

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

Beginning with January 1972, all USA export vehicles are equipped with the safety belt warning system required by law. This system consists of 2 inertia reel safety belts with automatic locking retractors, a control lamp with the inscription "Fasten Seat Belt", a seat contact switch built into the passenger seat, a new parking brake switch, and a modified buzzer.

The three-pole buzzer can still be used as replacement for the formerly used two-pole buzzer in vehicles not equipped with the safety belt warning system.

An electric switch is built into each safety belt buckle. The switch is closed when the belts are not worn, providing ground for Terminal G of the control lamp. If Terminal 50a does not have a ground connection through the handbrake switch at the same time, a transistor incorporated in the control lamp becomes conductive. Since the buzzer Terminal 86 is energized at all times, and Terminal 15 of the control lamp is energized when the ignition is on, the control lamp will light up and the buzzer sound off.

When the belt is put on, the contact in the belt buckle opens and Terminal G ceases to have a ground connection.

The passenger seat is equipped with a seat contact which breaks the ground connection from the belt buckle on passenger side to Terminal G in the control lamp when the seat is unoccupied.

The reminder to wear seat belts is given by the control lamp with the inscription "Fasten Seat Belt" and the simultaneously audible sound of the buzzer whenever

the ignition is switched on,
the driver (and passenger) have not put the seat belts on,
the parking brake is fully released.

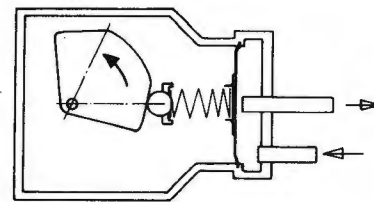
The former function of the buzzer remains unchanged.

Control Pressure Regulator (Throttle Valve Position)

The control pressure regulator for throttle valve position is basically similar to the regulator for warm running compensation. It is attached to the throttle valve housing.

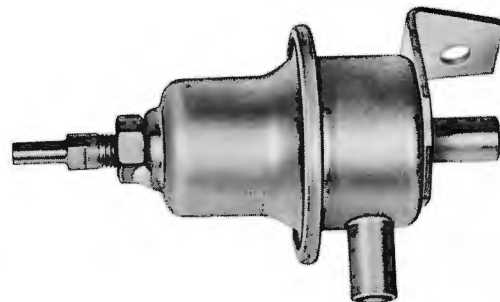
A cam plate is attached to the throttle valve shaft and rides along with it, compressing the regulator spring to a greater or lesser degree.

This changes the control pressure along with changed throttle valve position, adjusting the fuel/air mixture as required.



Auxiliary Air Device

When decelerating from high rpm with throttle closed, considerable vacuum builds up in the intake manifold. The vacuum is channeled to an auxiliary air device. As the device opens, additional air bypasses the throttle creating a combustible mixture.



Idle Adjustment

The adjusting method is same as that for carburetors. The idle air mass passes through the air flow sensor where it is measured. The closed throttle is bypassed through a bypass bore.

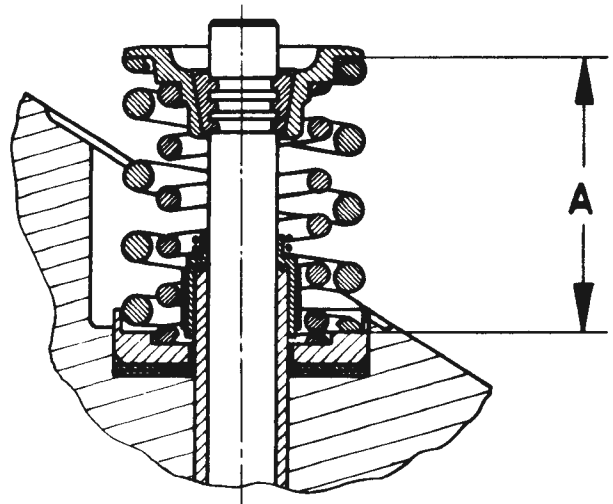
The cross-section of this bore can be changed with the aid of an adjustment screw. A change in cross-section changes the engine speed without affecting the composition of the fuel/air mixture.

The fuel/air mixture can be adjusted within certain limits by means of a mixture adjusting screw to attain the required effect.

CHECKING INSTALLED LENGTH OF VALVE SPRINGS

Procedure

1. Install special tool P 10c together with adjust shims, spring support washer, spring retainer, and both valve keepers of the respective valve.
2. Read dimension "A" on special tool P 10c. Make corrections by adding or removing adjustment shims.



