

## **RS4** - thoroughbred sports characteristics combined with everyday functionality

With the Audi RS4, quattro GmbH, a fully owned subsidiary of Audi AG, has independently designed its first complete vehicle, which it has developed in cooperation with Audi AG.

The RS4, which like its predecessor, the RS2, is produced exclusively as an Avant, is the absolute top-of-the-range model in the A4 class.

Based on the Audi S4, a high-performance vehicle has been created which is designed for an uncompromising sports appeal both in technical and visual terms.

The Audi RS4 impresses by virtue of its superior performance, and radiates individuality and exclusiveness thanks to the well co-ordinated high-quality materials in the vehicle interior.



This self-study programme describes the special features of the Audi RS4 only. Basic information is provided in SSP 198, which describes the Audi S4 in detail.



## Body

The Audi RS4 .....	4
Side sills .....	6
Front end .....	8
Rear spoiler .....	10

<b>Brief summary .....</b>	<b>11</b>
----------------------------	-----------

## Engine and gearbox

Engine - RS4 .....	12
Crankcase/crank assembly .....	14
Cylinder head .....	14
Piston/conrod .....	16
Engine cooling system .....	18
Injection system .....	22
Fuel system .....	23
Secondary air system .....	24
Engine management .....	25
Air cleaner with additional air valve .....	26
Intake air change-over valve .....	27
Charge air cooler .....	28
Gearbox .....	31

## Running gear

Front axle .....	32
Rear axle .....	34

<b>Air conditioner .....</b>	<b>35</b>
------------------------------	-----------

<b>Technical data .....</b>	<b>36</b>
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New

Important:  
Note



The self-study programme will provide you with information on design and functions.

**The self-study programme is not intended as a workshop manual.**

For maintenance and repair operations it is essential that you refer to the current technical literature.



## The Audi RS4

All the outer contour details of the Audi RS4 have been modified in the front, side and rear sections.

This results in an enhanced overall visual impression.

With all the aerodynamic modifications, a drag coefficient of  $C_d = 0.34$  has been achieved.

The front end of the RS4 is characterised by three large air inlet apertures:

- the central one is for the radiator and oil coolers and those
- on the left and right are for the charge air coolers.

The honeycomb trim grilles in the front bumpers, which serve to cover the intake apertures for the charge air coolers, are also used in the lower rear panel.

Here, however, they play a more decorative role and serve no functional purpose.

The front and rear wings required widening by approx. 35 mm due to the modified running gear with the new 18 inch wheels.



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SSP245\_009



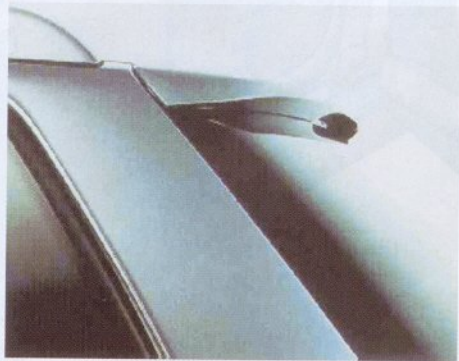
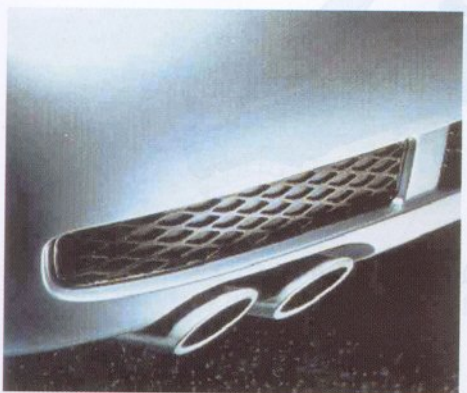
The standard components such as roof rail, roof joint strip, front/rear door-channel strip, side window trim strip, radiator grille frame and exterior mirror are in the aluminium look.

The RS4 logo on the radiator grille, tailgate and sill mouldings is discreet.

The dual oval exhaust tailpipes are integral with the lower rear panel, the design of which is adapted to the front end.

The rear spoiler rounds off the sporty appearance of the Audi RS4.

Optimum guidance of the cooling air from the charge air coolers is ensured via lateral gill-like apertures on the front bumper spoiler and by the slits in the wheel housing liners.



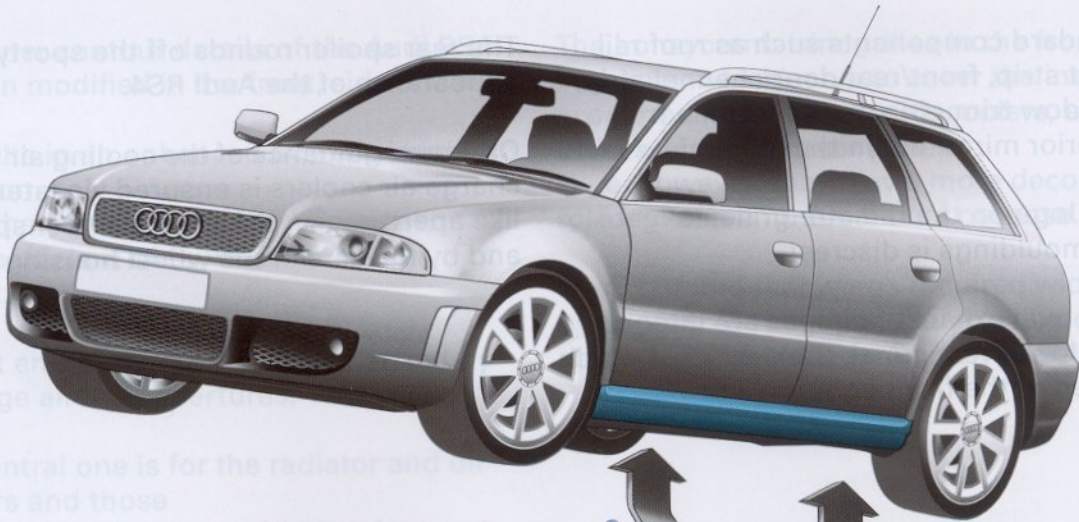
Front fastening points for sill panel trim

SSP245\_084

# Body



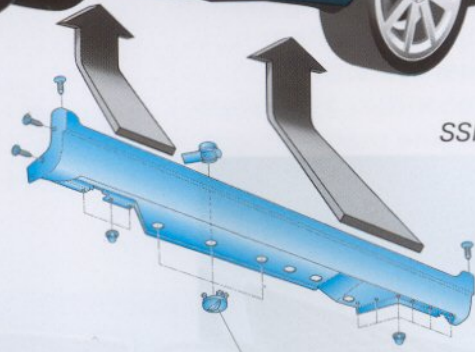
## Side sills RS4



The lower part of the plastic sill is fastened to the longitudinal member by means of plastic quick-release clips.

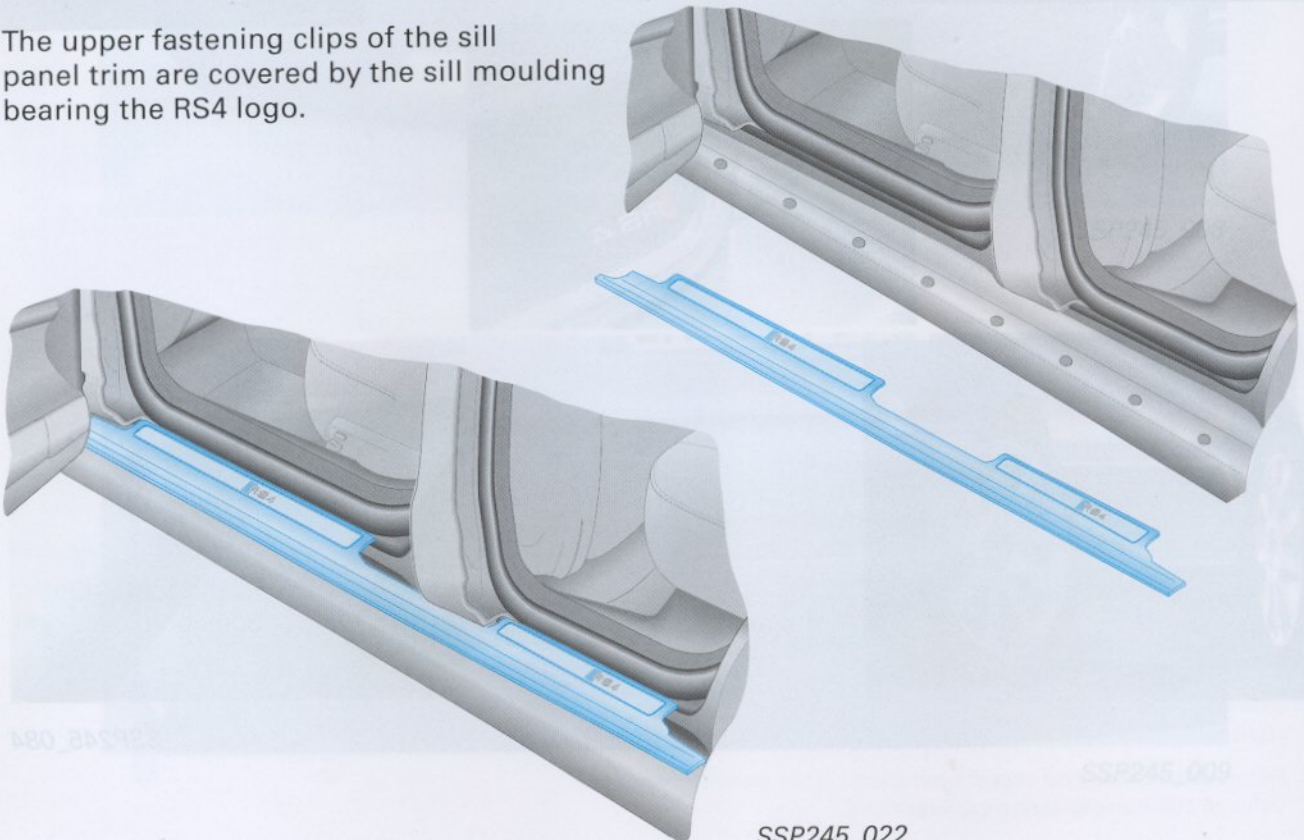
The use of a new side door sill (the current trim, impact-protection and stone-impact strips are discontinued) emphasises the sporty character of the vehicle. It serves the same function as the standard stone-impact strip otherwise fitted to the Audi A4 as standard.

