

Vacuum hose layout - 1979 model	1.1 - 4/1
Fuel and vacuum lines layout - 1980 model	1.1 - 4/3

2 - SERVICING

2.1 Servicing information

Regulator housing, removing and installing	2.1 - 1/1
Induction air preheating system, checking	2.1 - 1/1
Fresh air flap, adjusting	2.1 - 1/2
Fresh air flap lever, replacing	2.1 - 1/3
Hose clamps for cold start enrichment, installing	2.1 - 1/4
Fuel injection nozzles, checking	2.1 - 1/5

2.2 Servicing continuous injection system (CIS)

CIS, disassembling and assembling	2.2 - 1/1
Mixture control unit, removing and installing	2.2 - 1/7
Throttle valve housing with control pressure regulator (throttle valve position), removing and installing	2.2 - 1/8
Control pressure regulator (warm running compensation), removing and installing	2.2 - 1/9
Start (enrichment) valve, removing and installing	2.2 - 1/10
Fuel filter, removing and installing	2.2 - 1/11
Fuel pressure accumulator, removing and installing	2.2 - 1/12
Injection valves, removing and installing	2.2 - 1/13
Plastic fuel lines, replacing	2.2 - 1/15
Fuel line system, bleeding	2.2 - 1/17
Mixture control unit, dismantling and assembling	2.2 - 2/1
Sensor plate, removing and installing	2.2 - 2/4
Air flow sensor housing, locating operating lever with follower	2.2 - 2/6
Mixture control screw basic adjustment after replacement of follower	2.2 - 2/7
Fuel distributor pressure relief valve piston seal, replacing	2.2 - 2/8
Vacuum controlled (warm-up) control pressure regulator, removing and installing	2.2 - 2/9
Auxiliary air valve, removing and installing	2.2 - 3/1
Mixture control unit, disassembling and assembling - modifications from April 1976	2.2 - 2/8 a
Thermovalve, removing and installing	2.2 - 3/2
Diverter valve, removing and installing	2.2 - 3/3

2.3	Fuel tank	
	Fuel tank plug with CIS filter, cleaning	2.3 - 1/1
	Fuel tank (80 liter), removing and installing - 1974 model	2.3 - 1/3
2.4	Fuel pump	
	Fuel pump, removing and installing - 1976 model	2.4 - 1/1
	Layout drawing of Check valves on fuel pumps	2.4 - 1/3
	Replacing check valve	2.4 - 1/4
2.5	Oxygen sensor	
	Oxygen sensor, removing and installing	2.5 - 1/1
	Oxygen sensor control unit, removing and installing	2.5 - 1/3
	Frequency valve for oxygen sensor, checking	2.5 - 1/4
	Throttle valve switch, checking and adjusting	2.5 - 1/5
	Removing and installing microswitch for acceleration enrichment of Oxygen Sensor control (from 1981 models)	2.5 - 1/7
	Correcting CO level setting on mixture control unit - (from 1981 models) with shear-off screw	2.5 - 1/8
3	ADJUSTMENT INSTRUCTIONS	
3.1	Adjustment instructions for fuel injection system	
	Fuel injection pump, adjusting with emission tester	3.1 - 1/1
	Idle, adjusting	3.1 - 1/2
	Microswitch, adjusting - 1972 model	3.1 - 1/4
3.2	CIS adjustment instructions	
	Idle, adjusting	3.2 - 1/1
	Full power position of throttle, adjusting	3.2 - 1/3
	Microswitch, adjusting	3.2 - 1/4
	Control pressure regulator (throttle valve position), checking and adjusting	3.2 - 1/5
	Hand throttle, adjusting	3.2 - 1/6
	Idle, adjusting - 1978 model	3.2 - 1/7
	Idle, adjusting - 1980 model	3.2 - 1/11
	Adjusting idle 911 SC - (from 1981 models)	3.2 - 1/14

FUEL INJECTION PUMP CHANGES - BEGINNING WITH 1972 MODELS

The 2,4 liter engines are equipped with changed injection pumps. The changes consist of a wider contoured cam and modified centrifugal weights and springs.

