air chamber, 3-speed fan, air distributor system, centralized control unit	flap-controlled fresh air chamber, 3-speed fan, air distributor system, centralized control unit
CAPACITIES			
Engine	approx. 8 ltr (8.5 US qts) premium quality HD oil according to API classification SD or SE; summer SAE 30, winter SAE 20, below -15°C (+5°F) SAE 10 W	approx. 8 ltr (8.5 US qts) premium quality HD oil according to API classification SD or SE; summer SAE 30, winter SAE 20, below -15°C (+5°F) SAE 10 W	approx. 8 ltr (8.5 US qts) premium quality HD oil according to API classification SD or SE; summer SAE 30, winter SAE 20, below -15°C (+5°F) SAE 10 W first filling approx. 9 ltr (9.5 US qts) with oil cooler
Engine together with Sportomatic (torque converter in engine oil circuit)	approx. 10 ltr (10.5 US qts)	approx. 10 ltr (10.5 US qts)	approx. 11 ltr (11.5 US qts) with oil cooler
Transmission and differential	approx. 3.0 ltr (3 US qts) SAE 30 transmission oil, specification MIL-L 2105 or MIL-L 2105 B	approx. 3.0 ltr (3 US qts) SAE 30 transmission oil, specification MIL-L 2105 or MIL-L 2105 B	approx. 3.0 ltr (3 US qts) SAE 30 transmission oil, specification MIL -L 2105 or MIL-L 2105 B
Fuel tank	approx. 62 ltrs (16.4 US gals) including 6 ltrs (1.6 US gals) reserve Fuel requirement: 91 octane (RON)	approx. 62 ltrs (16.4 US gals) including 6 ltrs (1.6 US gals) reserve Fuel requirement: 91 octane (RON)	approx. 62 ltrs (16.4 US gals) including 6 ltrs (1.6 US gals) reserve Fuel requirement: 91 octane (RON)
Brake fluid reservoir	approx. 0.2 ltr (0.42 US pints)	approx. 0.2 ltr (0.42 US pints)	approx. 0.2 ltr (0.42 US pints)
Windshield washer reservoir	approx. 2.0 ltr (2 US qts)	approx. 2.0 ltr (2 US qts)	approx. 2.0 ltr (2 US qts)
DIMENSIONS Vehicle empty according to DIN			
Wheelbase	2271 mm (89.4 in.)	2271 mm (89.4 in.)	2271 mm (89.4 in.)
Track, front (wheel center 108 mm above torsion bar center)	1360 mm (53.54 in.)	1372 mm (54.0 in.)	1372 mm (54.0 in.)
Track, rear (wheel center 12 mm below transverse tube center)	1342 mm (52.82 in.)	1354 mm (53.34 in.)	1354 mm (53.34 in.)

	911 T	911 E	911 S
Length, USA and Canada only	4163 mm (163.9 in.)	4163 mm (163.9 in.)	4163 mm (163.9 in.)
Width	1610 mm (63.39 in.)	1610 mm (63.39 in.)	1610 mm (63.39 in.)
Height (unladen)	1320 mm (51.97 in.)	1320 mm (51.97 in.)	1320 mm (51.93 in.)
Ground clearance	150 mm (5.91 in.)	150 mm (5.91 in.)	150 mm (5.91 in.)
WEIGHTS			
Unloaden weight	1061 kp (2340 lbs)	1061 kp (2340 lbs)	1061 kp (2340 lbs)
Maximum load capacity	280 kp (617 lbs)	280 kp (617 lbs)	280 kp (617 lbs)
Total permissible weight	1400 kp (3086 lbs)	1400 kp (3086 lbs)	1400 kp (3086 lbs)
Maximum axle load, front	600 kp (1320 lbs)	600 kp (1320 lbs)	600 kp (1320 lbs)
rear	840 kp (1852 lbs)	840 kp (1852 lbs)	840 kp (1852 lbs)
Permissible trailer weight,			
without brakes	480 kp (1058 lbs)	480 kp (1058 lbs)	480 kp (1058 lbs)
with brakes	600 kp (1320 lbs)	600 kp (1320 lbs)	600 kp (1320 lbs)