The upper fastening clips of the sill panel trim are covered by the sill moulding bearing the RS4 logo.



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Quick-release clip



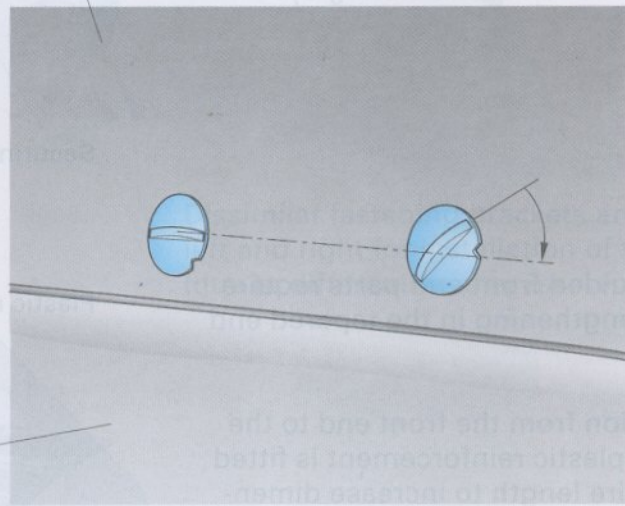
SSP245\_022



The quick-release clips are inserted in the recesses provided in the lower section of the side sill.  
 When turned  $1/4$ , the clips lock into the longitudinal member.

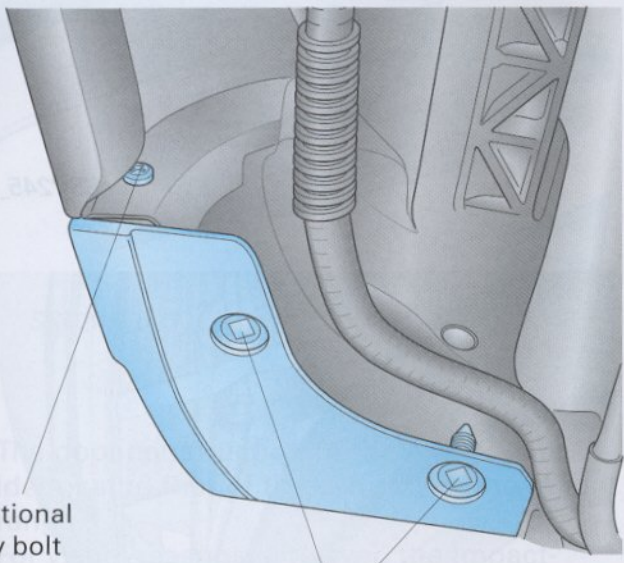
Insert quick-release clip and turn in the direction of travel

Moulded sill



Longitudinal member

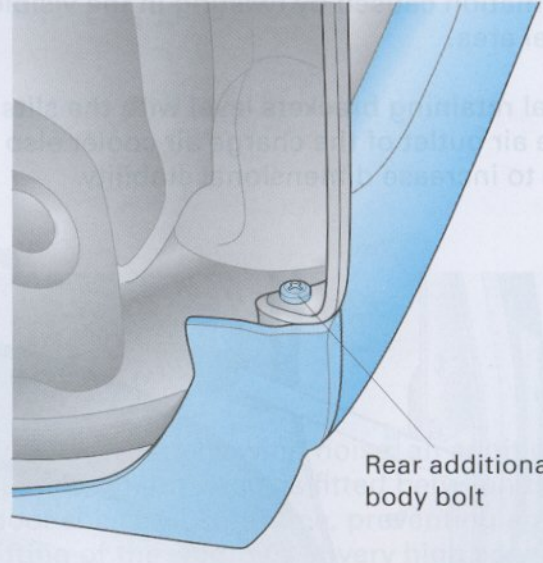
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Additional body bolt

Front fastening points for sill panel trim

SSP245\_020



Rear additional body bolt

SSP245\_021

# Body



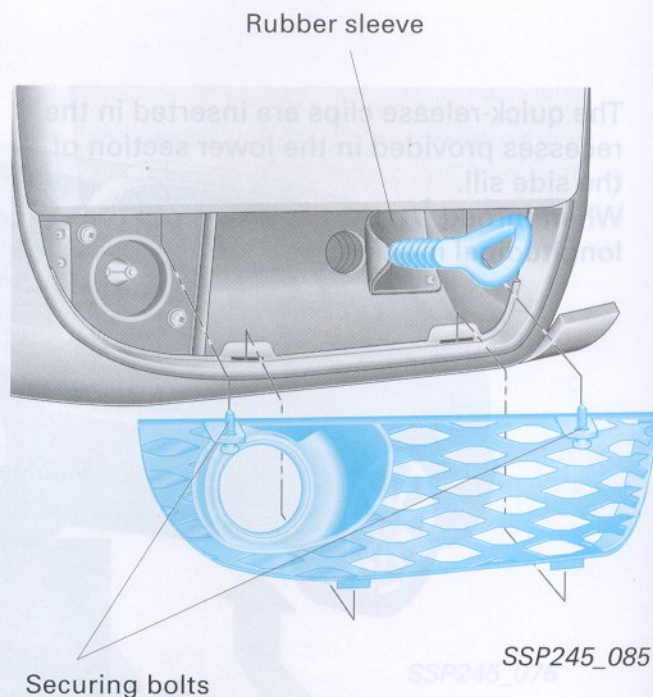
## Front end

The fog lights are fitted in the outer trims of the front air inlet apertures.

To access the thread of the front towing eye, both securing bolts for the trim grille must be removed and the rubber covering raised.

The thread of the front towing eye is covered with a rubber sleeve in order to optimise the air flow to the charge air cooler.

The covering must be folded upwards at an angle for installation of the towing eye.

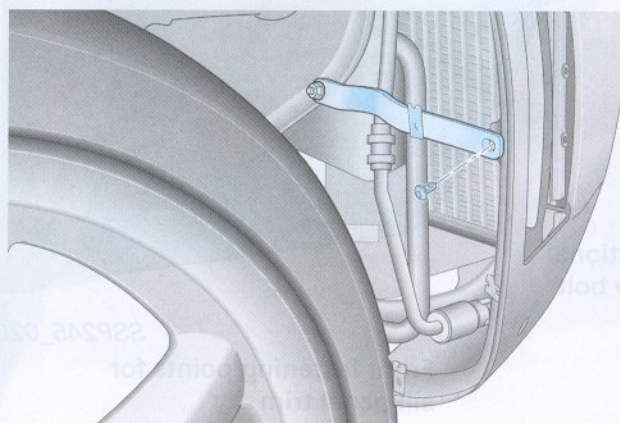
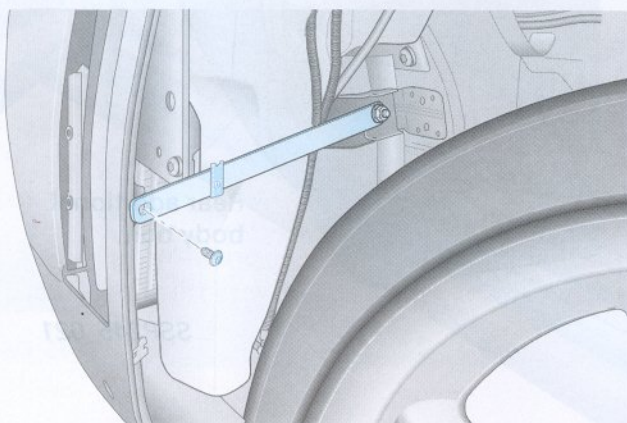
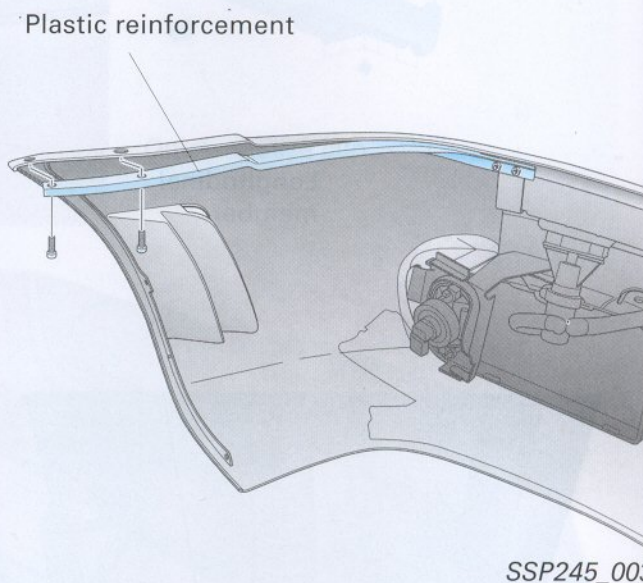


The large moulded front-end parts require adequate strengthening in the tapered end sections.

At the transition from the front end to the front wing, a plastic reinforcement is fitted along the entire length to increase dimensional stability.

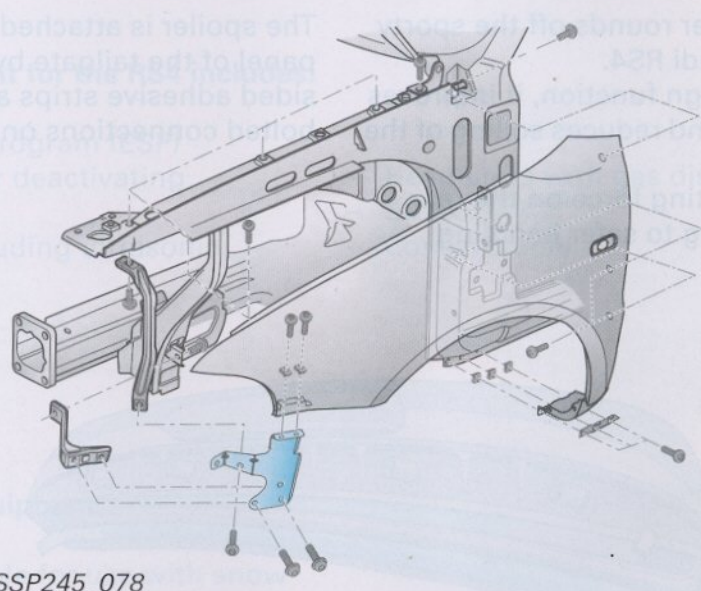
This prevents inconsistent gap widths between the moulded parts and contour deformation caused by twisting in the visible frontal area.

Lateral retaining brackets level with the slits of the air outlet of the charge air cooler also serve to increase dimensional stability.