INSTALLATION DIMENSIONS

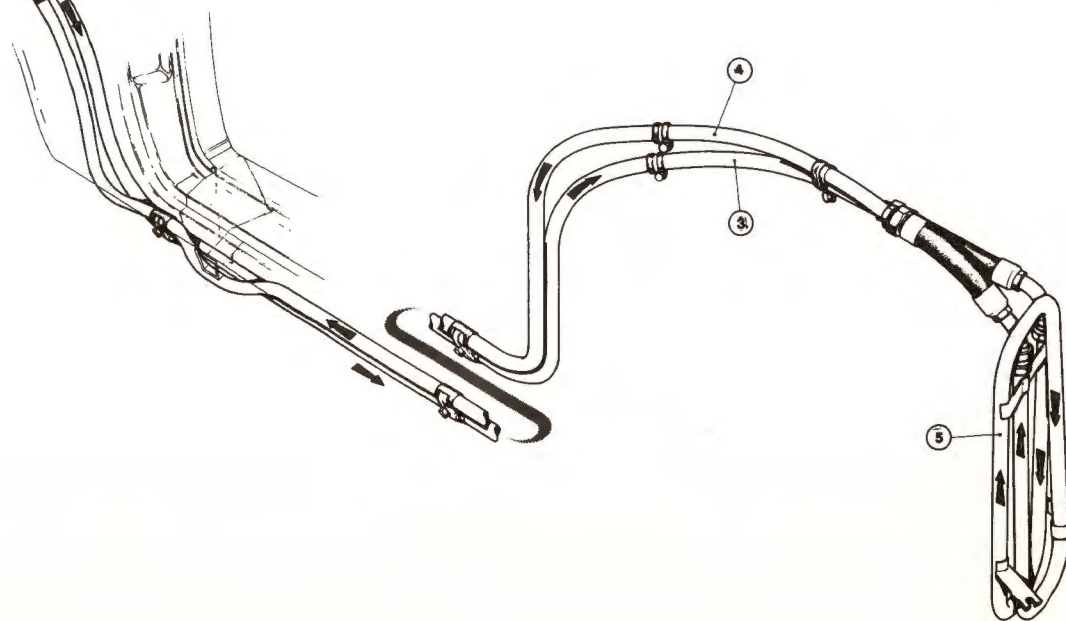
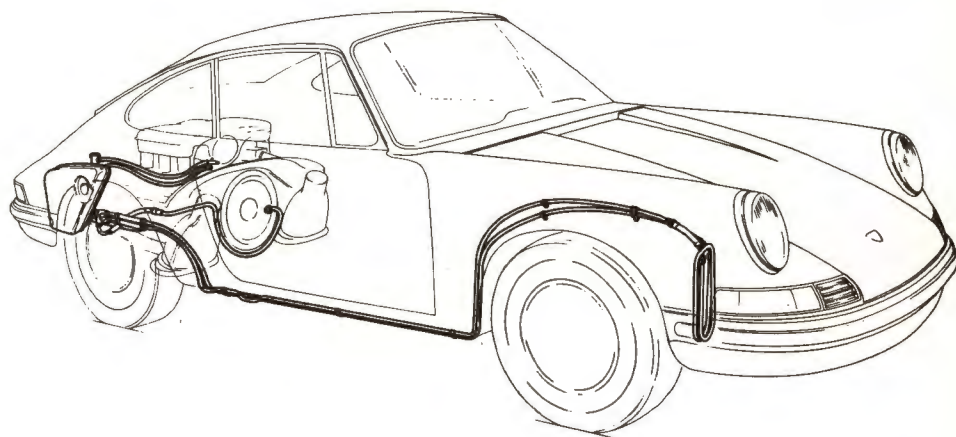
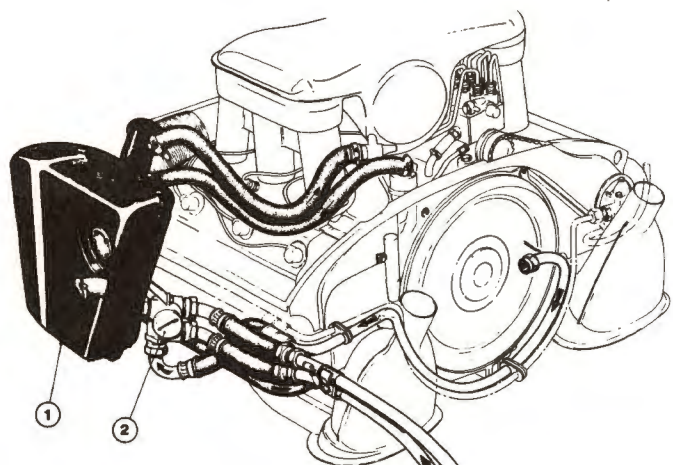
Vehicle Type	911 T	911 E	911 S
Engine Type	911/51 911/61	911/52 911/62	911/53 911/63
from engine #	6120950 6129029	6220380 6229026	
Intake Valve	35 ± 0.3 mm	34 ± 0.3 mm	35.5 ± 0.3 mm
Exhaust Valve	35 ± 0.3 mm	34 ± 0.3 mm	34.5 ± 0.3 mm

Note:

The above values can be applied to 2.2 liter engines as well.

OIL COOLER SCHEMATIC

TYPE 911S VEHICLES (FROM 1973-MODEL ON)



- 1. Oil tank
- 2. Pressure relief valve
- 3. Inlet pipe
- 4. Return pipe
- 5. Radiator coil

Description

911
1

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ADJUSTING FUEL INJECTION PUMP WITH EMISSION TESTER

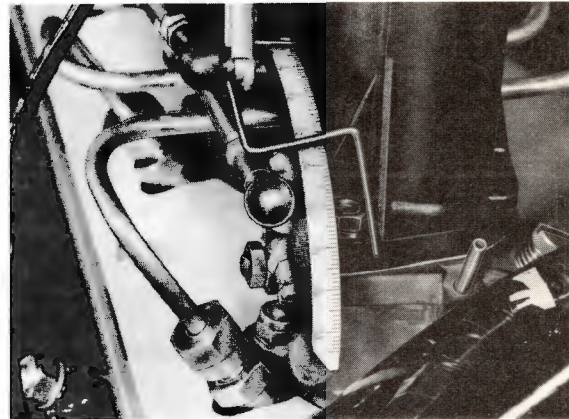
Special Tools

P 228 c Protractors

1. Bring engine to operating temperature (about 80°C/175°F).
2. Connect emission tester according to the manufacturer's instructions.
3. Attach protractor, special tool P 228 c, to the right throttle valve housing (if equipped with air conditioner, attach to left throttle valve housing). Adjust pointer to 0°.

