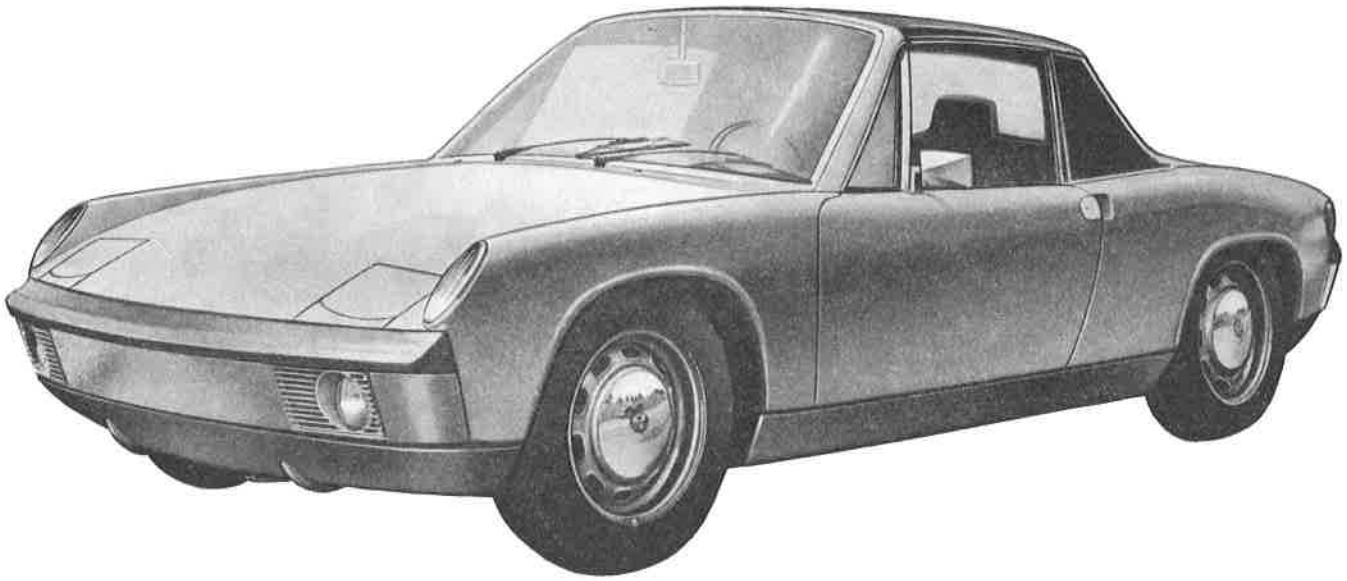
SERVICE INFORMATION

# 914
# MODEL 72

VW-PORSCHE

Porsche Service Information

914, Model 1972



## Introduction to 1972 Type 914 Models

The new exhaust emission control regulations have made a whole series of modifications necessary.

The engine and fuel injection system settings have been altered. Additional devices are incorporated to assist in still better exhaust emission control.

The interior equipment has been improved in various details.

In addition, adjustable fresh air outlets are installed separately to improve the air flow throughout the interior. This prevents the side windows from fogging over, regardless of the outside temperature.

A new steering column switch windshield wiper/washer lever and fingertip control replaces the previous rotary/push switch on the instrument panel.

Furthermore, the passenger seat can now be adjusted for forward movement and height.

Other modifications are described in this information booklet.

## Identification Plate for Porsche 914 Vehicles, Model Year 1972

| Model Key | | | | | | Model No. | Sales Type Description | Engine | | Transmission | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Type | Model | Version | Index | Engine | Transmission | | | Displacement (l) | Type No. | No. of gears | Type No. | Rims | Tires |
| 4 | 7 | 3 | 0 | 2 | 4 | 473 | 914 Roadster 5-speed transm. | 1,7 | 473/02 | 5 | 914/11 | 4 1/2x15 | 155x15 |
| 4 | 7 | 3 | 1 | 2 | 4 | 473 | 914 Roadster 5-speed transm. | 1,7 | 473/02 | 5 | 914/11 | 4 1/2x15 | 165x15 |

### Key to chassis numbering system 914

47 — Model series

22 — Last figure of model year
- 02 = 1970
- 12 = 1971
- 22 = 1972

900 001 — Sequence number

## LUBRICATION SCHEDULE

| at 600 miles | Service required | | then at and every ... miles 5 000 | 10 000 |
|---|---|---|---|---|
| ▬ | **Engine** | | | |
| | Engine oil: | Change. (Oil at operating temperature) | ▬ | |
| ▬ | Oil strainer: | Clean. | ▬ | |
| ▬ | Oil filter: | Replace. | ▬ | |
| | Air cleaner: | Clean lower part and refill with oil. | | ▬ |
| | 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 depends greatly on the amount of driving and on driving habits. Therefore, oil 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.