Pump designation (BOSCH number on data plate):

911 T = 0408 126015

911 E = 0408 126014

911 S = 0408 126013

CHANGES IN THROTTLE VALVE HOUSINGS AND INTAKE MANIFOLDS

Beginning with the 1972 models, throttle valve stops in the throttle valve housing are relocated to the lever side. The new levers require the use of modified protractors, special tool P 228 c.

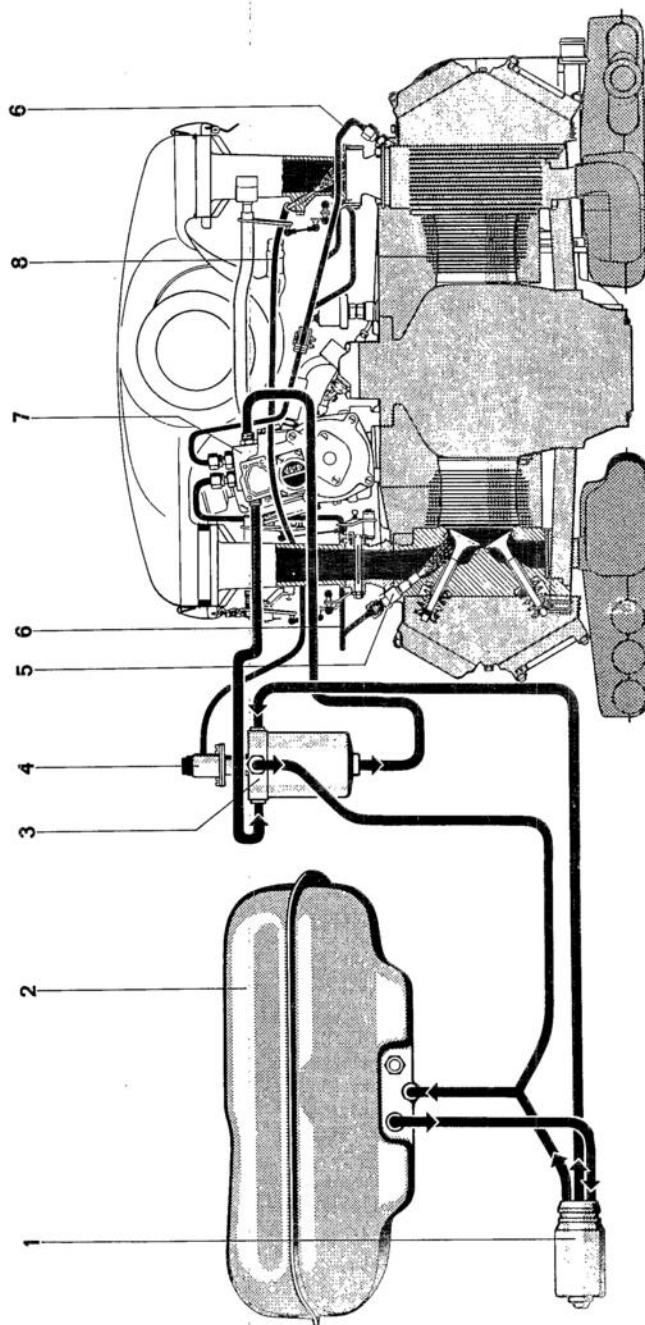
The protractor on the injection pump control lever has not been changed. The correlation checkout procedure remains same (see page SF 22).

The intake velocity stacks are made of plastic. They form a single unit together with the lower air assembly.

COLD START ENRICHMENT SYSTEM CHANGES

Fuel for cold start enrichment now is fed directly into each individual velocity stack. The discharge nozzles are bonded and can not be exchanged.