Note

Hand throttle lever must be all the way off.



4. Using hand throttle or locally manufactured tool, open throttle 9°; actuate gas pedal a few times to take strain off linkage.
5. Determine exhaust emissions by road test or dynamometer test. Under partial load the 2400 rpm with a 9° throttle opening the exhaust emissions (CO%) should be:

911 T	1.5 - 2.0 % CO
911 E and S	2.0 - 2.5 % CO (Europe 2, 0-3, 0)

 At idle (900 ± 50 rpm) 2.5 ± 0.5 % CO

For typical road test see page SF 35.

Adjustment instructions for injection pump are shown on page SF 36.

Note

The intake air preheating system eliminates the necessity for monitoring intake air temperature.

ADJUSTING ENGINE IDLE

Special tools

P 230 c Socket (8 mm)

1. Bring engine to operating temperature.
2. Check idle speed. If idle speed is too high or too low, readjust air correction screws on throttle valve housings as needed. Turning screws in, lowers idle. Turning out, increases idle. Check air flow of individual cylinders at 2000 - 2400 rpm synchronometer, special tool P 235. See page SF 40 for adjusting instructions.



Note

If resetting the air correction screws shows no reaction on the synchronometer, then the idle passages in the throttle valve housings are carboned up and must be cleaned.

3. Connect emission tester and check CO emissions. If CO value is not within the prescribed limit, shut off engine and readjust idle speed injection quantity on pump.

Caution

Do not start engine while adjusting idle speed injection quantity.

4. The idle adjusting screw can be reached with special tool P 230 c through a hole which is covered by a plastic cap in the cooling air upper shroud.

5. Remove cap.

CO emissions: 2,0 - 3,0 %
(Europe 2, 5 - 3, 5)

6. Depress the spring-loaded idle adjusting screw with special tool P 230 c until you can feel it engage with the slot of the centrifugal governor.



lean



rich

8. Idle speed can change after CO emissions have been adjusted at idle speed (900 ± 50 rpm).



9. Adjust idle speed by turning the air correction screws. Recheck with synchrometer.

7. Turn adjusting screw counter-clockwise for a leaner mixture and clockwise for a richer mixture.

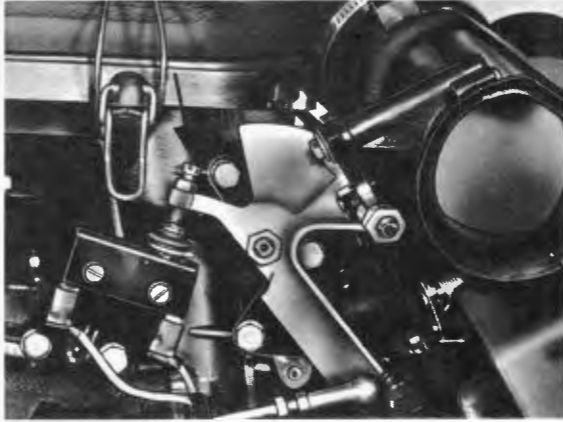
Do not adjust by more than 1 notch at a time. A maximum of three notches is allowed to either the right or left of the basic adjustment.

Note

Adjustments at idle speed and under partial load should be made as quick as possible so that the velocity stack area does not heat up. Drive the car a short distance or run engine slightly faster (about 3000 rpm) before making another CO test on road or dynamometer. This will cool off the velocity stack area.

ADJUSTING MICRO SWITCH - BEGINNING WITH 1972 MODELS -

1. Loosen lock nut and back off adjusting screw until the micro switch is not closed in idle position.



2. Turn the adjusting screw from this position until the micro switch closes (listen for click sound).

3. Turn adjusting screw 1/4 turn farther in. Tighten lock nut.

Note

The micro switch must be readjusted whenever the throttle valve linkage or injection pump linkage has been reset.

PISTON CHANGES - BEGINNING WITH 1972 MODELS

1. New pistons with flatter piston tops to reduce compression

ratio:

911 T = 7.5 : 1

911 E = 8.0 : 1

911 S = 8.5 : 1

Required fuel octane rating = 91

2. Changed piston ring.

3. New table of dimensions for pistons and cylinders beginning with
1972 models.

PISTON AND CYLINDER DIMENSIONS - BEGINNING WITH 1972 MODELS

Type 911 S Pistons



Cylinder marking	Cylinder diameter	Piston diameter D1	Tolerance
Standard			± 0.005 mm
0	84.000-84.010 mm	83.950 mm	
1	84.010-84.020 mm	83.960 mm	
2	84.020-84.030 mm	83.970 mm	
Overize			
0 KD 1	84.250-84.260 mm	84.200 mm	
1 KD 1	84.260-84.270 mm	84.210 mm	
2 KD 1	84.270-84.280 mm	84.220 mm	