| at 600 miles | Maintenance required | | then at and every ... miles 5 000 | 10 000 |
|---|---|---|---|---|
| ▬ | **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: | Check | ▬ | |
| ▬ | 4. Valve adjustment: | Check | ▬ | |
| | 5. Compression and spark plugs: | Check | ▬ | |
| | 6. Ignition points and timing: | Check | ▬ | |
| | 7. Spark plugs and ignition points: | Replace | | ▬ |
| | 8. Fuel filter: | Replace | | ▬ |
| ▬ | 9. Clutch pedal free play: | Check | ▬ | |
| | 10. Exhaust: | Check for damage | ▬ | |
| | 11. Complete brake system (incl. wear and leaks): | Check | | ▬ |
| ▬ | 12. Reflectors and operation of lights: | Check | | ▬ |
| ▬ | 13. Horn, wipers and washer: | Check | | ▬ |
| ▬ | 14. 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.

## Modifications to Type 914, Model 1972

Modifications to the 914 vehicles are mainly concerned with adjustment of engine and fuel injection settings to suit the new exhaust emission regulations.
In addition, the interior equipment and certain individual controls have been modified.

A. Engine
- Modification to fuel injection system.
- Increase in overrun air supply (engine driven by road wheels when proceeding downhill).
- Engine wiring harness.
- Crankcase air supply and venting.
- Rerouting of hoses in engine compartment.
- Oil baffle plate, and subsequent installation.

B. Interior equipment
- Passenger seat.
- Ventilation and heating.
- Interior trim.

C. Steering
- Steering column switch.
- Steering column tube.

# Modifications to fuel injection system

## Summary

The following new components are incorporated in the fuel injection system:

1. Control units
2. Pressure sensor
3. Throttle valve switch
4. Increased overrun speed
5. Wiring harness

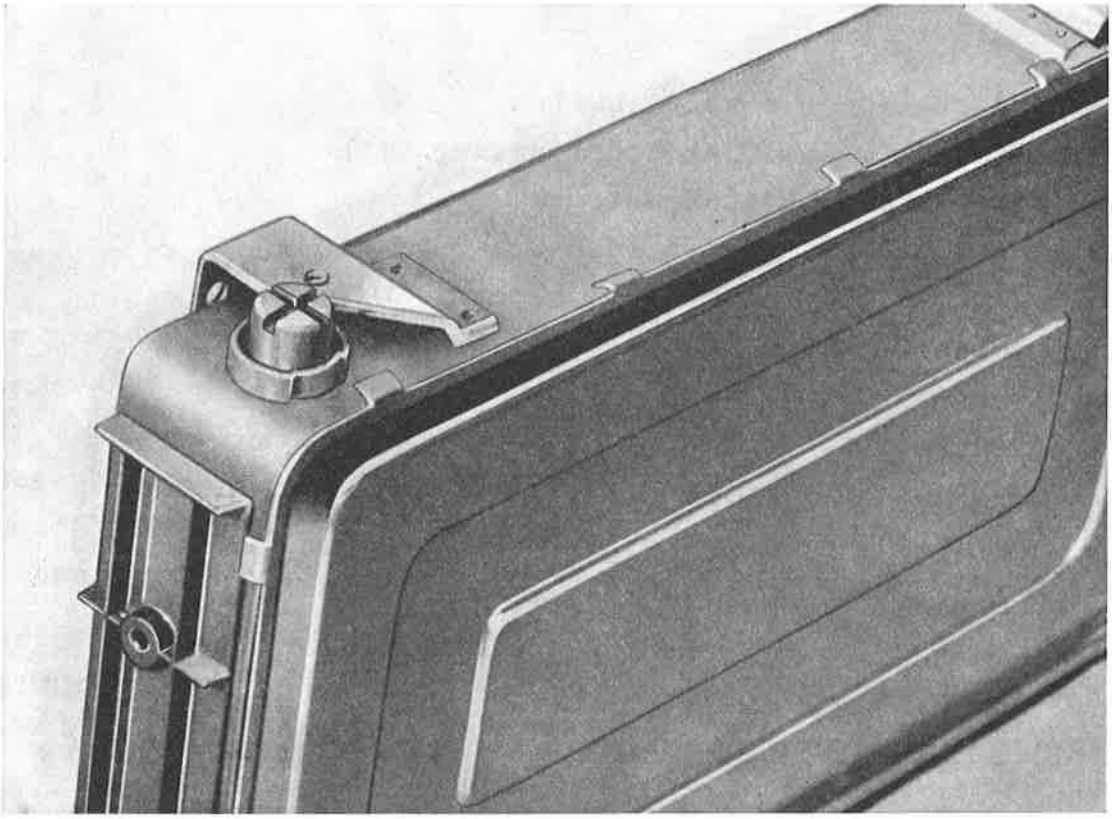
## Description

### 1. Control units

From August 1971, a new control unit will be supplied:

022 906 021 E (with brown label)

This control unit (022 906 021 E) contains an adjusting potentiometer. By turning the adjusting knob, the CO content of the exhaust gases can be varied.