PERFORMANCE DATA	911 T	911 E	911 S
Max. speed (with 4 or 5 speed transmission)	208 kmh 129 mph	220 kmh 137 mph	230 kmh 143 mph
	with Sportomatic transmission ca. 5 kmh (3 mph) slower than shown above		
1 km with standing start at DIN empty weight + 1/2 loading capacity	30.0 sec	28.5 sec	27.5 sec
Weight-to-power ration DIN	7.5 kp/HP	6.37 kp/HP	5.52 kp/HP
Nominal fuel consumption	9.0 ltr/100 km 26.1 mpg(US)	9.5 ltr/100 km 24.7 mpg (US)	10.2 ltr/100 km 23.0 mpg (US)
Engine oil consumption	1.5 - 2.0 ltr (1.5 - 2.0 US qts per 600 miles)	1.5 - 2.0 ltr (1.5 - 2.0 US qts per 600 miles)	1.5 - 2.0 ltr (1.5 - 2.0 US qts per 600 miles)

SPECIFICATION CHANGES EFFECTIVE WITH 1973 MODELS

	911 T	911 E	911 S
CAPACITIES			
(Initial filling)			
Engine with transmission	Approx. 2.77 US gals. (10.5 ltr.) quality brand HD oil, API classification SD or SE, summer SAE 30, winter SAE 20, below + 5° F (-15° C). SAE 10 W		Initial filling approx. 3.43 US gals. (13 ltr.) with oil cooler.
Engine together with Sportomatic (torque converter in engine oil circuit)	Approx.3.43 US gals. (13 ltr.)		Approx. 4.09 US gals. (15.5 ltr.) with oil cooler.
Fuel tank	16.4 US gals. (62 ltr.) 1.6 US gals. (6 ltr.) reserve included		
DIMENSIONS			
Vehicle empty = DIN			
Wheelbase	4277 mm (168.39") (Bumpers front and rear)		
WEIGHTS			
Empty weight, DIN	2425 lbs. (1100 kg)		

CARRERA 2.7 SPECIFICATIONS

Shown below are specifications which differ from Type 911 S/2.4

ENGINE		TOURING	SPORT
Bore	mm	90	90
Stroke	mm	70.4	70.4
Displacement	cc	2687	2687
Compression ratio	ϵ	8.5 : 1	8.5 : 1
Compression pressure	kp/cm^2	max. difference between cylinders = 1.5 kp/cm^2, engine oil temp = 60°C (140°F) minimum	
Horsepower rating (DIN)	HP (KW)	210 (154)	210 (154)
Horsepower rating (SAE)	HP (KW)	230 (172)	230 (172)
at engine speed of	rpm	6300	6300
Max. torque	mkp (Nm)	26 (255)	26 (255)
at engine speed of	rpm	5100	5100
Specific power output (DIN)	HP/ltr (KW/ltr)	78 (57)	78 (57)
Mean piston speed at maximum power	m/sec	14.8	14.8
Mean pressure at Md. max.	kp/cm^2	12.19	12.19
Max. permissible engine speed	rpm	7300	7300
Fuel octane requirements	RON	91	91
Pistons		light-alloy, forged	
Cylinders		light-alloy cylinders with Ni coating	
Clutch	Type	MFZ 225 KL	MFZ 225 KL
Clutch pressure	kp	720 - 780	720 - 780
Fuel System			
Injection pump	BOSCH # PORSCHE #	0408126019 911.110.254.00	0408126019 911.110.254.00