Cylinder/piston clearance: 0.045-0.065 mm
 Piston weight: 354 \pm 3 g

Type 911 E Pistons



Cylinder marking	Cylinder diameter	Piston diameter D1	Tolerance
Standard			± 0.005 mm
0	84.000-84.010 mm	83.970 mm	
1	84.010-84.020 mm	83.980 mm	
2	84.020-84.030 mm	83.990 mm	
Overize			
0 KD 1	84.250-84.260 mm	84.220 mm	
1 KD 1	84.260-84.270 mm	84.230 mm	
2 KD 1	84.270-84.280 mm	84.240 mm	

Cylinder/piston clearance: 0.025-0.045 mm
 Piston weight: 371 \pm 3 g

Type 911 T Pistons



Cylinder marking	Cylinder diameter	Piston diameter D1	Tolerance
Standard (MAHLE)			± 0.005 mm
0	84.000-84.010 mm	83.970 mm	
1	84.010-84.020 mm	83.980 mm	
2	84.020-84.030 mm	83.990 mm	
Overize			
0 KD 1	84.250-84.260 mm	83.220 mm	
1 KD 1	84.260-84.270 mm	83.230 mm	
2 KD 1	84.270-84.280 mm	83.240 mm	

Cylinder/piston clearance: 0.025-0.045 mm
 Piston weight: 376 \pm 3 g

Type 911 T Pistons



Cylinder marking

Standard (SCHMIDT)		Tol.
0	84.00-84.01 mm	+0.007 -0.008
1	84.01-84.02 mm	83.97 mm
2	84.02-84.03 mm	83.98 mm
Oversize		
0 KD 1	84.25-84.26 mm	83.99 mm
1 KD 1	84.26-84.27 mm	84.22 mm
2 KD 1	84.27-84.28 mm	84.23 mm
Cylinder/piston clearance:		0.023-0.048 mm
Piston weight:		375 ± 4 g

For piston and cylinder wear limits see page SE 45.

CYLINDER HEIGHT TOLERANCE GROUPE (2.4 LITER, 1972 MODELS)

Cylinder Installation Height	Identification Mark	
		85.400 - 85.425 mm
		85.425 - 85.450 mm
	R 5	85.150 - 85.175 mm
	R 6	85.175 - 85.200 mm

Standard cylinder height

Reconditioned cylinder height

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	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	1.8 atm (26 psi)	1.8 atm (26 psi)	1.8 atm (26 psi)
rear	2.0 atm (29 psi)	2.0 atm (29 psi)	2.0 atm (29 psi)
for speeds above 200 kmh (125 mph)			
front	2.2 atm (32 psi)	2.2 atm (32 psi)	2.2 atm (32 psi)
rear	2.4 atm (35 psi)	2.4 atm (35 psi)	2.4 atm (35 psi)
for snow tires			
front	2.0 atm (29 psi)	2.0 atm (29 psi)	2.0 atm (29 psi)
rear	2.2 atm (32 psi)	2.2 atm (32 psi)	2.2 atm (32 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 sq.in.)	210 cm ² (32.55 sq.in.)	257 cm ² (39.84 sq. 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 underbody, sloping front, fastback rear in Coupe	all-steel body, unitized with underbody, sloping front, fastback rear in Coupe	all-steel body, unitized with underbody, 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

Speed Limiter

1. Mount cap on distributor and connect according to test 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 \pm 50 rpm
911 E	3550 \pm 50 rpm
911 S	3650 \pm 50 rpm

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

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

Adjusting Ignition Timing

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

Warning

Keep fingers, loose clothing, tools and test instruments clear of fan and belt when making adjustments on running engine.

1. Run engine until engine oil is warm (80°C/175°F).
2. Check ignition timing with stroboscope timing light. At 900 ± 50 rpm, the mark on the left side of the Z 1 mark (5° ATDC) on the crankshaft pulley must line up with the mark on the fan housing (vacuum hose connected to distributor). Change timing by loosening nut and turning distributor.

Maximum advance is checked only after the idle speed timing adjustment has been made. At 6000 rpm, maximum advance must be between 32 and 35° BTDC with the vacuum hose disconnected.



TIGHTENING TORQUES

Location	Description	Thread	Grade	mkp	ft. lbs.
Transmission housing (oil drain)	Magnetic plug	M 24 Tapered	St 37	2.0 - 2.5	14.5 - 18.1
Transmission housing (oil filler)	Oil filler plug	M 24 Tapered	St 37	2.0 - 2.5	14.5 - 18.1
Transmission housing - side and front cover, guide fork cover	Nut, center lock type	M 8 x 1.25	x 12 Cr Ni 18-8	2.2 - 2.5	15.9 - 18.1
Front cover	Backup light switch	M 18 x 1.5	Ms	3.5 - 4.0	25.3 - 28.9
Input shaft	Flange nut	M 30 x 1.5	8.8	16.0 - 18.0	115.7 - 130.2
Input shaft	Castellated nut	M 18 x 1.5	6.8	12.0 - 14.0	86.8 - 101.3
Retaining plate and transmission support attach- ment	Nut	M 8 x 1.25	8	2.1 - 2.3	15.2 - 16.6
Pinion shaft	Flange nut	M 24 x 1.5	8	14.0 - 16.0	101.3 - 115.7
Guide fork, shifting	Nut	M 6 x 1.0	8	0.8 - 0.9	5.8 - 6.5
Shift detent, transmission housing	Nut	M 10 x 1.5	8.8	1.5 - 1.8	10.8 - 13.0
Transmission housing	Breather	M 16 x 1.5	9 S 20 K	2.0 - 3.0	14.5 - 21.7
Shift forks	Nut	M 8 x 1.25	8.8	2.4 - 2.6	17.4 - 18.8
Ring gear (differential)	Bolt	M 12 x 1.25	11.9	11.5 - 12.0	83.2 - 86.8
Axle flange	Expansion bolt	M 10 x 1.5	8.8	2.6 - 3.0	18.8 - 21.7
Starter attach- ment	Nut	M 10 x 1.5	8	4.6 - 4.8	33.3 - 34.7

