1974-79 TUNE-UP PROCEDURES
Porsche 6-Cylinder

911, 911S, 911SC, Carrera, Turbo, Turbo Carrera

ENGINE IDENTIFICATION

Engine identification number is stamped on engine crankcase (blower fan support), near oil temperature sensor.

1974 ENGINE CODES

Application	Code
911	1
911S & Carrera	3

1975-76 ENGINE CODES

Application	Code
911S & Carrera	
Federal	4
Calif.	5
Turbo Carrera	930/51

1977 ENGINE CODES

Application	Code
911S	
Man. Trans.	911/85
Auto. Trans.	911/90
Turbo Carrera	930/53

1978 ENGINE CODES

Application	Code
911SC	
Federal	628
Calif.	658
Turbo	688

1979 ENGINE CODES

Application	Code
911SC	
Federal	629
Calif.	659
Turbo	689

MODEL IDENTIFICATION

VEHICLE IDENTIFICATION NUMBER

Vehicle Identification Number is located on left windshield post and can be seen from outside vehicle. Number is also located on rear door post on the driver's side and on the identification plate. The identification plate is located on right side of luggage compartment.

ENGINE COMPRESSION

Perform compression test with wide open throttle and oil temperature not less than 140°F (60°C). Remove all spark plugs and allow about 12 piston strokes per cylinder test. Pressure difference between cylinders should not exceed 22 psi (1.5 kg/cm²).

VALVE CLEARANCE

Adjust valve clearance to specifications with engine cold.

VALVE CLEARANCE SPECIFICATIONS

Application	Clearance In. (mm)
All Models	.004 (.10)

VALVE ARRANGEMENT

Upper Valves - Intake.
Lower Valves - Exhaust.

SPARK PLUGS

SPARK PLUG SPECIFICATIONS

Application	Specification
Gap	
911, 911S & Carrera	.022" (.55 mm)
911SC	.031" (.80 mm)
Turbo	.024" (.60 mm)
Turbo Carrera	.028" (.70 mm)
Torque	
All Models	18-22 ft. lbs. (24-30 N.m)

SPARK PLUG TYPE

Application	Bosch No.
911, 911S & Carrera	W235P21
911SC	W145T30
Turbo & Turbo Carrera	W280P21

HIGH TENSION WIRE RESISTANCE

Carefully remove high tension wires from spark plugs and distributor cap. Using an ohmmeter, check high tension wire resistance while gently twisting wires. If resistance is not to specifications, or fluctuates from infinity to any value, replace high tension wire(s).

HIGH TENSION WIRE RESISTANCE

Application	Resistance (Ohms)
All Models	25000-30000

DISTRIBUTOR

Models are equipped with Bosch or Marelli single-point distributors, or Bosch electronic ignition system.

DISTRIBUTOR SPECIFICATIONS

Application	Specification
Point Gap	.014" (.35 mm)
Dwell Angle	35-41°
Breaker Arm Spring Tension	22-28 oz. (624-794 g)

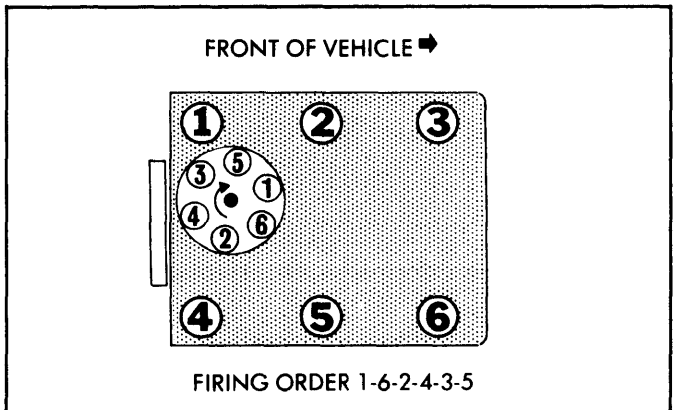

Fig. 1: Carrera, 911, 911S & Turbo Carrera Firing Order & Distributor Rotation

1974-79 TUNE-UP PROCEDURES
Porsche 6-Cylinder

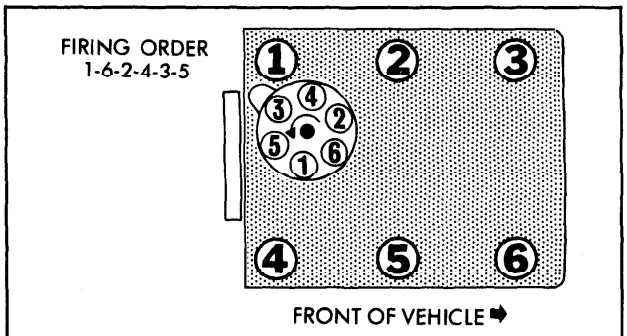

Fig. 2: 911SC & Turbo Firing Order & Distributor Rotation

IGNITION TIMING

1974-76 Models - Warm engine to normal operating temperature. With vacuum hose connected to distributor, adjust ignition timing until pointer is aligned with notch just left of "Z". *See Fig. 3.* Check advance timing at 6000 RPM with vacuum hose disconnected and plugged.