		TOURING	SPORT
ELECTRICAL SYSTEM			
Operating voltage	V	12	12
Battery capacity	Ah	2 x 36	1 x 36
Ignition distributor (either brand)	BOSCH MARELLI	0231169011 61015155	0231169011 61015155
Breaker point gap (BOSCH and MARELLI)	mm	0.35	0.35
Dwell angle	BOSCH MARELLI	$38^{o} \pm 3^{o}$ $37^{o} \pm 3^{o}$	$38^{o} \pm 3^{o}$ $37^{o} \pm 3^{o}$
Basic ignition timing (vacuum hose attached)		TDC at 900 rpm	TDC at 900 rpm
Spark plugs (gap in mm)	BOSCH BOSCH BERU BERU	W 265 P 21 (0.55) W 260 T 2 (0.7) 265/14/3P (0.55) 260/14/3 (0.7)	W 265 P 21 (0.55) W 260 T 2 (0.7) 265/14/3P (0.55) 260/14/3 (0.7)
TRANSMISSION AND DIFFERENTIAL			
Ratios, 5-speed transmission	1st gear 2nd gear 3rd gear 4th gear 5th gear Reverse	11/35 = 3.182 18/33 = 1.834 23/29 = 1.261 27/25 = 0.925 29/21 = 0.724 12/21, 20/38 = 3.325	11/35 = 3.182 18/33 = 1.834 23/29 = 1.261 27/25 = 0.925 29/21 = 0.724 12/21, 20/38 = 3.325
Rear axle ratio		7 : 31 = 4.429	7 : 31 = 4.429
Climbing ability (calculated)			
5-speed transmission, vehicle empty per DIN plus 1/2 load	1st gear 2nd gear 3rd gear 4th gear 5th gear	100 % 52.5 % 30.5 % 20 % 12.5 %	100 % 55 % 32 % 21 % 13 %
CHASSIS			
Stabilizer, front/rear	mm dia.	18/19 or 15/15	18/19 or 15/15
Wheels, front, forged light-alloy rear, forged light-alloy		6 J x 15 7 J x 15	6 J x 15 7 J x 15
Tires, front rear		185/70 VR 15 215/60 VR 15	185/70 VR 15 215/60 VR 15
Tire pressure, front/rear	kp/cm^2 (bar)	2.0/2.0 (1.96/1.96)	2.0/2.0 (1.96/1.96)
Spare tire, Collapsible		5 1/2 J x 15 steel	6 J x 15 light-alloy
Torsion bar adjustment		36° 30'	33°

		TOURING	SPORT
DIMENSIONS WHEN EMPTY PER DIN			
Track, front	mm	1372	1372
Track, rear, with 7 mm spacer on each wheel	mm	1394	1394
Wheel center above center of front torsion bar	mm	108	118
Wheel center below center of rear transverse tube	mm	12	2
Overall width	mm	1652	1652
WEIGHTS			
Engine weight	kg (lbs)	182 (402)	182 (402)
Empty, per DIN	kg	1075	960
Total permissible weight	kg	1400	1400
Permissible axle load, front	kg	600	600
rear	kg	840	840
Power/weight ratio	kg/HP (kg/KW)	5.1 (7.0)	4.55 (6.2)
PERFORMANCE DATA			
Max. speed	kmh (mph)	240 (149)	245 (153)
Acceleration, 0 - 100 km (0-62 mph) empty per DIN + 1/2 load	sec	6.3	5.8
Standing kilometer empty per DIN + 1/2 load	sec	26.5	25.5
Nominal fuel consumption	ltr./100 km	10.8	10.8
FILLING CAPACITIES			
Engine (initial filling)			
Dipstick min/max	ltr. (US guarts)	11/13 (12/13)	11/13 (12/13)
Oil change quantity	ca. ltr. (US guarts)	10 (10)	10 (10)
Transaxle (*)	ca. ltr. (US pints)	3 (6.3)	3 (6.3)
Fuel tank	ltr. (US gal.)	85 less 9 reserve (22 less 2)	85 less 9 reserve (22 less 2)

(*) EP oil Mil-L 2105 or 2105 B
Limited-slip differential:
Kendall 80/90 M 2 C 119 A or eguiralent.

SPECIFICATIONS FOR 1974 MODELS

	911	911 S	Carrera
FILLING CAPACITIES			
Engine (initial filling) (applies to dipstick check according to owner's manual)	approx. 11 ltr. (11.6 US gts) premium brand HD oil, API classification SD or SE; summer SAE 30, winter SAE 20, below -15° C SAE 10 W	same as 911	approx. 13 ltr. (13.7 US gts) with oil cooler
Engine with Sportomatic transmission	approx. 2 ltr. (2.1 US gts) more	same as 911	same as 911
Transmission and differential	approx. 3 ltr. (3.2 US gts) per MIL-L-2105 or MIL-L-2105B, SAE 90	same as 911	same as 911
Sportomatic transmission	approx. 2.5 ltr. (2.6 US gts)	same as 911	same as 911
Fuel tank	80 ltr. (22 US gal.) less 8 ltr. (2 US gal.) reserve	same as 911	same as 911
Brake fluid reservoir	approx. 0.2 ltr. (0.4 US pt)	same as 911	same as 911
Windshield washer reservoir	approx. 8.5 ltr. (9 US gts)	same as 911	same as 911
DIMENSIONS PER DIN EMPTY WEIGHT			
Wheelbase	2271 mm	same as 911	same as 911
Length	4291 mm	same as 911	same as 911
Width	1610 mm	sama as 911	same as 911
Height	1320 mm	same as 911	same as 911
Ground clearance	150 mm	same as 911	same as 911