Speed Limiter

1. Mount cap on distributor and connect according to 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

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.

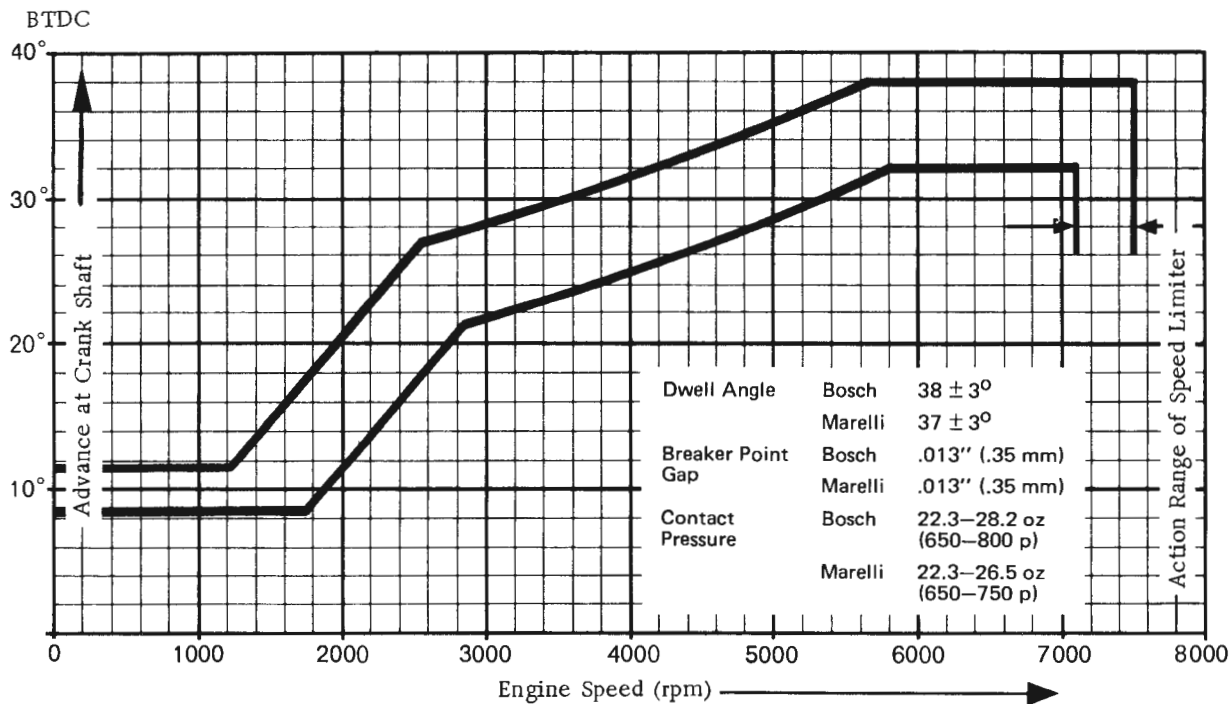
Ignition Advance Curves for

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



Adjusting Ignition Timing

(2.4 liter engines)

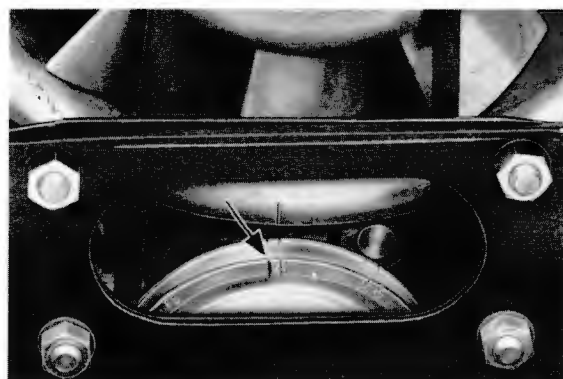
Check dwell angle before adjusting ignition timing, correct if necessary.

Warning

Keep fingers, loose clothing, tools and test instruments clear of fan and belt when making adjustments on running engine.

1. Run engine until engine oil is warm (80°C/175°F).
2. Check ignition timing with stroboscope timing light. At 900 ± 50 rpm, the mark on the left side of the Z 1 mark (5° ATDC) on the crankshaft pulley must line up with the mark on the fan housing (vacuum hose connected to distributor). Change timing by loosening nut and turning distributor.