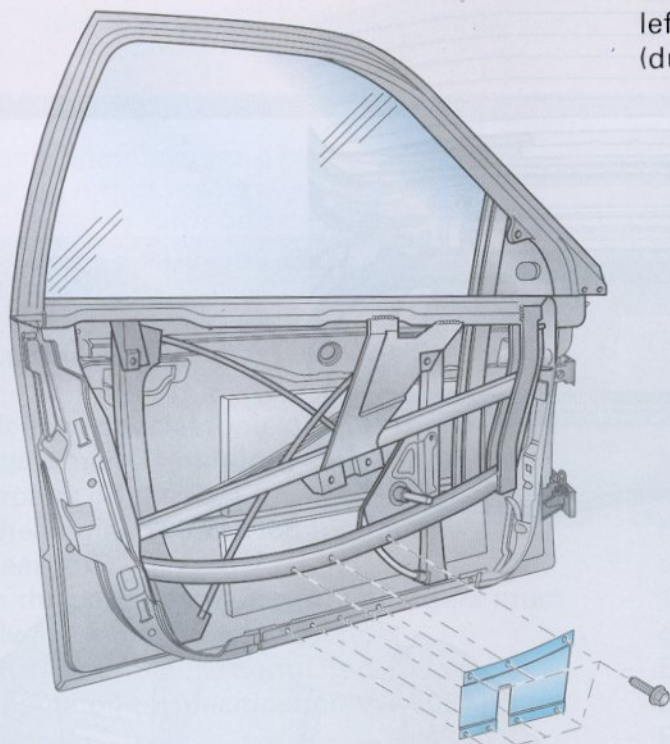


Rear spoiler



SSP245\_078

Dissimilar fastening brackets are used on the left and right for installation of the front wings (due to different washer reservoir versions).



SSP245\_077

The door construction of the Audi RS4 is identical to that of the vehicles in the model range.  
 For visual reasons, however, the impact-protection and stone-impact strips have been dispensed with (covered by sill).

To further reduce wind noise, an additional reinforcement panel is fitted between the door shell and subframe, preventing any lifting of the windows at very high speeds.

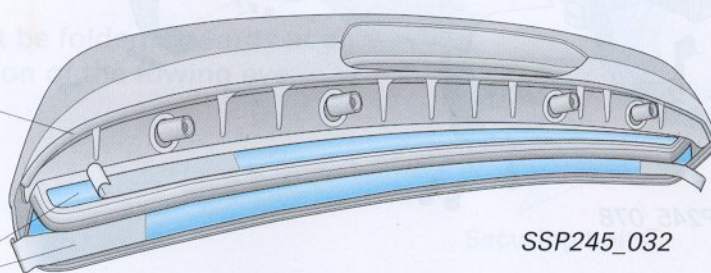


## Rear spoiler

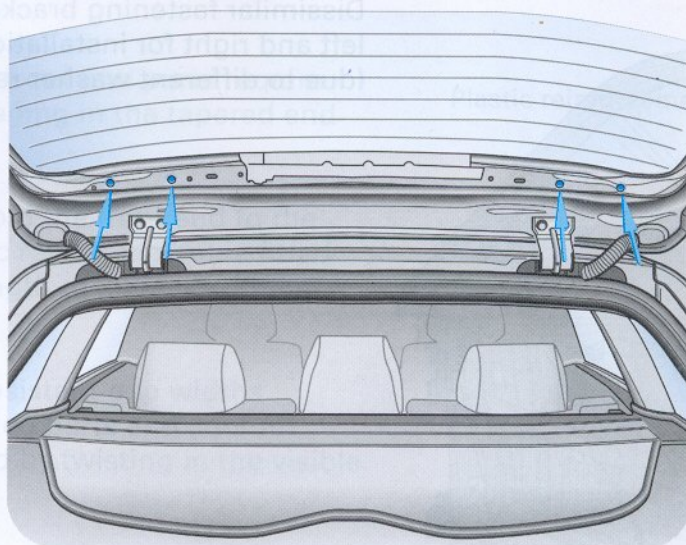
The plastic rear spoiler rounds off the sporty appearance of the Audi RS4. In addition to its design function, it improves the drag coefficient and reduces soiling of the rear window. It also reduces the lifting force on the rear axle, thus contributing to safer handling characteristics.

The spoiler is attached to the outer body panel of the tailgate by means of two double-sided adhesive strips and is fastened via bolted connections on the right and left.

Foam seals

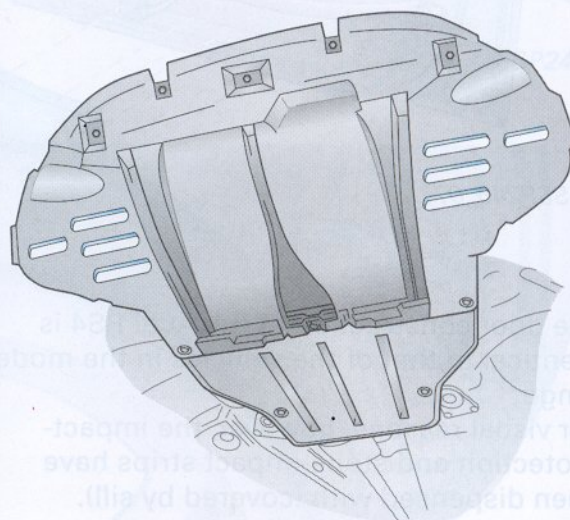


Adhesive strip



## Engine compartment noise insulation

Additional cooling air is guided into the engine compartment via ventilation slits in the engine compartment noise insulation on the right and left sides.



## The standard equipment for the RS4 includes:

- Electronic Stability Program (ESP)
- Airbag key switch for deactivating passenger's airbag
- Anti-theft alarm including ultrasonic interior monitoring
- Headlights with gas discharge bulbs
- SIDEGUARD®
- Concert radio

## Available as special equipment:

- Winter wheels suitable for use with snow chains (4 aluminium 7.5 J x 18 wheels with 225/40 R18 92V tyres)

## Repair measures:

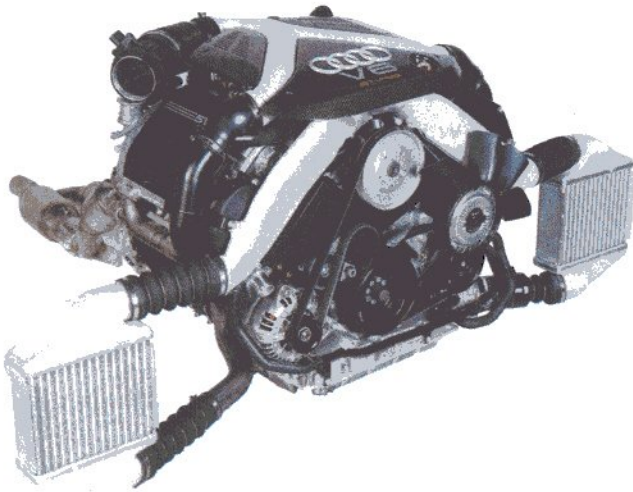
- No new special tools or workshop equipment is required for performing repairs on the RS4.
- The engine is removed together with the gearbox.
- In the case of a fault, turbochargers must always be replaced in pairs.
- The Audi RS4 has LongLife Service. Engine oil to specification VW 50301 must be used.
- The spark plugs must be replaced every 30,000 km (see current inspection service schedule).
- At 60,000 km service intervals, the toothed belt, tensioning roller, guide roller and tensioning lever for the camshaft drive must be replaced (see current inspection service schedule).
- The Audi RS4 is equipped with a third-generation immobiliser.
- Engines with the code ASJ comply with the EU 2 standard.
- Engines with the code AZR comply with the EU 3 standard. The technical data is identical for both engines.



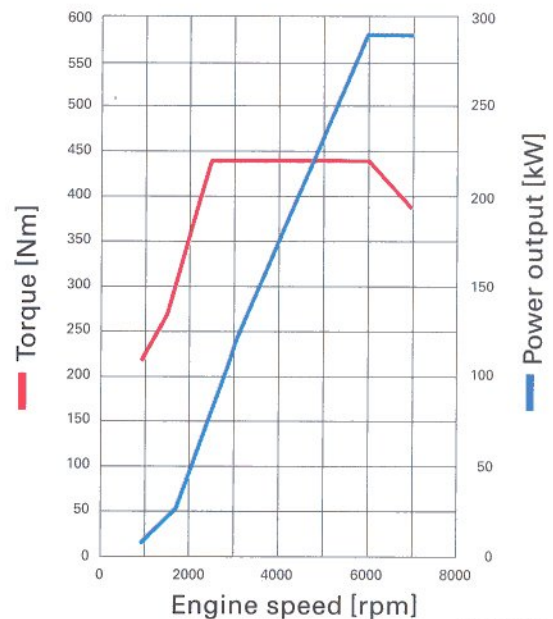
# Engine and gearbox

## Engine - RS4

2.7 l - Biturbo (280 kW)



SSP245\_025



SSP245\_011

### Technical data

Engine code:	<b>ASJ/AZR</b>
Design:	V6 engine with 90° V angle and dual turbo-charging (performance-optimised)
Capacity:	2671 cm <sup>3</sup>
Power output:	280 kW (380 PS) at 6100 rpm
Torque:	440 Nm at 2500 - 6000 rpm
Bore:	81.00 mm
Stroke:	86.40 mm
Compression ratio:	9.0 : 1
Firing order:	1 - 4 - 3 - 6 - 2 - 5

Mixture preparation: Motronic ME 7.1 with electronic throttle

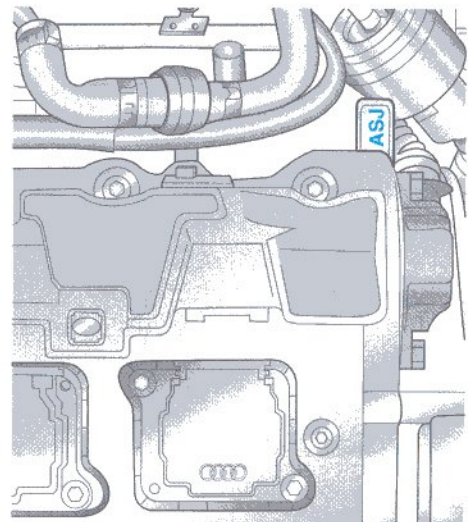
Exhaust emissions control: two primary catalytic converters near to the engine, two underfloor main catalytic converters, cylinder-bank selective lambda probe controls with two heated lambda probes, secondary air system

Emission standard: EU 2, as of CW 45/00, EU 3

Fuel: Unleaded super plus, RON 98; use of RON 95 results in a loss of power

For engine speeds of 2500 rpm to 6000 rpm, a constant torque of 440 Nm is available. The sharply rising power curve peaks at 6100 rpm and remains at this high level up to 7000 rpm. Despite this high performance, the Audi RS4 runs extremely smoothly.