	911	911 S	Carrera
WEIGHTS			
Empty weight, per DIN	1075 kg	same as 911	same as 911
with Sportomatic transmission	1090 kg	same as 911	same as 911
Max. permissible weight	1400 kg	same as 911	same as 911
Permissible axle load,			
front	600 kg	same as 911	same as 911
rear	840 kg	same as 911	same as 911
Trailer weight,			
w/o brakes	480 kg	same as 911	same as 911
with brakes	800 kg	same as 911	same as 911
PERFORMANCE			
Max. speed kmh (mph) (with 4-speed or 5-speed transmission)	210 (125)	225 (137)	240 (149)
with Sportomatic	approx. 5 kmh (3 mph) less	same as 911	same as 911
Acceleration, 0 - 100 kmh (0 - 62 mph) per DIN empty weight + 1/2 load	8.5 sec.	7.6 sec.	6.3 sec.
Standing kilometer (per DIN empty weight + 1/2 load)	29.0 sec.	28.0 sec.	26.5 sec.
Specific power output (per DIN 70020 empty weight)	7.2 kg/HP 9.8 kg/KW	6.1 kg/HP 8.3 kg/KW	5.2 kg/HP 5.5 kg/KW
Fuel consumption (average consumption in highway traffic, incl. maximum speed travel)	14 ltr/100 km (17 mi. per US gal.)	15 ltr/100 km (16 mi. per US gal.)	18 ltr/100 km (13 mi. per US gal.)
Oil consumption	approx. 1.5 ltr/1000 km (2.5 US gts/1000 mi.)	same as 911	same as 911

TECHNICAL DATA 1975 MODELS

	911 S	Carrera
CAPACITIES		
Engine (initial filling)	Approx. 13 liters (13, 8 US gt) of brand name HD oils of API classification SD or SE; SAE 30 for summer, SAE 20 for winter, SAE 10 W below -15° C (+ 5° F)	same as 911 S
(Measurement with dipstick according to operating instructions applies)		
Engine with sportomatic	Approx. 2 liters (2.1 US gt) more	same as 911 S
Transmission with differential	Approx. 3 liters (3.2 US gt) according to MIL-L-2105 of MIL-L 2105 B SAE 90	same as 911 S
Sportomatic transmission	Approx. 2.5 liters (2.65 US gt)	same as 911 S
Fuel tank	80 liters (21 US gal.) including 8 liters (2.1 US gal.) in reserve	same as 911 S
Brake fluid reservoir	Approx. 0.2 liters (0.21 US gt)	same as 911 S
Windshield washer reservoir	Approx. 8.5 liters (2.2 US gal.)	same as 911 S
DIMENSIONS AT CURB WEIGHT ACCORDING TO DIN		
Wheelbase	2271 mm (89.4 in.)	same as 911 S
Length	4291 mm (168.9 in.)	same as 911 S
Width	1610 mm (63.3 in.)	1652 mm
Height	1320 mm (51.9 in.)	same as 911 S
Ground clearance	180 mm (7.1 in.)	same as 911 S
Ground clearance at full load	140 mm (5.5 in.)	same as 911 S

	911 S	Carrera
WEIGHTS		
Curb weight according to DIN	1160 kg (2552 lb)	same as 911 S
with sportomatic transmission	1160 kg (2552 lb)	same as 911 S
Max. total weight	1400 kg (3086 lb)	same as 911 S
Max. axle load, front	600 kg (1323 lb)	same as 911 S
rear	840 kg (1852 lb)	same as 911 S
Trailer load, without brakes **	480 kg (1058 lb)	same as 911 S
with brakes **	800 kg (1763 lb)	same as 911 S
Max. roof load * (coupe only)	35 kg (77 lb)	same as 911 S
PERFORMANCE		
Top speed (with 4 or 5 speed transmission)	134 mph	same as 911 S
with sportomatic	About 3 mph slower	same as 911 S
Acceleration from 0 to 62 mph at DIN curb weight plus 1/2 payload	8.4 seconds	same as 911 S
Kilometer from standing start (DIN curb weight plus 1/2 payload)	29.0 seconds	same as 911 S
Weight/power ratio (curb weight DIN 70020)	6.7 kg (14.7 lb)/HP	same as 911 S
	9.0 kg (19.8 lb)/KW	same as 911 S
Fuel consumption (average consumption on highways and country roads)	13-15 l/100 km) (13.7-16 US gt/62 mi.)	same as 911 S
Oil consumption	Approx. 1.5 l/1.6 US gt 1000 km/620 mi.	same as 911 S

* Never exceed max. total weight.
** Grades up to 16 %.