Control unit with potentiometer

A protective cap is provided to prevent moisture from entering the control unit via the hole for the potentiometer shaft. The cap must be installed after the installation of the control unit.

## Notes on adjusting exhaust emissions with CO analyzer

Warning

The nominal value can only be measured with a CO analyzer working on the infra-red principle!

## Work sequence

1. Set the ignition timing
2. Adjust valve clearances

Proceed as follows:

1. Initial check: connect tester EFWA 193 with adaptor or EFAW 238 (but do not plug in the control unit).
2. Switch on the ignition.
3. Select "throttle valve switch I" on the tester or adaptor.
4. Slowly open the throttle valve switch. The needle of the ohmmeter should fluctuate ten times between zero and infinity.
5. Repeat the test with the tester or adaptor set to "throttle valve switch II".

If less than 10 movements of the needle occur during procedure 4 or 5, the throttle valve switch must be adjusted. It is best to remove the intake manifold for this purpose.

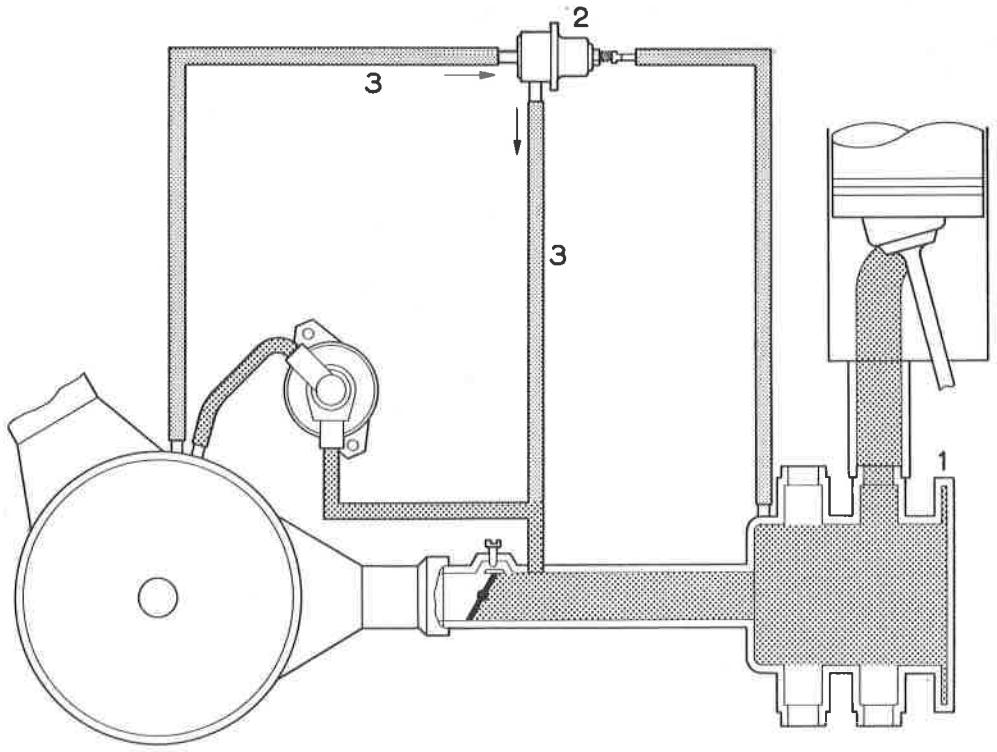
1. Loosen screws holding the throttle valve switch (arrows A).
2. Close the throttle.
3. Carefully turn the throttle valve switch in the direction of the arrow (B) as far as the stop, then re-tighten the holding screws.
4. Re-install the intake manifold.

## Increased overrun air supply

The type 914/4 is now provided with a device to supply additional air for combustion on the overrun at high engine speeds. At high engine speeds with the throttle closed (on the overrun when driving downhill), the proportion of air in the fuel/air mixture is too low. To keep the CO content of the exhaust low in this operating condition also, an additional line is used to convey air to the intake air distributor.

## Operation

At high engine speeds and with the throttle closed (overrun condition) pressure in the intake air distributor (1) is low in relation to atmospheric pressure. In this pressure condition the pneumatic valve (2) will open, so that air can pass via hoses (3) from the air cleaner to the intake air distributor. The fuel/air mixture is thus lean out with the additional air.