The engine code is located on the flat surface of the cylinder block, right front cylinder bank (see workshop manual).



SSP245\_014

The two engine codes for the Audi RS4 are used for an engine of the same design, but with different exhaust emission characteristics.

Both engine versions are equipped with lambda probes both upstream and downstream of the catalytic converter for each cylinder bank. The lambda control downstream of the catalytic converter and the secondary air system are active both in version ASJ (EU 2) and AZR (EU3). Additionally, the EOBD (Euro On-Board Diagnosis) is fitted in vehicles with engine code AZR.

 The lambda control is described in SSP 247.

In the case of vehicles with AZR engine, the engine control unit detects faults that result in a deterioration of exhaust emissions and are indicated to the driver by continuous illumination of exhaust gas warning lamp K83.


If the engine control unit detects misfires that could damage the catalytic converters, the exhaust gas warning lamp flashes.

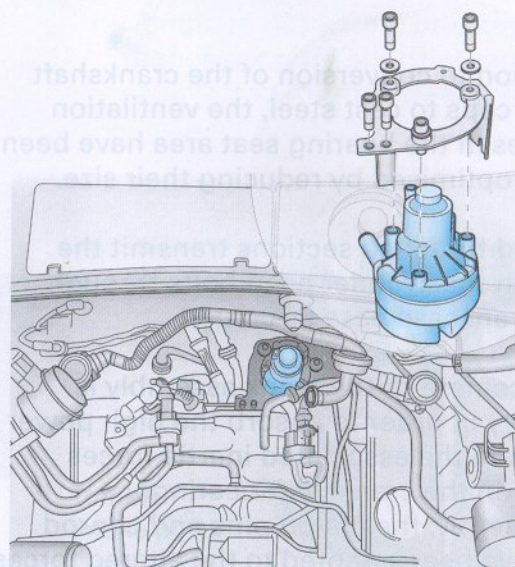
The fault warning lamp is also referred to as a "MIL" (Multifunction Indicator Light).

## Engine encapsulation

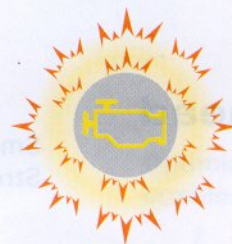
Virtually unlimited power and torque is available under the newly designed three-piece carbon-fibre engine cover. The styling and improved noise insulation are ideally combined.

With identical engine features, the ASJ engines comply with the EU 2 emission standard and the AZR engines, installed as of calendar week 45 with the EU 3 standard.

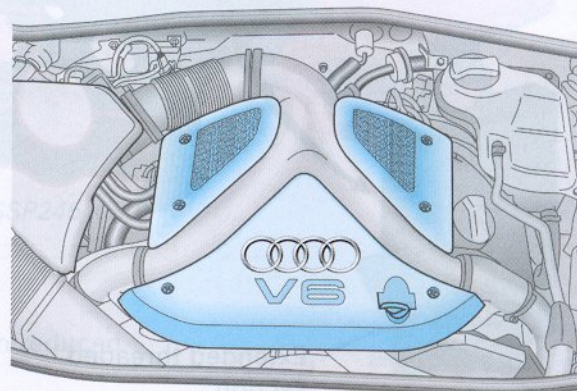
 The coding of the engine control units is different (see workshop manual).



SSP245\_075



Exhaust gas warning lamp



SSP245\_017

# Engine and gearbox

## Engine - RS4

### Crankcase/crank assembly

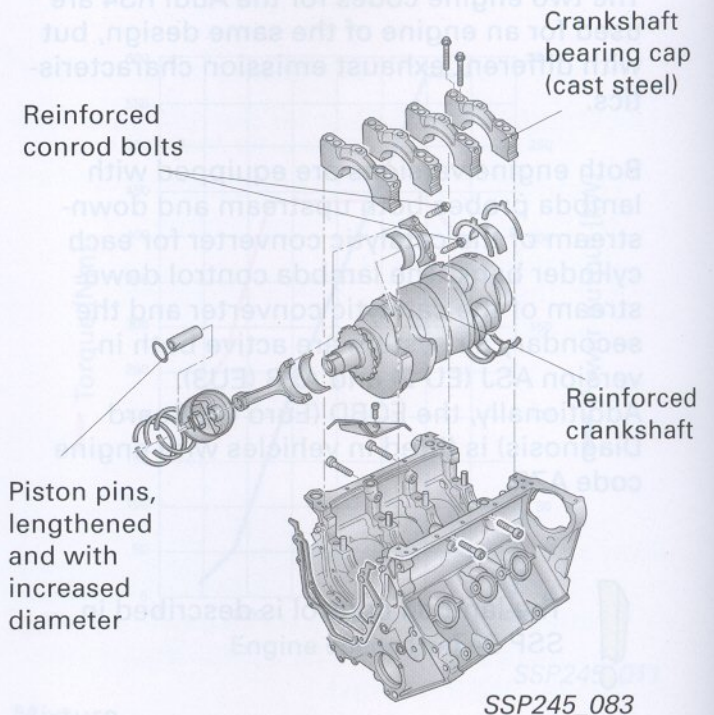
Owing to the increased output and the resulting markedly increased peak pressures up to 115 bar and the maximum engine speed, increased to 7200 rpm, the loads in the basic drive unit are increased significantly.

The strength of the cast iron crankcase has been optimised in the areas subjected to high loads.

In addition to conversion of the crankshaft bearing caps to cast steel, the ventilation apertures in the bearing seat area have been tension-optimised by reducing their size.

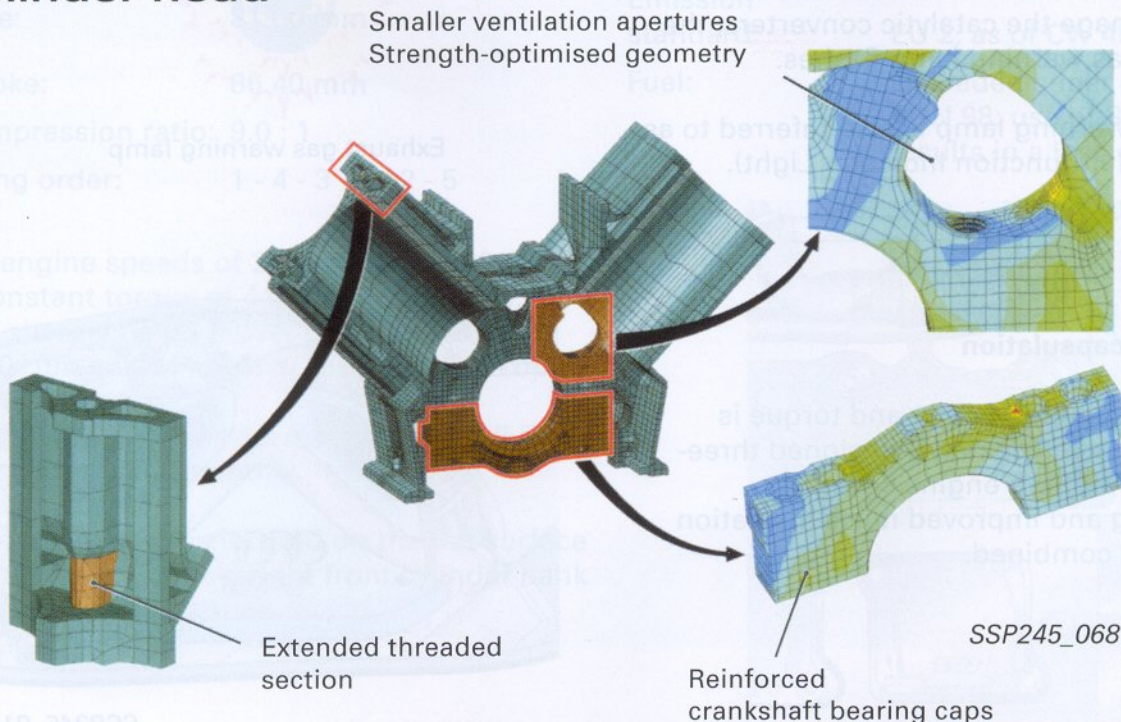
Extended threaded sections transmit the forces on the cylinder head bolts through to the crankcase base structure.

Reinforcement of the crank assembly is necessary in order to absorb the high power output and the associated inertia forces exerted on the crankshaft bearings. Consequently, the piston pins and conrod bolts have been adapted to the altered forces exerted on the crank assembly.



Change of crankshaft material to a steel with a 10 % higher load capability represents a further strengthening measure.

### Cylinder head



The cylinder heads have been adapted for greater loads both in terms of material and design.

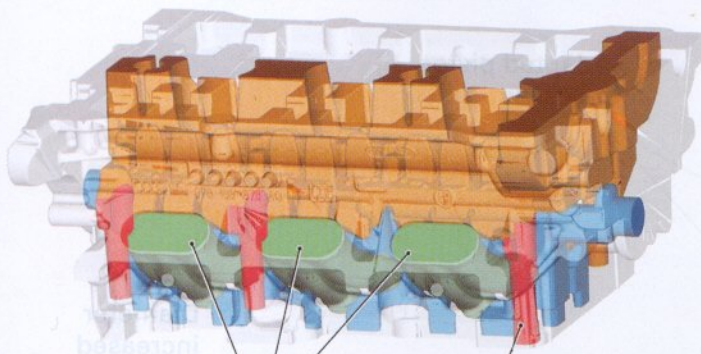
A special casting process has been used, in close cooperation with Cosworth Technologies, in order to achieve precision sand-cast parts with a highly durable, microporous material structure.

The cylinder heads are made from a warm-hardened aluminium alloy. In order to limit the thermal loading in the area of the exhaust valves, the coolant flow has been optimised in these areas.

Conversion of the material of the exhaust valve seat rings results in improved thermal conduction and consequently to lower component temperatures.

Owing to the modified valve timing and the design, allowing for maximum engine speeds of 7200 rpm, the entire valve system has been redesigned.