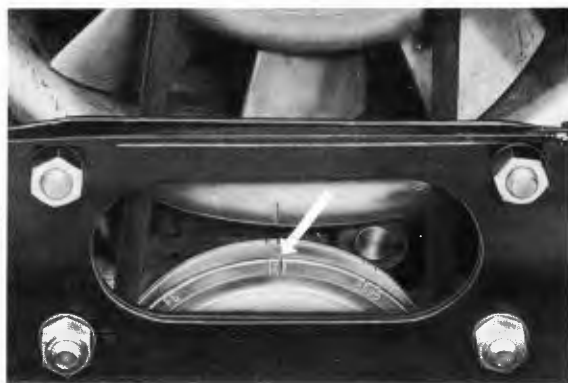
Maximum advance is checked only after the idle speed timing adjustment has been made. At 6000 rpm, maximum advance must be between 32 and 35° BTDC with the vacuum hose disconnected.



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 $\pm 1^\circ$ 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.

CONTROL ILLUMINATION

Illumination of the Heater Control Lever

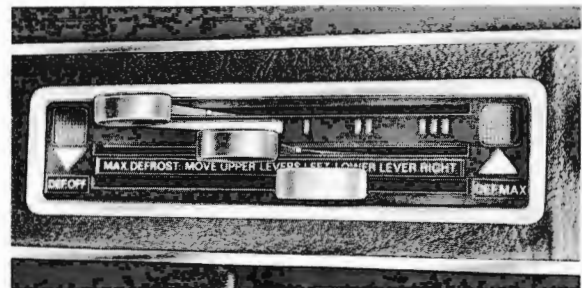
A square, illuminated plaque showing the function of the heater control lever is located on the center tunnel adjacent to the lever.

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

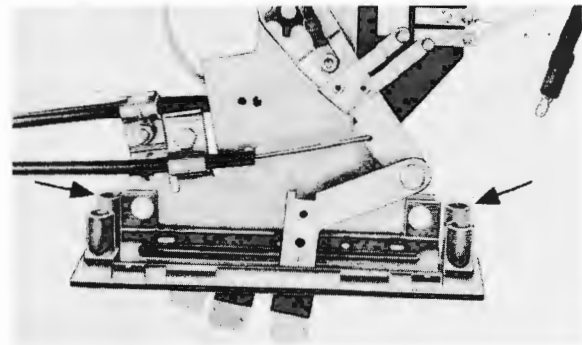


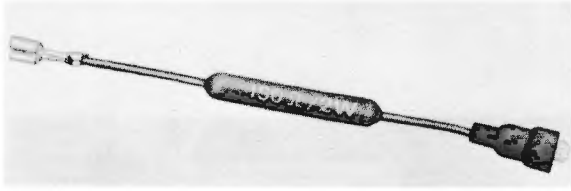
Illumination of the Fan Control Switch

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



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





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.

IGNITION DISTRIBUTOR FOR 2.7 LITER ENGINES

The BOSCH or MARELLI distributors used in the 2.7 liter engines differ from the distributors used in the 2.4 liter engines due to a different advance curve.

The ignition timing at idle speed is at TDC (top dead center). The ignition timing is advanced by 10° crankshaft rotation when the throttle is opened.

The speed limiter cut-off point is 7300 rpm, same as in Type 911 S.