Checking

1. Pull off the hose between valve and air cleaner at the air cleaner end.

2. Start the engine and increase speed briefly to approx. 3000 RPM. Quickly close the throttle.

3. Check that air is being drawn into the hose (at the end removed from the air cleaner). If no suction effect is detected, replace the valve.

Wiring harness

Because of the various new components now being used, the wiring system of the vehicle has been modified.

New spare part number: 022 971 761 F.

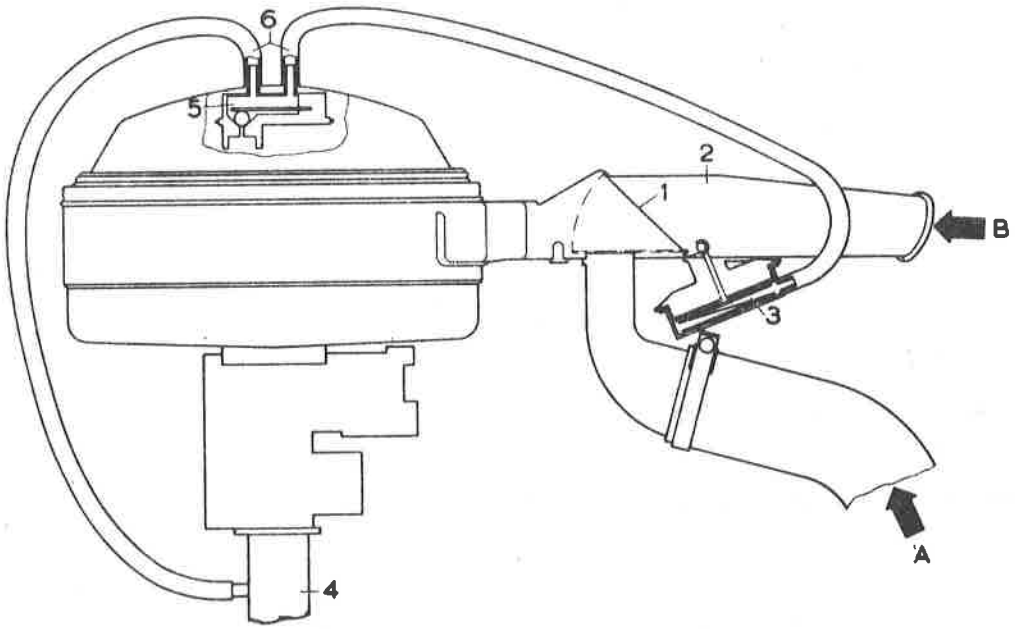
The earlier type of the wiring harness is still available.

## Temperature and load dependent intake air pre-heating

Commencing with the 1972 models the intake air will not only be dependent on temperature but also on load.

A vacuum box (3) is incorporated in the air intake scoop (2), with a diaphragm and lever operating the regulating flap (1).

The vacuum box is connected by hoses (6) to the intake manifold (4) by a ventilating valve (5) which is regulated thermostatically.