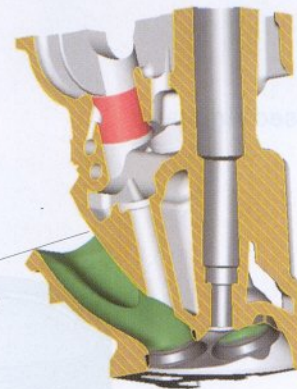
The tumble intake ports adopted from the S4 engine have been adapted to the increased flow rates.



Flow-rate optimised tumble intake ports

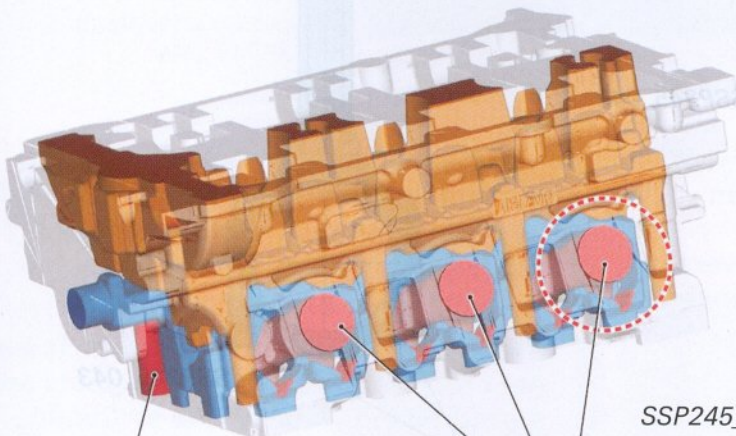
Additional ventilation channels in cylinder head

SSP245\_037



Tumble intake ports

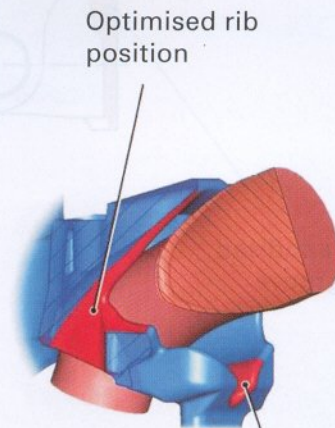
SSP245\_038



Additional ventilation channels in cylinder head

Exhaust ports with reduced outlet diameter

SSP245\_039



Optimised rib position

Coolant flow optimised in area between cylinders

SSP245\_040

# Engine and gearbox

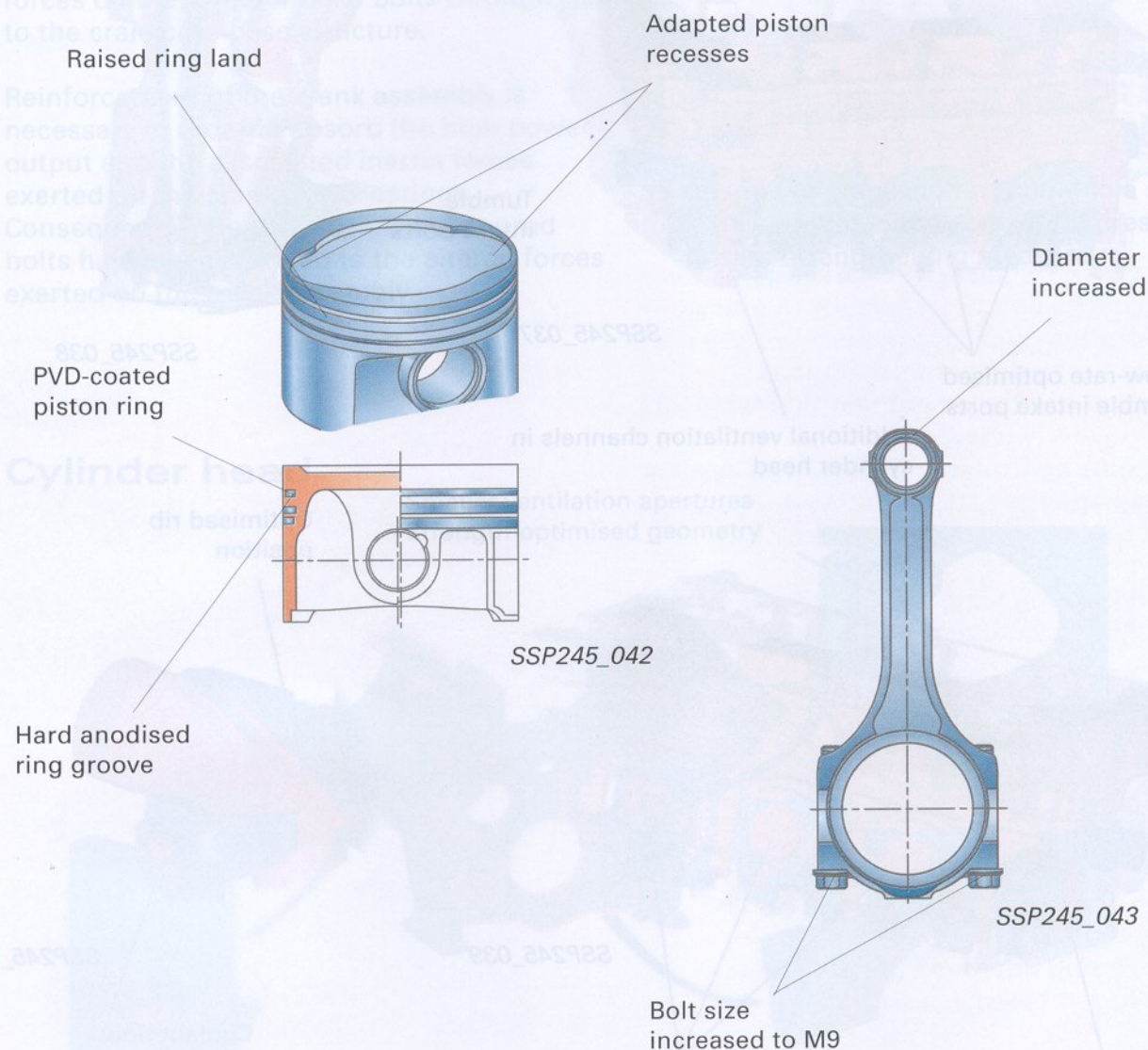
## Piston/conrod

As with all housing components, strength-optimisation measures have also been applied to the pistons and conrods. Highly heat-resistant alloys with improved tensile and flexural strength were a prerequisite for coping with the increased gas pressure.

The piston has been reinforced in the piston crown area and piston pin bushings in accordance with the increased load. The diameter and length of the piston pin have been increased.

The inner surface of the first ring groove of the piston have been hard anodised and the piston ring is high-strength and low-wear thanks to PVD coating (vapour deposition of a wear-resistant compound in a nitrogen atmosphere).

The size of the conrod bolts has been increased from M8.5 to M9 in order to withstand the increased inertia forces.





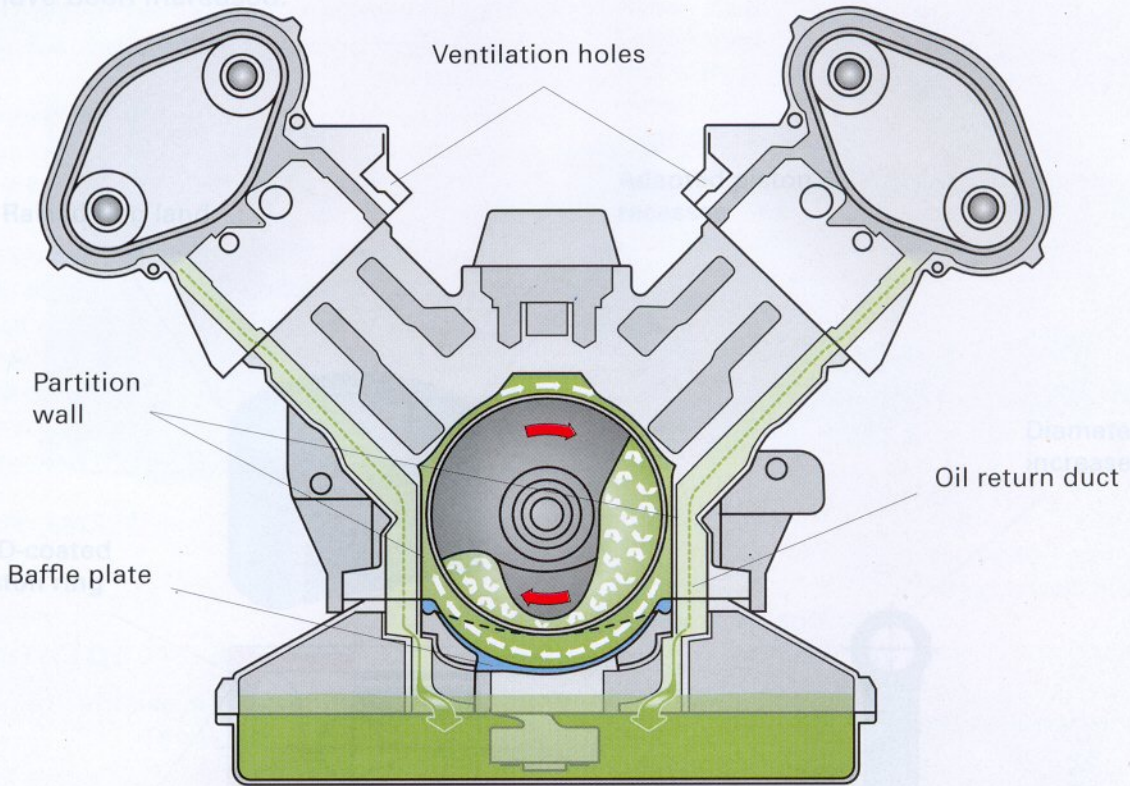
# Engine and gearbox

## Engine cooling system

The oil circuit of the RS4 engine has been adapted to the higher engine speeds. The maximum oil temperature can reach 135 °C. Additional ventilation channels (between crankcase and cylinder heads) as well as increased diameters of the oil return ducts prevent excessive foaming of the oil in the upper engine speed range.

The oil returning from the cylinder heads is guided along the partition wall and via the baffle plate below the dynamic oil level into the sump.