Note
Installation of extra equipment (air conditioner etc.) reduces payload.

TECHNICAL DATA - 1976/1977 Models

	911 S
Capacities	
Engine (initial filling)	approx. 13 ltr. (13.75 US qt) of brand name HD oil per API Classifications SD or SE; summer SAE 30, winter SAE 20, below - 15° C/+ 5° F SAE 10 W
(measured with oil dipstick per operating instructions)	
Engine with Sportomatic	approx. 2 ltr. (2.1 US qt) more
Transmission and differential	approx. 3 ltr. (3.2 US qt) per MIL-L 2105 or MIL-L 2105 B, SAE 90; for locking differential gear lube per M2C28B, SAE 90
Sportomatic transmission	approx. 2.5 ltr. (2.6 US qt)
Fuel tank	80 ltr. (21.1 US gal.), of which 8 ltr. (2.1 US gal.) in reserve
Brake fluid reservoir	approx. 0.2 ltr. (6.75 fl oz)
Windshield washer tank	approx. 8.5 ltr. (2.2 US gal.)

Dimensions at DIN Curb Weight

Wheelbase	mm/inch	2272/89.45
Length	mm/inch	4291/168.94
Width	mm/inch	1610/63.39
Height	mm/inch	1340/52.76
Ground clearance	mm/inch	175/6.89
Ground clearance at max. total weight	mm/inch	143/5.63

		911 S
Weight		
Curb weight per DIN	kg/lb	1160/2552
Max. total weight	kg/lb	1400/3086
Max. axle load, front	kg/lb	600/1323
rear	kg/lb	840/1852
Max. roof load *(only coupe)	kg/lb	35/77
Performance		
Max. speed (with 5 speed transm.)	km/h/mph	above 220/136.7
With Sportomatic	km/h/mph	215/133.6
Acceleration 0 - 100 km/h at DIN curb weight + 1/2 payload	sec.	7.8
Kilometer from standing start (DIN curb weight + 1/2 payload)	sec.	29.0
Weight-to-power (curb weight DIN 70020)	kg/HP kg/kW	6.8 9.24
Fuel consumption (average value, highways and country roads)	ltr/100 km miles/US gal.	13 - 15 15.6 - 18
Oil consumption	ltr/1000 km (US qt/620 mi.)	approx. 1.5

* Max. total weight must not be exceeded.

CAUTION

Installation of extra equipment (air conditioner, etc.) reduces the payload.

TECHNICAL DATA - 1978/1979 Models

	911 SC
Capacities	
Engine (initial filling)	approx. 13 ltr. /13.75 US qt of brand name HD per API Classification SD or SE; summer SAE 30, winter SAE 20, below - 15° C (+ 5° F) SAE 10 W
(measured with oil dipstick per operating instructions)	
Transmission and differential	approx. 3 ltr. /3.2 US qt per MIL-L 2105 or MIL-L 2105 B, SAE 90; with locking differential gear lube per M2C28B, SAE 90
Fuel tank	80 ltr. /21.1 US gal., of which 8 ltr./ 2.1 US gal. in reserve
Brake fluid reservoir	approx. 0.2 ltr. /6.75 US fl oz
Windshield washer tank	approx. 8.5 ltr. /2.2 US gal.