SCHEMATIC VIEW OF THE PORSCHE FUEL INJECTION SYSTEM



1 Fuel pump
2 Fuel tank
3 Fuel filter

4 Cold start enrichment solenoid
5 Injection valve(nozzle)
6 Injection line

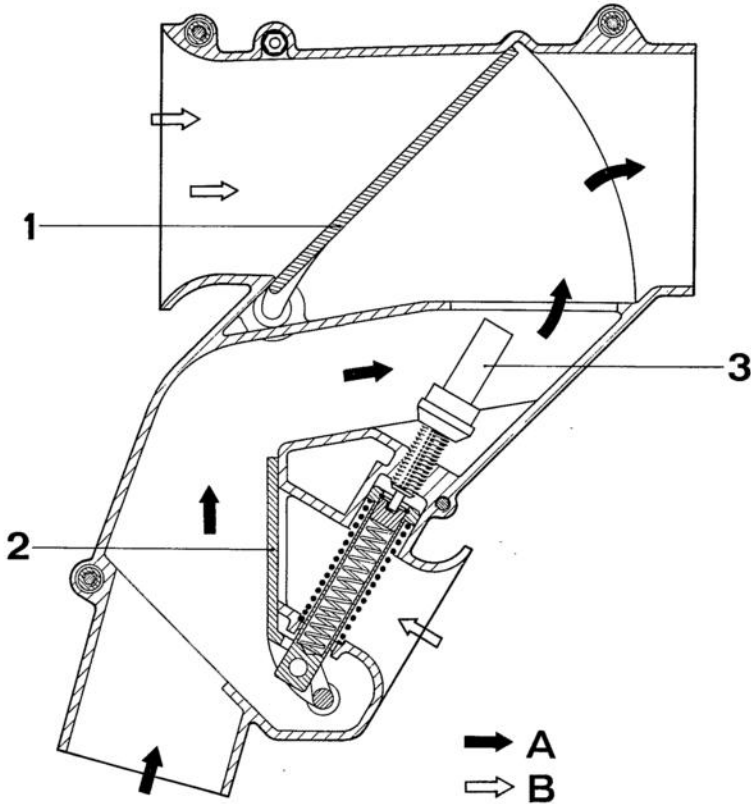
7 Injection pump
8 Cold start enrichment hose

INDUCTION AIR PREHEATING - BEGINNING WITH 1972 MODELS

General Information

Beginning with the 1972 models, all 2.4 liter fuel injection engines are equipped with an induction air preheating system.

Induction air preheating provides even induction air temperatures in lower engine speed ranges resulting in improved performance, as well as lower exhaust emission values.



1 = Fresh air flap

2 = Hot air flap

3 = Thermostat

A = Hot air

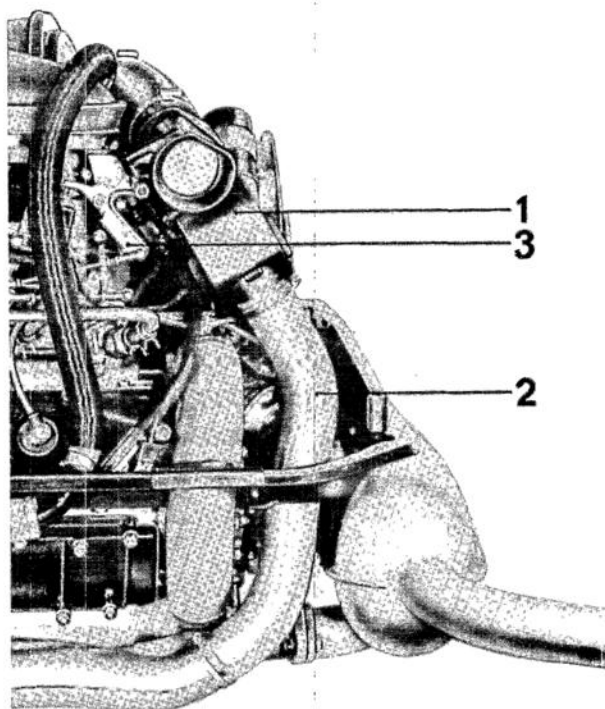
B = Fresh air

Design The induction air preheating system consists of:

1. A regulator housing which is attached to the left velocity stack by three 6 mm bolts. It contains two flaps and a thermostat.