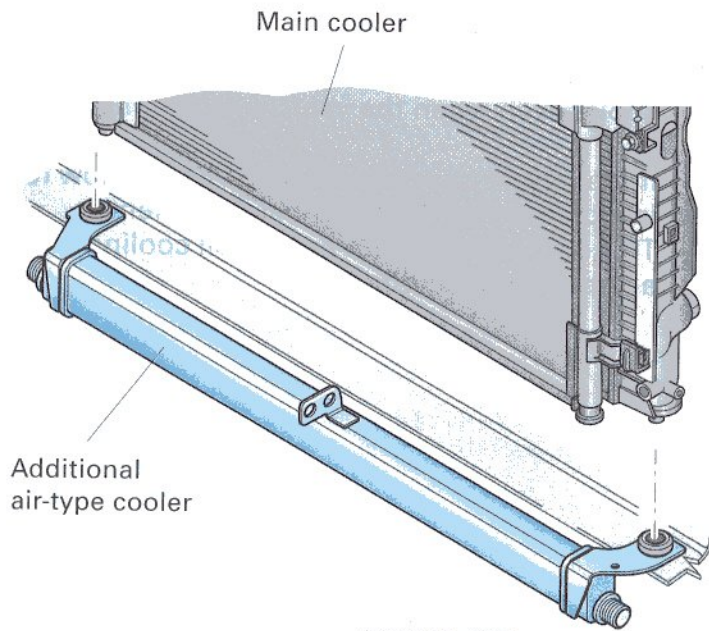
Degassing of the oil can occur more readily and turbulence caused by the crank drive is prevented.



The oil pump, with an increased tooth width supplies sufficient oil to the circuit, even during idling. Under certain operating conditions, several serially connected heat exchangers compensate higher pressure losses.

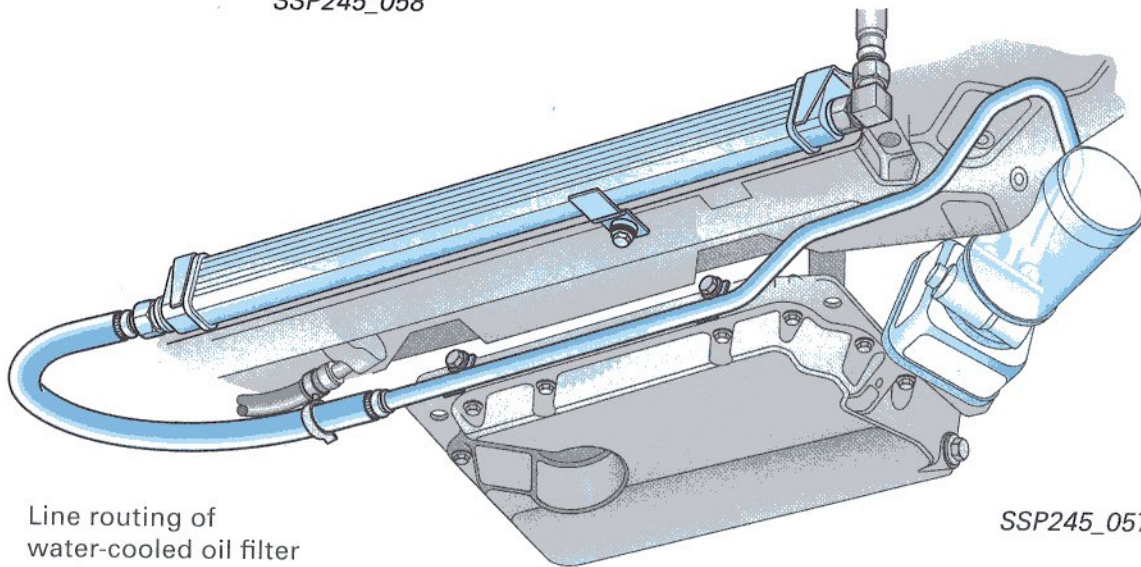
The maintenance-free matched hydraulic tappets are installed in the RS4 engine so that only minimal oil leakage rates occur in the valve gear.

**!** "Matched" means that the hydraulic tappet bores and the hydraulic tappets are measured individually. The hydraulic tappets are selected according to the determined values prior to assembly. Production tolerances can thus be kept within strict tolerance limits.




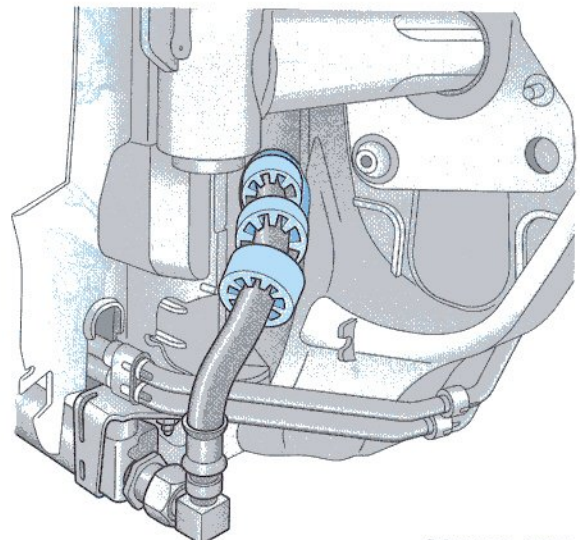
SSP245\_058

In order to maintain engine oil temperatures within the range specified for the engine under all operating conditions, an additional oil cooler is fitted below the main cooler.



SSP245\_057

 When routing the coolant hoses, sufficient clearance from other components must be ensured by means of a correct arrangement of the spacers, particularly in the area of the main cooler.



SSP245\_061



# Engine and gearbox

## Engine cooling system

The engine oil filter is located at the outer left of the upper section of the sump.

An oil cooler, connected to the coolant circuit, is located upstream of this filter.

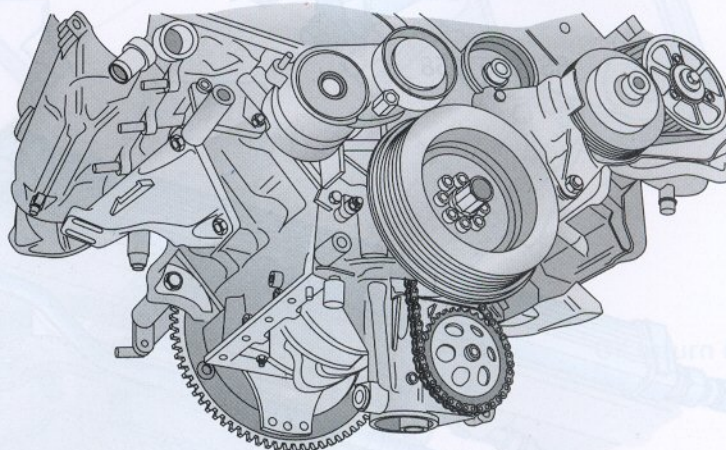
A thermostat element is also located in the oil filter connection housing.

This is positioned so that a certain quantity of oil circulates through the additional air-type oil cooler even when the vehicle is stationary.

If the temperature exceeds 120 °C, the flow rate is increased by the thermostat element. This ensures optimum engine oil cooling under all operating conditions.

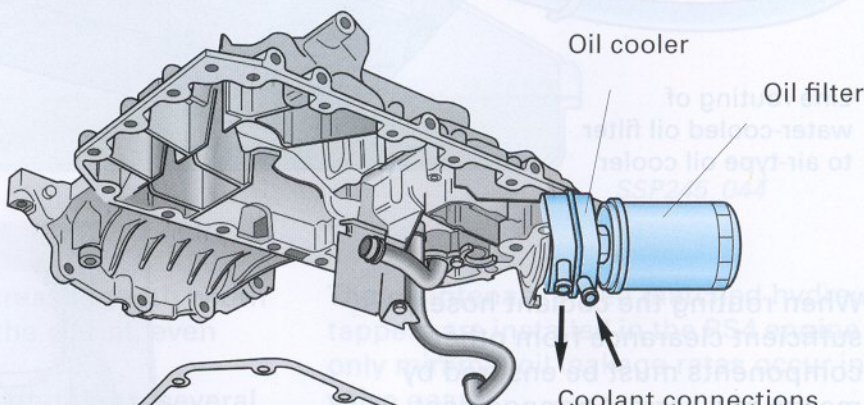


Crankcase

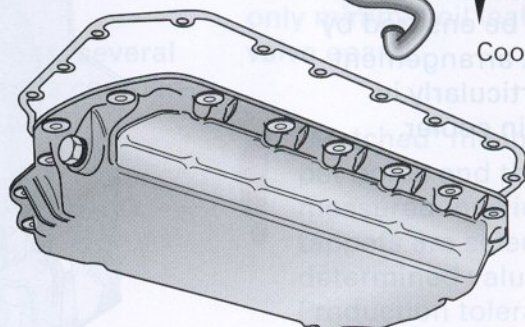


Baffle plate

Sump (upper section)



Sump (lower section)



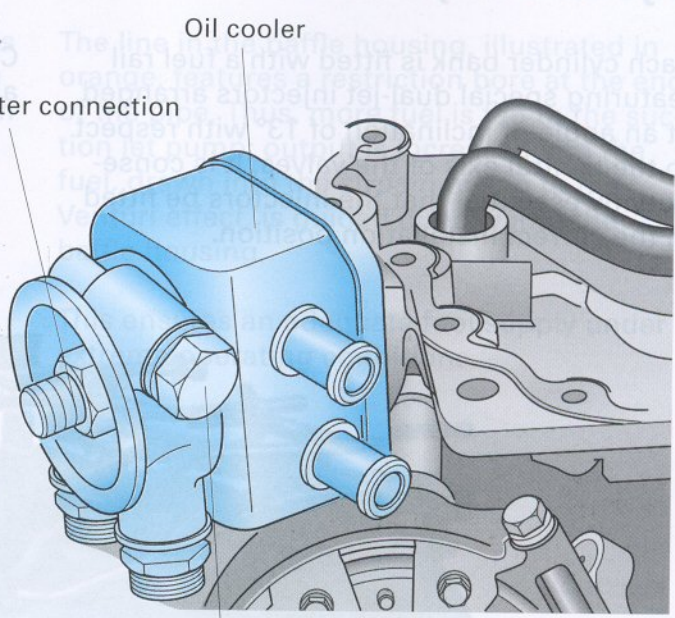
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# Fuel system

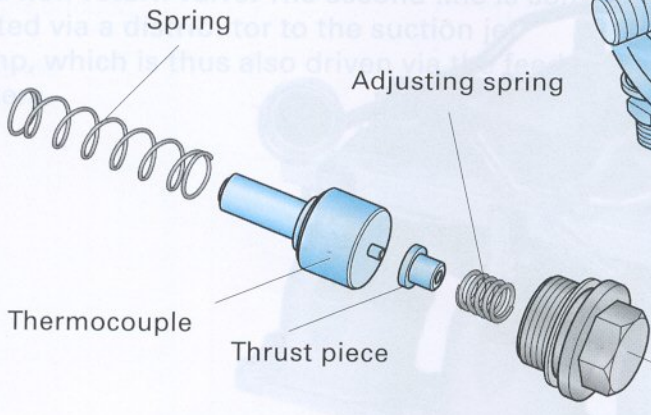
The delivery rate of the electric fuel pump is controlled by a pressure regulator. Each cylinder bank is fitted with a fuel rail featuring a series of injectors. Fuel is kept to a minimum suction jet pump is driven via the feed line for the first time.