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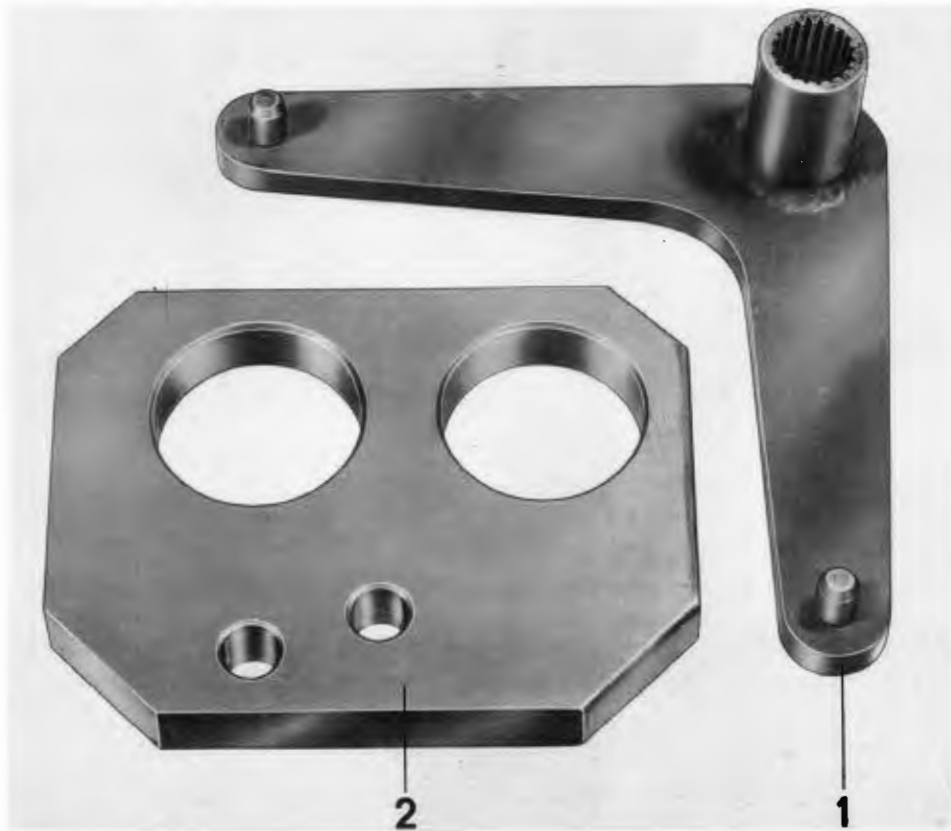
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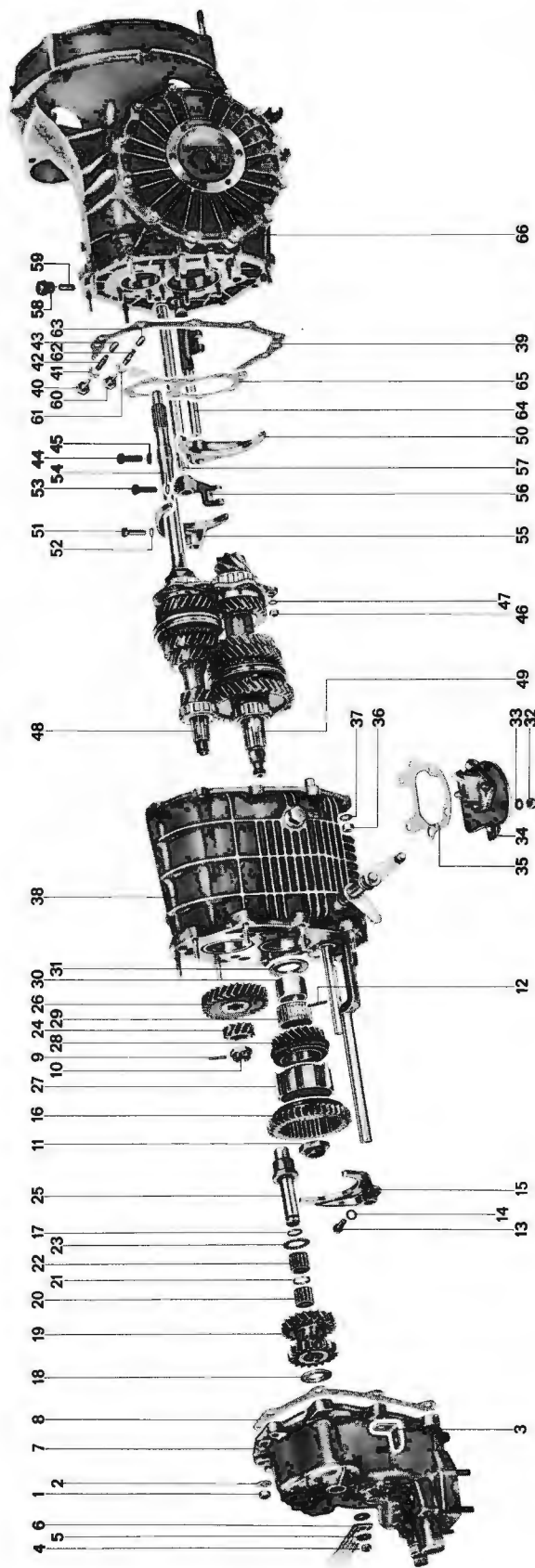
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DISASSEMBLING AND ASSEMBLING MANUAL TRANSMISSION

TOOLS



Nr.	Description	Special Tool	Remarks
1	Input shaft holder	P 37a	
2	Shift rod holder	P 260a	



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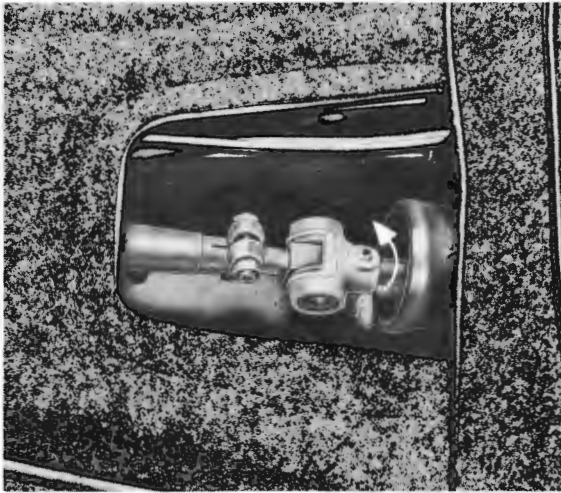
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ADJUSTING GEARSHIFT LINKAGE

1. Move shift lever into neutral.
2. Loosen shift rod clamp. Move shift rod transmission all the way to the right stop (see arrow).
3. With the gearshift lever in neutral the lower part of the lever should be in the vertical position when seen from the side. The lever should also rest against the lever stop.
4. Torque shift rod clamp to 2.5 mkp (18.1 ft. lbs.). Use new lock washer under clamp bolt nut.



3. With the gearshift lever in neutral the lower part of the lever should be in the vertical position when seen from the side. The lever should also rest against the lever stop.