One of the flaps (the fresh air flap) is controlled by the throttle linkage. The other flap (hot air flap) is controlled by the thermostat.

2. A hose which feeds heated air from the left heat exchange.
3. A cam on the left throttle valve lever which controls the fresh air flap.



- 1 Control box
- 2 Hot air supply duct
- 3 Control lever

Function A thermostat-controlled hot air flap maintains induction air temperature at 45°C (112°F). A second flap stops the flow of hot air from throttle valve position of about 20° and engine draws only fresh outside air at wide open throttle.

Engine started, cold (below 45°C (112°F))

Throttle at idle position (fresh air flap closed)

Hot air flap open, engine draws hot air from heat exchanger.

Engine cold (below 45°C (112°F)) - throttle in partial load position

Hot air flap open. It opens according to position of cam. Fresh outside air is added.

Fresh air flap is fully open in full throttle position.

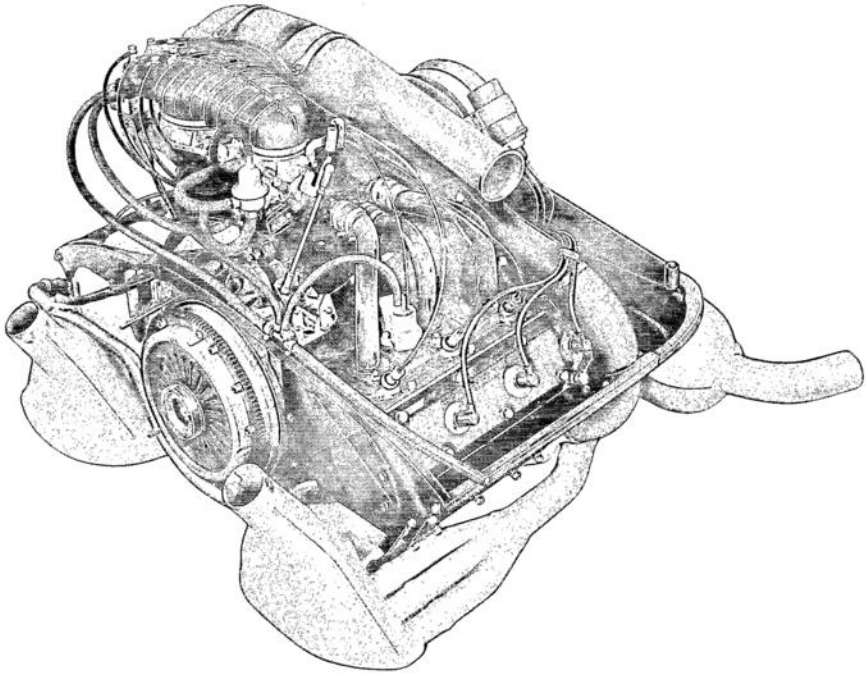
Air temperature rises to 45-50°C (112°F - 122°F)

Thermostat begins to close hot air flap at 45°C (112°F). It is fully closed at 50°C (122°F) and engine draws only fresh outside air.

A bypass duct, closed by the hot air flap when cold, feeds additional air with increasing temperatures.

CONTINUOUS INJECTION SYSTEM (CIS)

Beginning with the January 1973 production, Type 911 T vehicles are equipped with the continuous injection system (CIS).



The working principle of this system depends on measuring the intake air flow rate to determine the amount of fuel to be injected.

The fuel distributor determines the quantity of fuel to be delivered depending on air flow rate and engine loading conditions.

ENGINE CROSS SECTION