Dimensions at DIN Curb Weight

Wheelbase	mm/inch	2272/89.45
Length	mm/inch	4291/168.94
Width	mm/inch	1652/65.04
Height	mm/inch	1340/52.76
Ground clearance at max. total weight	mm/inch	143/5.63

		911 SC
Weight		
Curb weight per DIN	kg/lbs	1160/2558
Max. total weight	kg/lbs	1400/3086
Max. axle load, front	kg/lbs	600/1323
rear	kg/lbs	840/1852
Max. roof load *(only coupe)	kg/lbs	35/77
Performance		
Max. speed (with 5 speed transm.)	km/h/mph	225/139
Acceleration 0 - 100 km/h at DIN curb weight + 1/2 payload	sec.	7.0
Kilometer from standing start (DIN curb weight + 1/2 payload)	sec.	27.5
Fuel consumption (average values, highways and country roads)	ltr/100 km miles/US gal.	14 - 16 14.7 - 16.8
Oil consumption	ltr/1000 km US qt/600 mi.	approx. 1.5

* Max. permissible total weight must not be exceeded.

CAUTION

When installing extra equipment (air conditioner, etc.) the payload will be less.

TECHNICAL DATA - 1980 Models

		911 SC
Capacities		
Engine (initial filling)		approx. 13 ltr. of brand name HD oil per API Classification SD or SE; summer SAE 30, winter SAE 20, below - 15°C/+ 5° F SAE 10 W
(measured with oil dipstick per operating instructions)		
Transmission and differential		approx. 3 ltr. per MIL-L 2105 or MIL-L 2105 B, SAE 90, with differential lock gear lube M2C28B SAE 90
Fuel tank		80 ltr./21.1 US gal., of which 8 ltr./ 2.1 US gal. in reserve
Brake fluid reservoir		approx. 0.2 ltr./6.75 fl oz
Windshield washer tank		approx. 8.5 ltr./2.2 US gal.
Dimensions at DIN Curb Weight		
Wheelbase	mm/inch	2272/89.45
Length	mm/inch	4291/168.94
Width	mm/inch	1652/65.04
Height	mm/inch	1320/51.57
Ground clearance (at max. total weight)	mm/inch	120/4.72

		911 SC
Weight		
Curb weight per DIN	kg/lbs	1250/2756
Max. total weight	kg/lbs	1460/3219
Max. axle load, front	kg/lbs	650/1433
rear	kg/lbs	880/1940
Max. roof load* (only coupe)	kg/lbs	35/77
Performance		
Max. speed (with 5 speed transm.)	km/h/mph	225/139
Acceleration 0 - 100 km/h at DIN curb weight + 1/2 payload	sec.	7.0
Kilometer from standing start (DIN curb weight + 1/2 payload)	sec.	27.5
Fuel consumption (acc. DIN 70030, Part 1)		
at 90 km/h	1/100 km	9.2
at 55.9 mph	miles/US gal.	25.5
city driving	1/100 km	17.3
	miles/US gal.	13.8
Oil consumption	1/1000 km US qt/620 mi.	approx. 1.5

* Max. permissible total weight must not be exceeded.

CAUTION

Installation of extra equipment (air conditioner, etc.) will reduce payload.

TECHNICAL DATA - 1981 Models

	911 SC
Capacities	
Engine (new filling)	approx. 13 liters/13.7 US qt
(measured with oil dipstick according to operating instructions)	Oil grade: see operating instructions
Transmission and differential	approx. 3 liters/3.2 US qt Oil grade: see operating instructions
Fuel tank	approx. 80 liters/21.1 US gal., of which 8 liters/2.1 US gal. in reserve
Brake fluid reservoir	approx. 0.2 liters/6.75 fl oz
Windshield washer	approx. 8.5 liters/2.2 US gal.

Dimensions at DIN Curbweight

Wheelbase	mm/inch	2272/89.45
Length	mm/inch	4291/168.94
Width	mm/inch	1652/65.04
Height	mm/inch	1320/51.57
Ground clearance (at max. total weight)	mm/inch	120/4.72

		911 SC
Weight		
Curbweight acc. DIN	kp/lbs	1250/2756
Max. total weight	kp/lbs	1550/3417
Max. axle load, front **	kp/lbs	650/1433
rear **	kp/lbs	950/2094
Max. roof load * (only coupe)	kp/lbs	35/77
Performance		
Max. speed (with 4 or 5 speed manual transmission)	km/h/mph	225/139
Acceleration from 0 to 100 km/h at DIN curbweight plus 1/2 payload	sec.	7.0
Kilometer from standing start (DIN curbweight plus 1/2 payload)	sec.	27.5
Oil consumption	ltr./1000 km (1 US qt/600 mi.)	approx. 1.5

* Max. total weight must not be exceeded.

** Up to 16 % gradient.

Important

Installation of extra equipment (air conditioner, etc.) will reduce the payload.