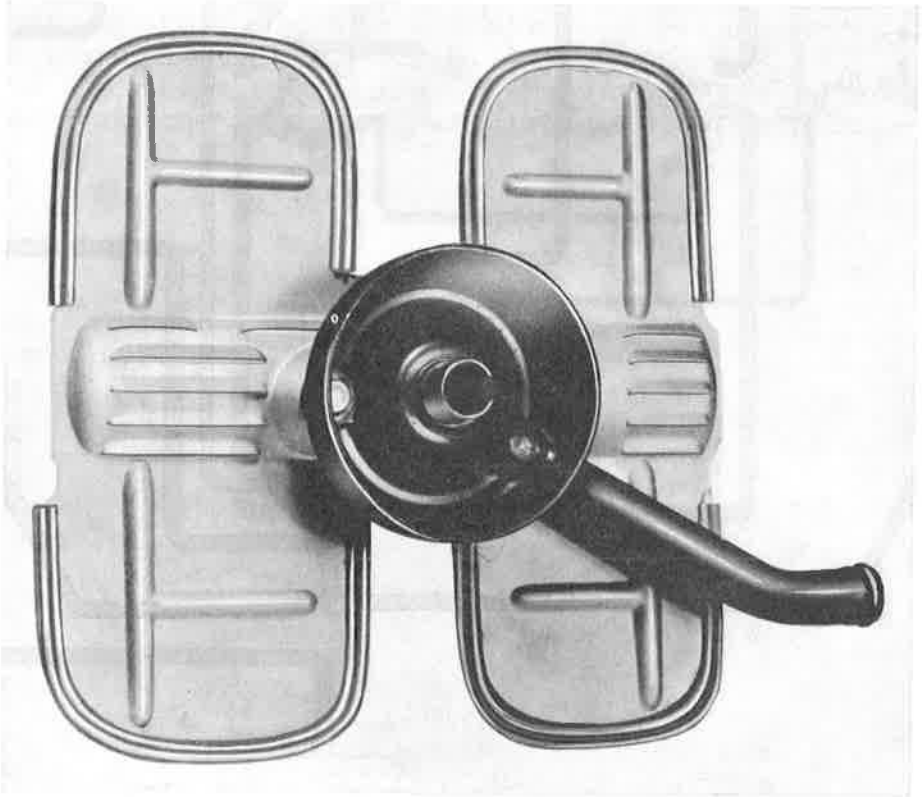


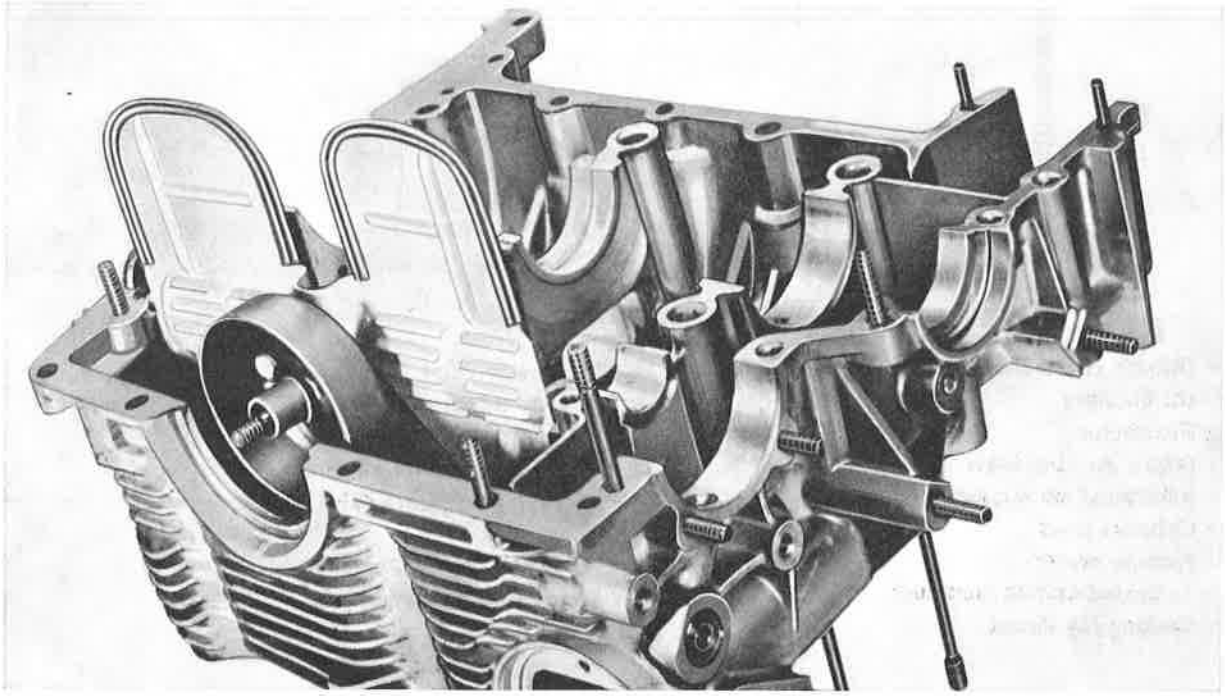

Function

1) Load dependent control:
If the throttle flap is closed or only slightly open, with the engine running, the high vacuum moves the diaphragm and releases the hot air supply (A) via the regulating flap. If the vacuum drops when accelerating, the diaphragm adjusts the regulating flap that the hot air portion of the intake air decreases until the engine, under full acceleration, finally receives cold air only (B).

## Oil baffle plate

The engine is now provided with an oil baffle plate, part number 022 101 553. This ensures that even when cornering very sharply the oil intake pipe remains submerged in the oil. To increase the efficiency of the baffle plate and prevent noise and vibration, the edge is surrounded by a shaped seal, part number 022 101 559. The baffle plate is screwed to the oil intake pipe with a M 6 screw.