1977-79 Models - With engine idling at normal operating temperature, adjust ignition timing to specifications. Vacuum hose should be connected to distributor. Appropriate mark on pulley should be aligned with mark on blower housing. *See Fig. 4.*

1974-76 IGNITION TIMING SPECIFICATIONS

Application	RPM	Timing
1974-75 Models		
Base	900	5°ATDC
Advance	6000	35°BTDC
1976 Models		
911S	850-950	5°ATDC
Turbo Carrera	900-1000	2-8°ATDC

1977 IGNITION TIMING SPECIFICATIONS

Application	RPM	Timing
911S		
Federal	950-1000	TDC
Calif.	1000	15°ATDC
Turbo Carrera	950-1050	7°ATDC

1978-79 IGNITION TIMING SPECIFICATIONS

Application	RPM	Timing
911SC	900-1000	5°BTDC
Turbo		
Federal	950-1050	10°ATDC
California	950-1050	5°ATDC

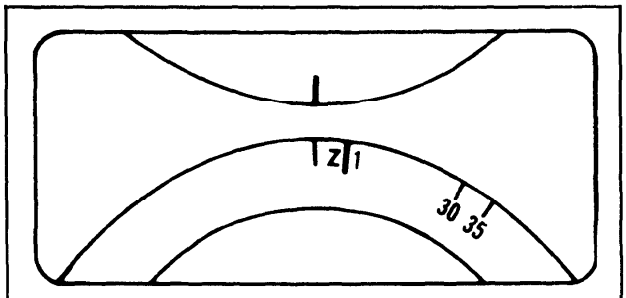

Fig. 3: Carrera, 911 & 911SC Ignition Timing Marks

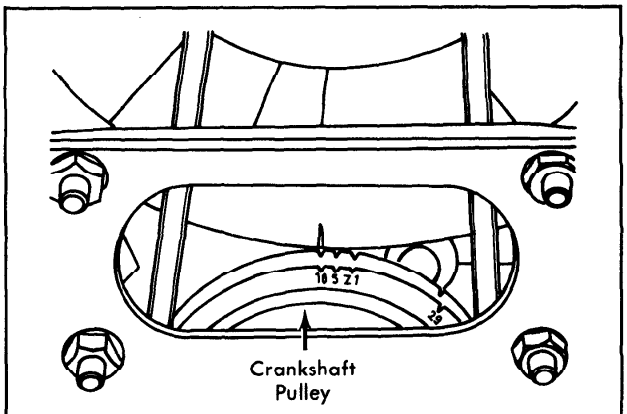

Fig. 4: Turbo Ignition Timing Marks

IDLE SPEED & MIXTURE

NOTE: On 1978-79 Turbo models, air cleaner must be installed when adjusting idle speed and mixture. Always make idle mixture adjustment from lean to rich. Never apply pressure to wrench while adjusting.

1974-76 Models - **1)** Warm engine to normal operating temperature. Set hand throttle lever in off position. Connect tachometer and exhaust gas analyzer to vehicle. Adjust idle speed to specifications by turning idle by-pass screw on throttle valve housing.

2) To adjust mixture, remove plug from mixture control unit (unit is located between fuel distributor and venturi). Using Wrench (P 377), turn mixture adjustment screw. Make adjustment with no pressure applied to wrench to prevent engine from stalling. Recheck idle speed and adjust if necessary.

1974-76 IDLE SPEED & CO% LEVEL SPECIFICATIONS

Application	Idle RPM	CO%
911, 911S & Carrera		
Man. Trans.	850-950	1.5-2.0
Auto. Trans.	900-1000	1.5-2.0
Turbo Carrera	900-1000	1.0-3.0

1977-79 IDLE SPEED & CO% LEVEL SPECIFICATIONS

Application	Idle RPM	CO%
911S & 911SC	900-1000	1.5-3.5
Turbo	950-1050	2.0-3.0
Turbo Carrera	950-1050	2.0-4.0

1977-79 Models - **1)** Warm engine to normal operating temperature. Ensure ignition timing is set to specifications. On 911SC, remove air cleaner. Detach and plug air hose at air pump.

2) Connect exhaust gas analyzer at fitting in front of catalytic converter. Be sure oil tank cap is tight as leaks can affect mixture and engine speed. Using Adjuster (P 229C), turn air by-pass screw on throttle valve housing until specified idle speed is reached.

3) Check or adjust CO% level. On turbocharged models, insert Allen Wrench (P 9156) 3/4" into mixture control unit and engage screw. On 911S and 911SC models, use Wrench (P 377) and turn adjustment screw.

4) Remove wrench from adjustment screw. Accelerate engine briefly, and recheck CO% level. With CO% level set to specification, install air cleaner and recheck idle speed.

1974-79 TUNE-UP PROCEDURES
Porsche 6-Cylinder (Cont.)

FUEL PUMP

FUEL PUMP SPECIFICATIONS

Application	Specification
Pressure	
Carrera,	
911, 911S & 911SC	64-74 psi (4.5-5.2 kg/cm²)
Turbo & Turbo Carrera	87-97 psi (6-6.7 kg/cm²)
Volume	
Carrera,	
911, 911S & 911SC	1.6 pts. in 30 sec.
Turbo & Turbo Carrera	2.5 pts. in 30 sec.

EXHAUST EMISSION SYSTEMS

See appropriate articles in EXHAUST EMISSION SYSTEMS section.

IGNITION SYSTEM

DISTRIBUTOR

Models are equipped with Bosch or Marelli single-point distributors, or Bosch electronic ignition system.

Other Data & Specifications - See appropriate Bosch or Marelli ignition system article in DISTRIBUTORS & IGNITION SYSTEMS section.

FUEL SYSTEM

FUEL INJECTION

All models are equipped with Bosch CIS injection system (CIS).

Other Data & Specifications - See Bosch CIS Fuel Injection System article in FUEL SYSTEMS section.