For this purpose, the feed line between the fuel pump and the connection flange is split by means of a Y-piece.

Most of the fuel is fed directly to the engine via a non-return valve. The second line is connected via a valve to the suction of the pump, which thus also drives the system.

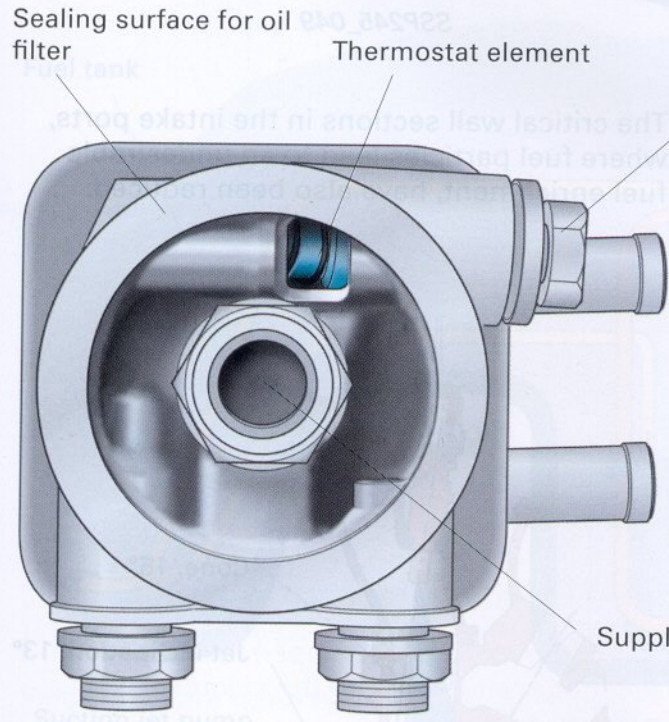


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SSP245\_065

Bolt for thermostat element



SSP245\_064

Feed to additional oil cooler      Return from additional oil cooler

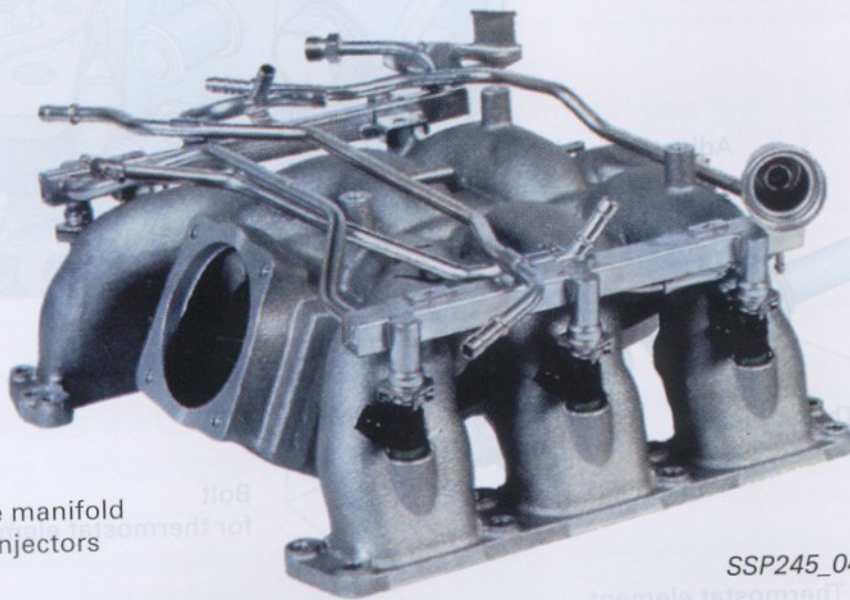


# Engine and gearbox

## Injection system

Each cylinder bank is fitted with a fuel rail featuring special dual-jet injectors arranged at an angle of inclination of  $13^\circ$  with respect to the central axis of the valves. It is consequently essential that the injectors be fitted in the correct installation position.

Cross-sectional reductions in the injector seat area were kept to a minimum.

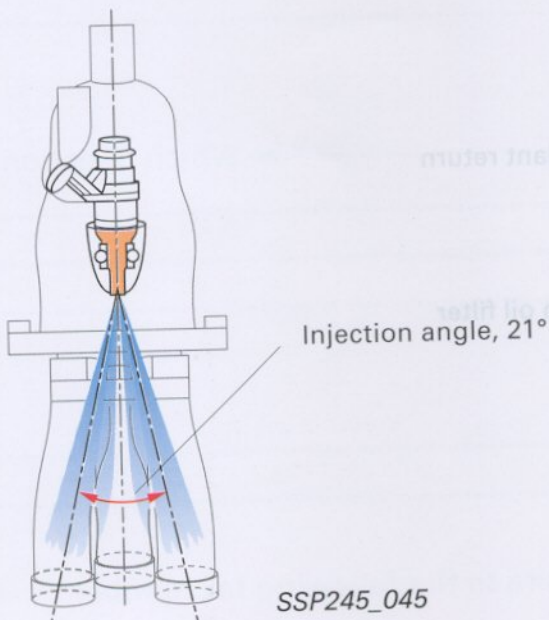


Intake manifold with injectors

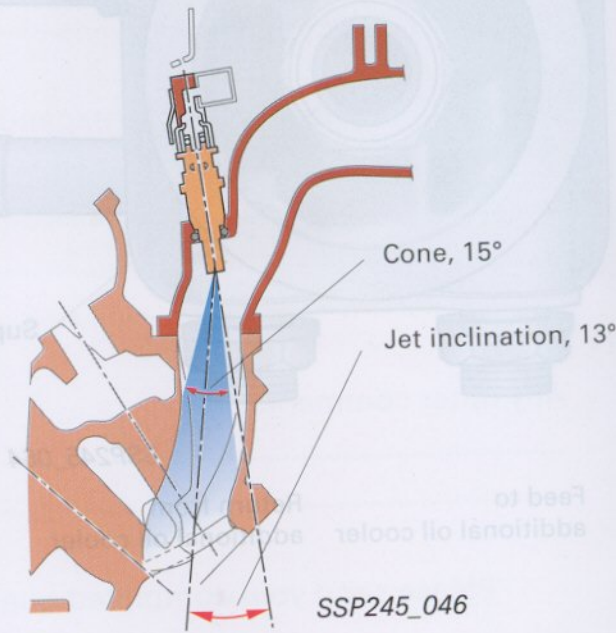
SSP245\_049

Thanks to the modified injection system, maximum flow speeds are achieved for mixture formation in the combustion chamber.

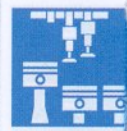
The critical wall sections in the intake ports, where fuel particles lead to an undesirable fuel enrichment, have also been reduced.



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SSP245\_046



# Fuel system

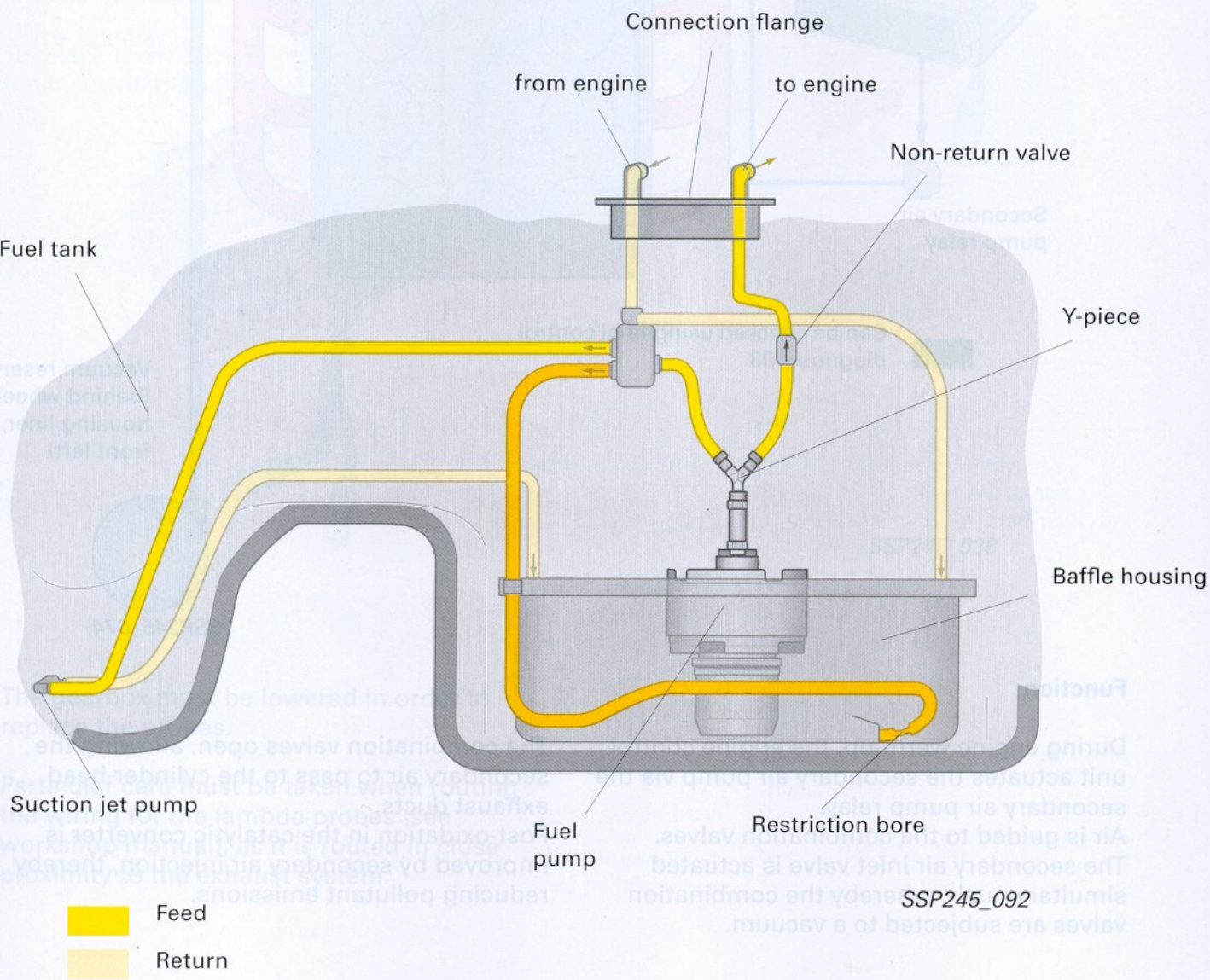
The delivery rate of the electric fuel pump has been increased in the Audi RS4, because the suction jet pump is driven via the feed system for the first time.