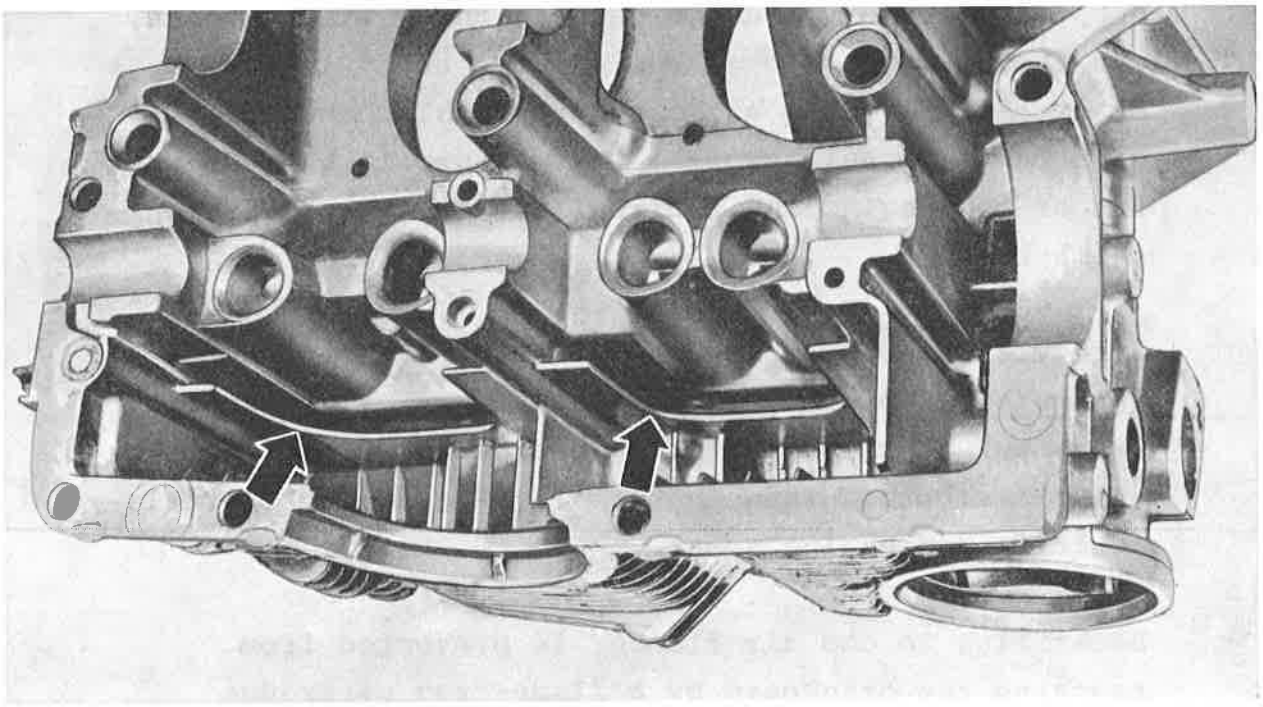


Installing instructions

To simplify assembly, the shaped seal can be attached to the oil baffle plate with a silicone adhesive.

Subsequent installation

Subsequent installation is possible in engines from engine number W O 074 387, in conjunction with the new oil intake pipe. From this engine number on, the crankcase is provided with a circumferential retaining rib.