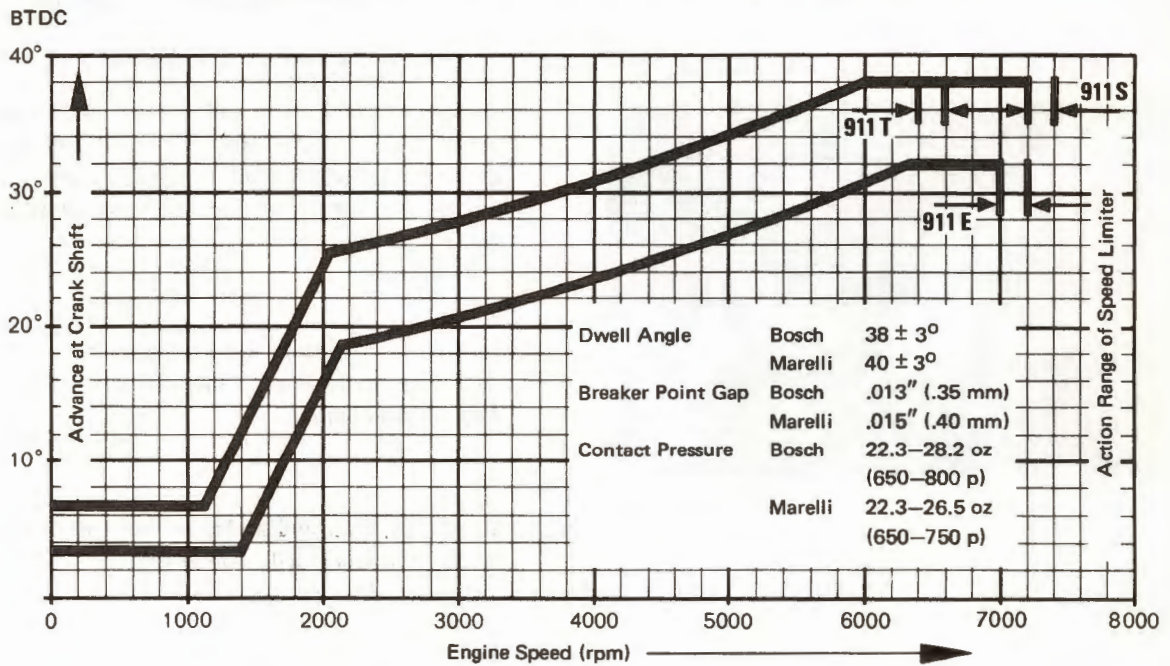
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Checking Timing Advance Curve

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 Liter Engines Bosch and Marelli



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.

Contact Bounce

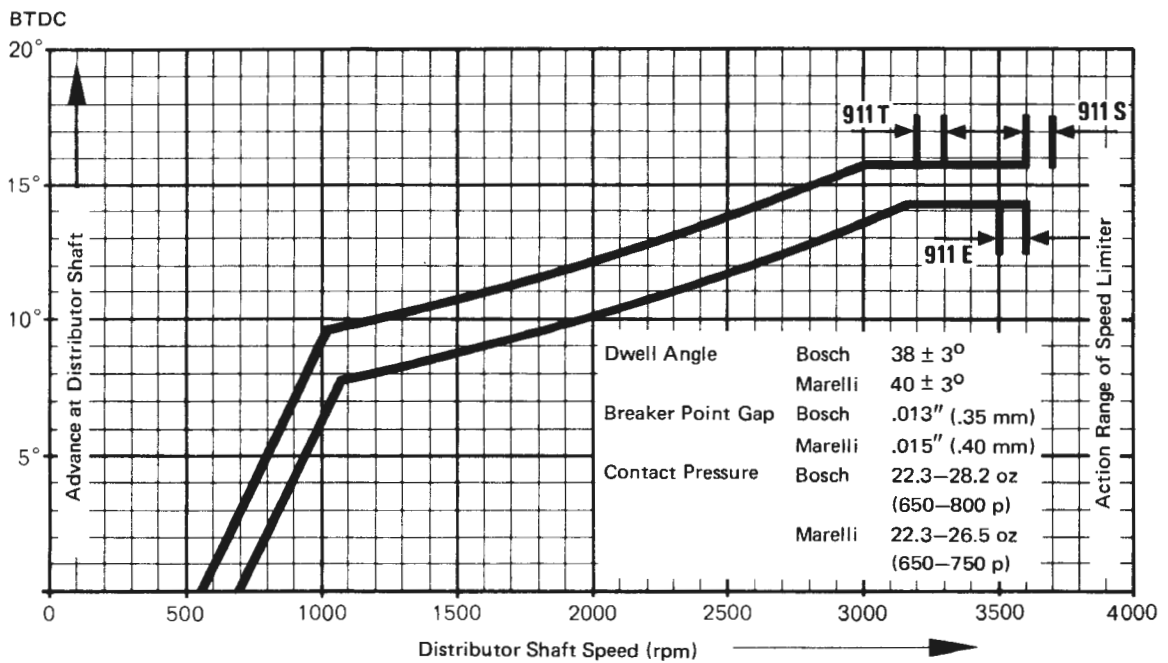
The light marker must not deviate by more than 1° at 300 rpm, or 2° at 3500 rpm.

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

Degrees Advance	Distributor Shaft RPM	Measurement Errors (cam displacement)
1°	600 - 750 rpm	Run distributor at 300 rpm. The 6 visible light markers on the protractor must be spaced at 60° intervals ($\pm 1^\circ$ deviation per cam).
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°.

Centrifugal Advance Curve for Distributor for 2.4 Liter Engines Bosch and Marelli



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 Liter Engines Bosch and Marelli