Service Schedule, Type 911 T, 911 E, and 911 S (beginning with 1972 models)

at 1000 miles	Maintenance required		then at and every 10 000 miles
▬	**A. Before Road or Dynamometer Test**		
	1. Front wheel bearing play:	Check.	
	2. Steering:	Check all connections and rubber boots for thightness and for leaks.	▬
▬	3. V-belt and injection pump spur belt:	Check.	▬
▬	4. Valve adjustment (rocker arm shafts for tightness)*:	Check.	▬
▬	5. Ignition points and timing:	Check (engine at operating temperature.)	▬
	6. Fuel and air filter cartridges:	Replace.	▬
	7. Flame trap cartridge:	Clean.	▬
▬	8. Clutch pedal free play:	Check.	▬
	9. Complete brake system (incl. wear and leaks):	Check.	▬
▬	10. Reflectors and operation of lights:	Check.	▬
▬	11. Horn, wipers and washer:	Check.	▬
▬	12. Battery electrolyte level:	Check.	▬
▬	**B. During Road or Dynamometer Test**		
	1. Test engine performance, foot and parking brakes, clutch operation and gear shifting.		▬
▬	2. All instruments, control and warning lights:	Check.	▬
▬	**C. After Road or Dynamometer Test**		
	1. Engine idle and exhaust emission:	Check.	▬

Note: The recommended service intervals apply under normal driving conditions. The condition of tires, brakes and clutch lining depends greatly on the amount of driving and on driving habits and should possibly be checked at shorter intervals. A complete maintenance service as well as protection against corrosion should be carried out at least once a year, preferably before the winter.

* Necessary at first maintenance only.

Lubrication Schedule for Type 911 T, 911 E, and 911 S (beginning with 1972 models)

at 1000 miles	Service required		then at and every 10 000 miles
▬	**Engine** Engine oil:	Change (oil at operating temperature), at least twice a year, preferably once before summer and once before winter.	▬
▬	Oil strainer and magnetic drain plugs:	Clean.	▬
▬	Oil filter:	Replace.	▬
	Lubricate:	Accelerator linkage.	▬
▬	**Transmission** Transmission oil:	Change (oil at operating temperature.)	▬
▬	Magnetic drain plug:	Clean.	▬
	Miscellaneous Lubricate:	Door and hood hinges and locks.	▬

Note: The recommended service intervals apply under normal driving conditions. The condition of oil, and wear and tear items depends greatly on the amount of driving and on driving habits. Therefore, oil, and wear and tear items should be checked more frequently and possibly changed at shorter intervals. A complete lubrication and maintenance service should be carried out at least once a year, preferably before the winter. The same applies to protective undercoating for the vehicle.

I. Required Maintenance for the Emission Control System

at 1,000 miles	Maintenance service required	then at 10,000 miles	and every 20,000 miles
Check+adjust	Valves (check rocker arm shafts for tightness *)	Check+adjust	
Adjust	V-belt	Check	
Retorque	Manifold mounting bolts		
Change	Engine oil	Change	
Replace	Oil filter	Replace	
Clean	Oil strainer	Clean	
Clean	Magnetic drain plug	Clean	
Check+adjust	Engine idle	Check+adjust	
Check+adjust	Exhaust emission	Check+adjust	
Check+adjust	Hand throttle lever	Check+adjust	
Check	Auxiliary air by-pass valve for overrun	Check	
	Fuel filter		Replace
Check	Fuel cap, tank, lines and connections		Check
	Air filter cartridge	Replace	
Check	Dwell angle	Adjust	
Check	Timing	Adjust	
	Spark plugs	Replace	
	Ignition wiring		Check
	Distributor cap/rotor	Check	
	Crankcase vent hoses		Check
	Filter for crankcase ventilation system	Clean	
	Evaporative emission control system	Check	
	Activated charcoal filter		Replace

Note: The recommended service intervals apply under normal driving conditions. When driving on dusty roads check air filter cartridge more often and replace if necessary. The condition of tires, brakes and clutch lining depends greatly on the amount of driving and on driving habits and should possibly be checked at shorter intervals. A complete lubrication and maintenance service as well as protection against corrosion should be carried out at least once a year, preferably before the winter.

* Necessary at first maintenance only.