## Crankcase air supply and venting

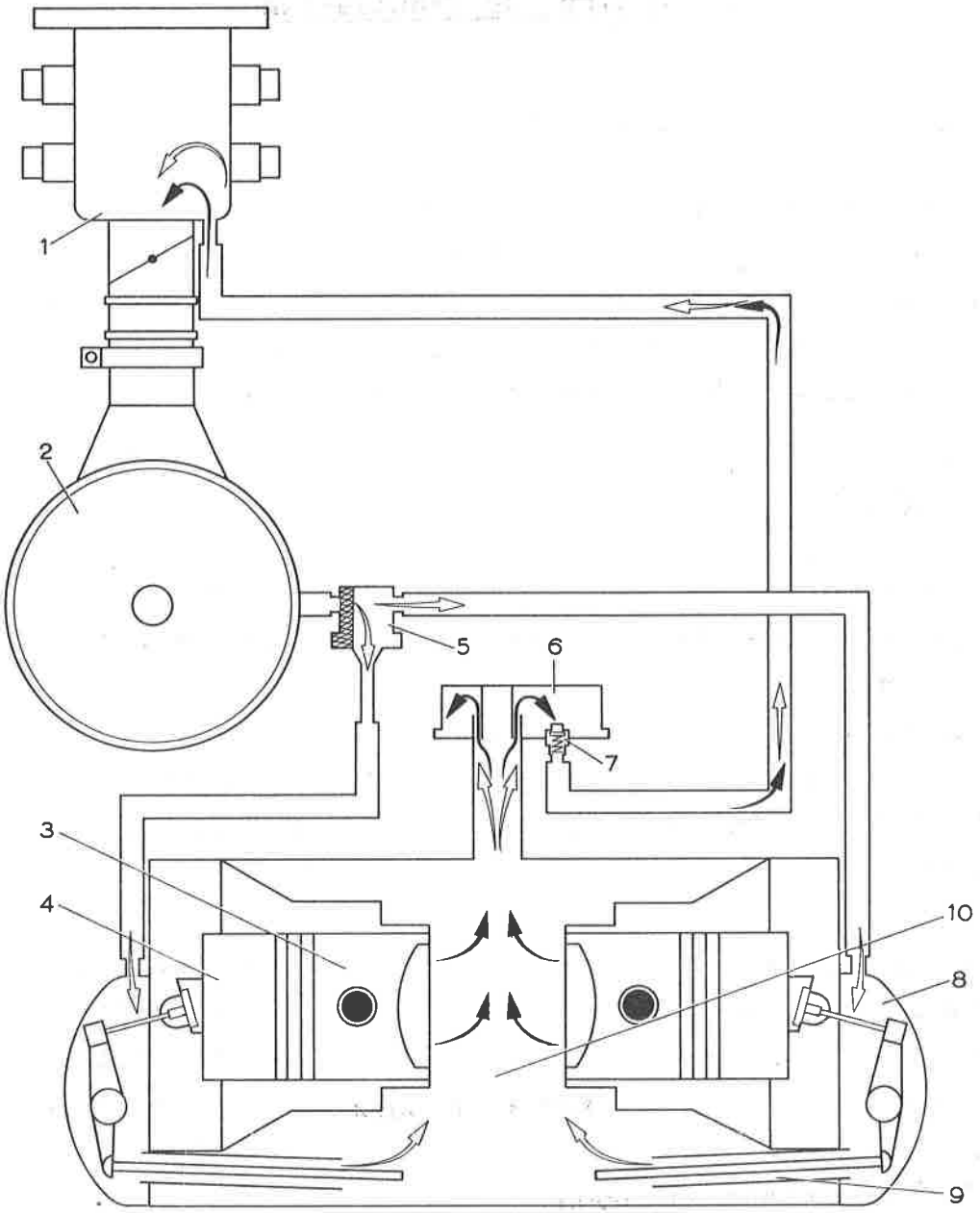
On 1700 cc. fuel injection engines, crankcase breathing has been increased by arranging for a supply of fresh air from the air cleaner. This prevents condensation build-up in the crankcase and icing up of the breather lines at low outside temperatures.

## Description

Air taken from the air cleaner (white arrows) is supplied to the valve chambers in the cylinder heads, and then passes through the pushrod tubes to the crankcase. Here the air mixes residual combustion fumes (black arrows). The mixture is then drawn out of the engine and recirculated to the combustion chamber.

A regulating valve between the oil breather and the intake air distributor controls the quantity of air drawn out in relation to the depression in the intake air distributor. This in turn is affected by throttle position and engine speed.

Backfiring in the air cleaner is prevented from reaching the crankcase by a flame-trap cartridge installed in the line from the air cleaner.

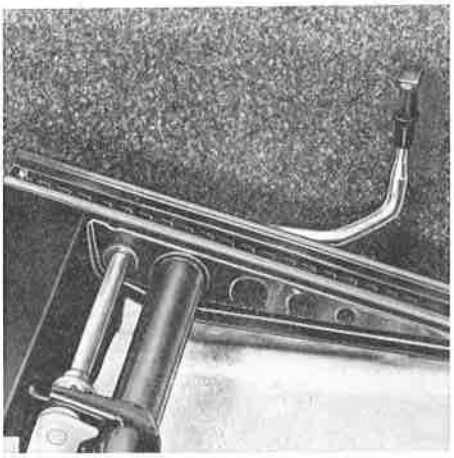



1 - Intake air distributor
2 - Air cleaner
3 - Piston
4 - Combustion chamber
5 - Branch pipe with flame trap
6 - Oil breather
7 - Regulating valve
8 - Valve chamber in head
9 - Pushrod tube
10 - Crankcase

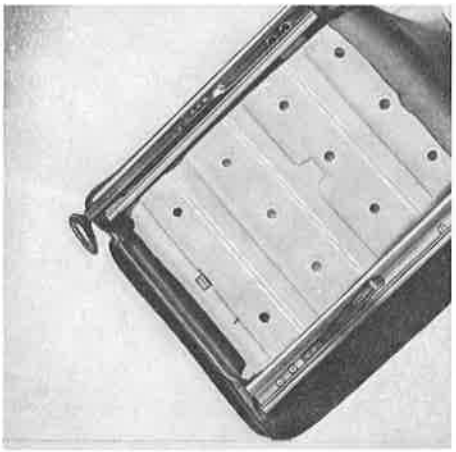
Subsequent installation on earlier engines is not anticipated. Existing components remain available.

## Interior equipment

### Passenger seat



**A** major modification on 1972 models concerns the passenger seat. From model 1972 the seat is equipped with forward movement and height adjustments.



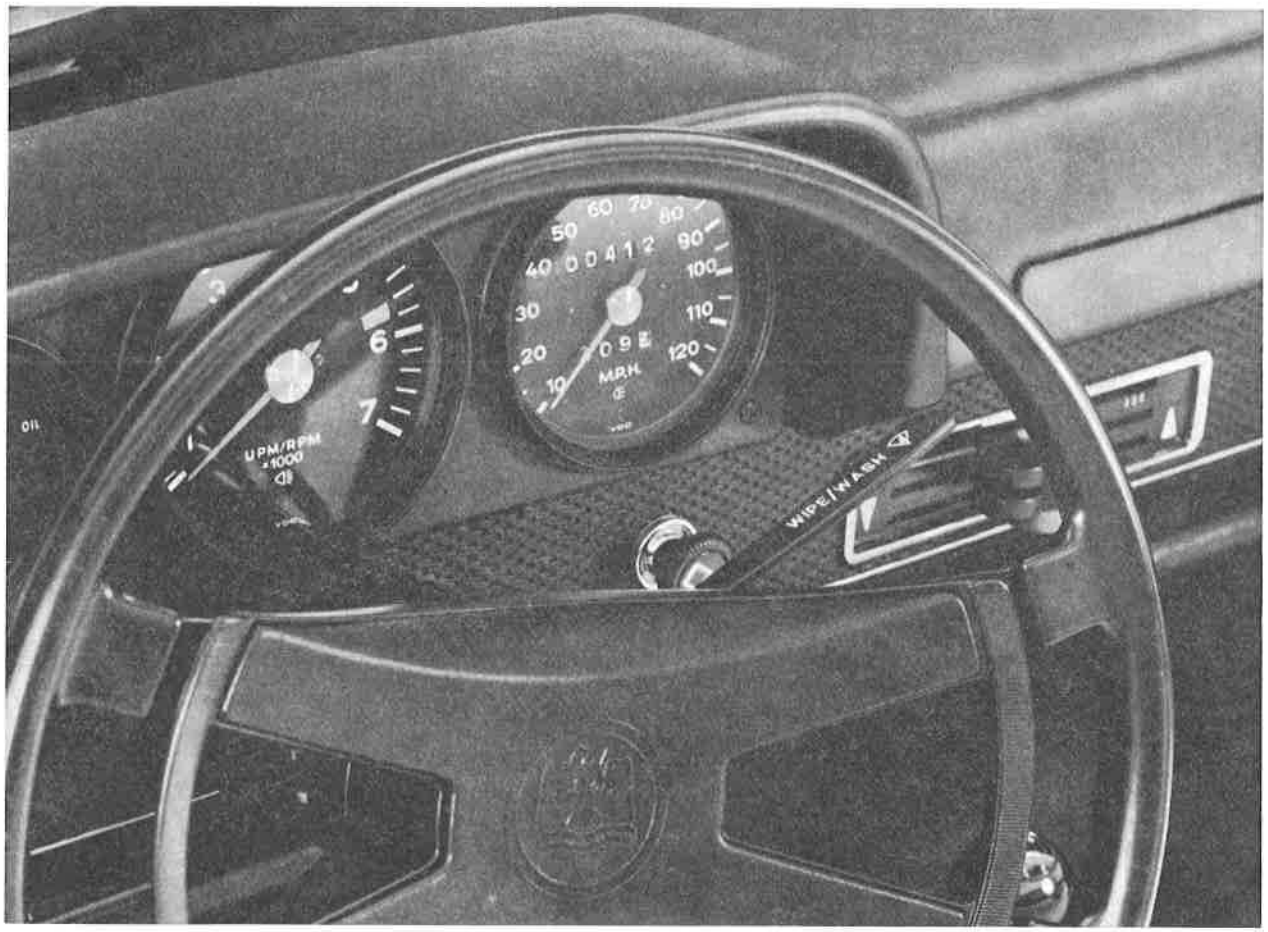
The passenger seat is now a mirror-image version of the existing driver's seat.

The forward adjustment lever on both seats has now been extended upward to simplify operation.

## Steering

### Steering column switch

From the 1972 model, a new standardized steering column switch will be installed. The new switch assembly incorporates turn indicator and headlight dimmer functions together with operation of the wipers and washers. The previous turn/push switch for the wipers and washers is no longer used.
The washer unit continues to be pneumatically operated.



On the type 914, the steering column tube and upper universal joint were previously a single component.

From the 1972 model, in conjunction with the new steering column switch, modifications have become necessary to the steering column.
The following components are affected:

Steering column tube (now available separately), part number 914.347.061.18.
Universal joint (now separate, previously the same component was installed between the intermediate shaft and the steering shaft), part number 914.347.025.01.
Intermediate shaft (0.22 in. longer than previously), part number 914.347.214.02.