II. Required Maintenance Service

at 1,000 miles	Maintenance service required	then at and every 10,000 miles
Change	Transmission oil	Change
	Door and hood hinges and locks	Lubricate
Check + adjust	Front wheel bearing play	
	Steering gear and tie rod-connections and rubber boots	Check for tightness and leaks
Adjust	Clutch pedal free play	Adjust
Check	Brake system complete (includes wear and leaks)	Check
Check	Operation of lights	Check
Check	Reflectors	Check
Check	Horns, wipers and washer	Check
Check	Battery electrolyte level	Check
	During road or dynamometer test:	
Check	Foot and parking brakes Clutch operation and gear shifting	Check
Check	All instruments, control and warning lights	Check

Note: The recommended service intervals apply under normal driving conditions. The condition of oil, and wear and tear items depends greatly on the amount of driving and on driving habits. Therefore, oil, and wear and tear items should be checked more frequently and possibly changed at shorter intervals. A complete lubrication and maintenance service should be carried out at least once a year, preferably before the winter. The same applies to protective undercoating for the vehicle.

I. Required Maintenance for the Emission Control System (from 1975 model)

at 1,000 miles	Maintenance service required	then at and every 15 000 miles	additional at and every 30 000 miles
Change	Engine oil	Change	
Clean	Magnetic drain plugs	Clean	
Replace	Engine oil filter	Replace	
Adjust	V-belts (including V-belt for air pump), check tension and condition	Adjust or replace if necessary	
Check+adjust	Valve clearance (additionally at 1,000 miles: Check rocker arm shafts for tightness)	Check+adjust	
Retighten	Manifold mounting bolts		
	Compression	Check	
	Spark plugs	Replace	
	Ignition distributor: ignition points, dwell angle and timing	Adjust with electronic equipment	
	Ignition wiring, distributor cap and rotor	Check visually, replace if necessary	
	Fuel filter	Replace	
	EGR system		Check visually
	EGR system filter		Replace
Check visually	Evaporative control system (incl. fuel cap, tank and connections)	Check visually	
	Crankcase ventilation hoses		Check visually
	Filter for crankcase ventilation system	Clean	
	Exhaust system (incl. thermal reactor, where applicable)	Check for damage	
Check+adjust	Engine idle, hand throttle lever and exhaust emission (CO and HC)	Check and adjust	
	Air cleaner filter element (at least after two years)	Replace	
	Air pump, control valves, air injection hoses and connections	Check	
	Filter element for air pump	Replace	
	Anti-backfire valve	Check	

Regular maintenance of the emission control system at 15 000-mile intervals is necessary to keep your emission control system warranty valid. Details are in your Emission Control System brochure, which you receive with your Owner's Manual.

II. Required Maintenance and Lubrication Service (from 1975 model)

at 1,000 miles	Maintenance service required	then at and every 15 000 miles
	Door hinges and locks	Lubricate
	Accelerator linkage	Lubricate
	Door and Targa top weatherstrips: Remove rubber residue from contacting areas and coat with talc or other suitable rubber lubricant	Maintain
Change	Transmission oil (clean magnetic drain plugs)	Change
	Windshield washer, operation and fluid level	Check and correct
Check+adjust	Front wheel bearing play	
	Front axle: steering gear, tie-rod connections and rubber boots	Check for tightness and leaks
Check+adjust	Clutch pedal free play	Adjust
	Brake system, all lines and hoses (incl. wear and leaks)	Check
Check	Operation of lights, horns, wipers and washer	Check
Check	Headlight adjustment	Check and correct
	Ignition/steering lock and buzzer alarm	Check
	Safety belt warning light and buzzer alarm	Check
	Battery electrolyte level	Check
Check and correct pressure	Tires	Check and correct pressure

During road or dynamometer test:

Check	Braking, clutch, steering, heating, ventilation systems	Check
Check	All instruments, control and warning lights	Check

The recommended service intervals apply under normal driving conditions. If you drive mainly in dusty areas, check the air cleaner element more often and replace if necessary. The condition of oil,and wear-and-tear items (such as tires, brakes, clutch lining) depend greatly on the amount of driving and on driving habits. Therefore, oil and wear-and-tear items should be checked more frequently, and if necessary replaced at shorter intervals. Also, the battery electrolyte level should be checked more often. A complete maintenance and lubrication service should be performed at least once a year, preferably before the winter. The same applies to protective undercoating for the vehicle.