For this purpose, the feed line between the fuel pump and the connection flange is split by means of a Y-piece.

Most of the fuel is fed directly to the engine via a non-return valve. The second line is connected via a distributor to the suction jet pump, which is thus also driven via the feed system.

The line in the baffle housing, illustrated in orange, features a restriction bore at the end of the pipe. Thus, more fuel is fed to the suction jet pump; output is increased and the fuel, drawn into the stream owing to the Venturi effect, is guided directly into the baffle housing.

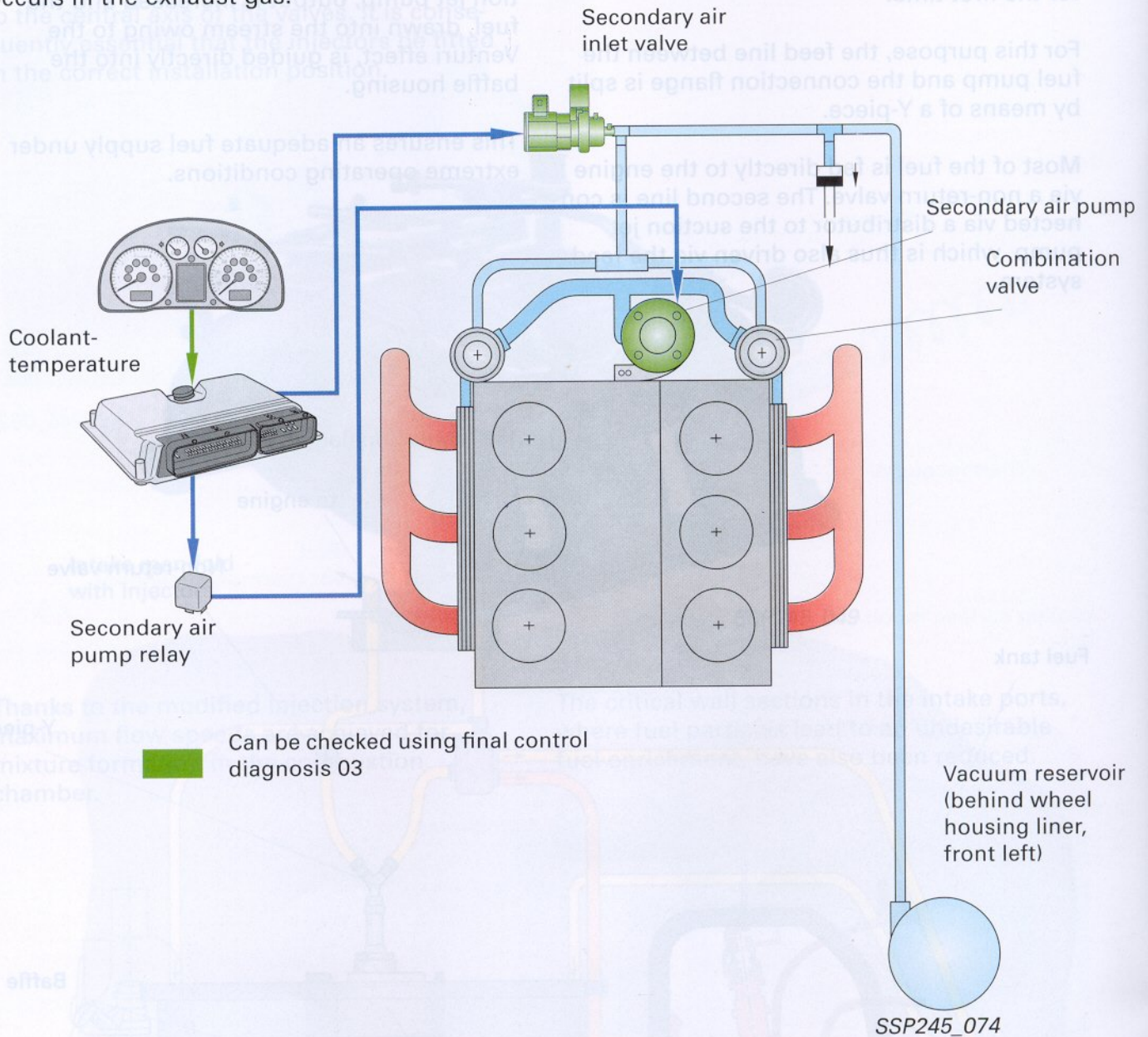
This ensures an adequate fuel supply under extreme operating conditions.



# Engine and gearbox

## Secondary air system

Owing to an excessively rich mixture during the cold start phase, an increased concentration of unburned hydrocarbons occurs in the exhaust gas.



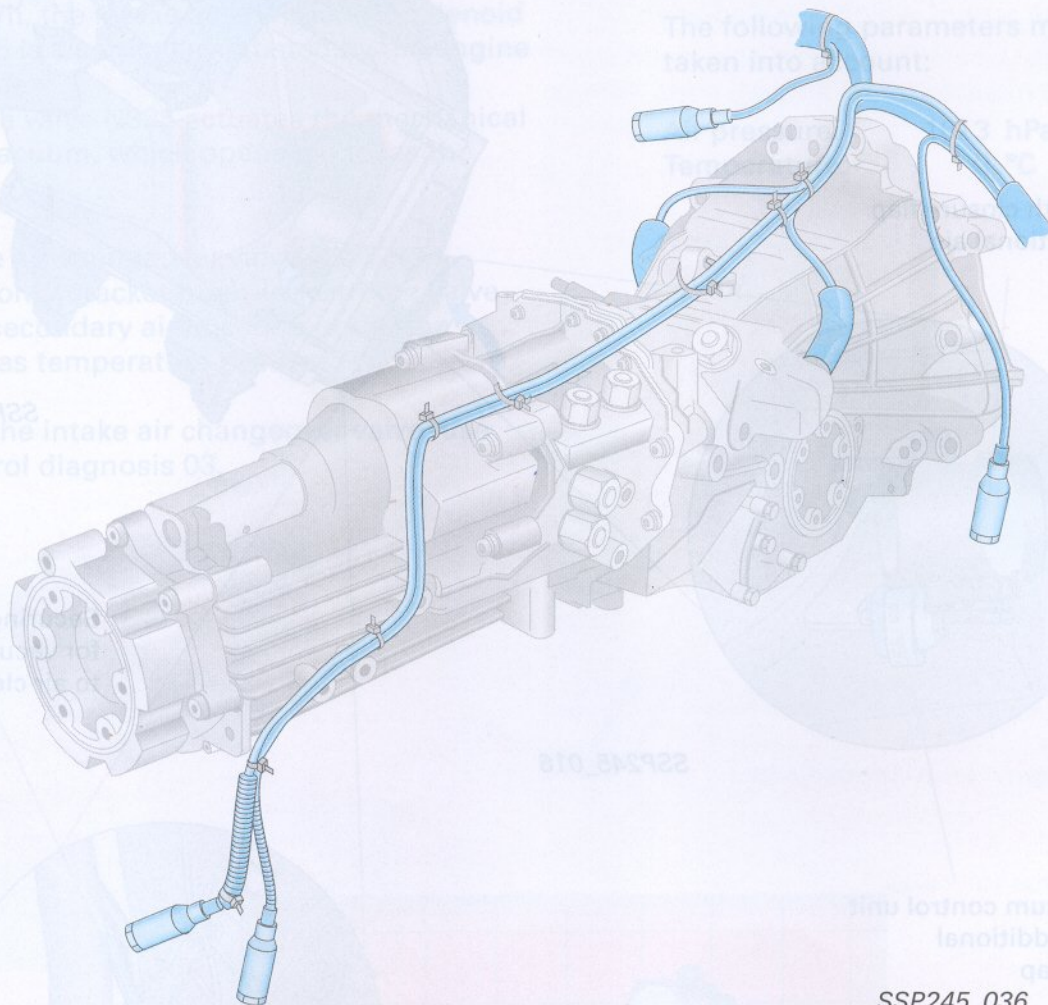
### Function

During engine warm-up, the engine control unit actuates the secondary air pump via the secondary air pump relay. Air is guided to the combination valves. The secondary air inlet valve is actuated simultaneously, whereby the combination valves are subjected to a vacuum.

The combination valves open, allowing the secondary air to pass to the cylinder-head exhaust ducts. Post-oxidation in the catalytic converter is improved by secondary air injection, thereby reducing pollutant emissions.

## Engine management

In order to comply with the more stringent EU 3 exhaust emissions legislation, two identical lambda probes (2-point probes) are fitted for each cylinder bank, one downstream and one upstream of the main catalytic converter.



SSP245\_036

The gearbox must be lowered in order to replace the probes.

Particular care must be taken when routing the wiring for the lambda probes (see workshop manual), as it is routed in close proximity to the exhaust system.



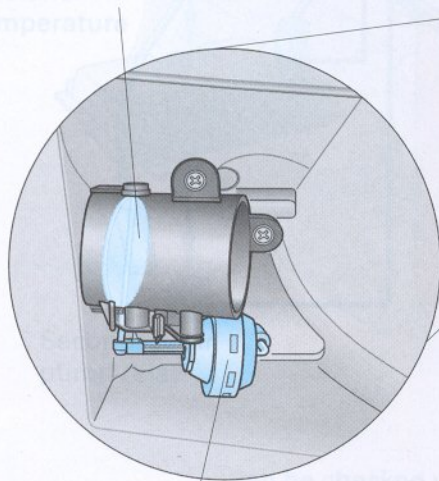
# Engine and gearbox

## Air cleaner with additional air valve

The increased power output of the engine requires an increased air-flow rate. For this reason, the air cleaner features an additional load and engine speed-dependent air inlet.



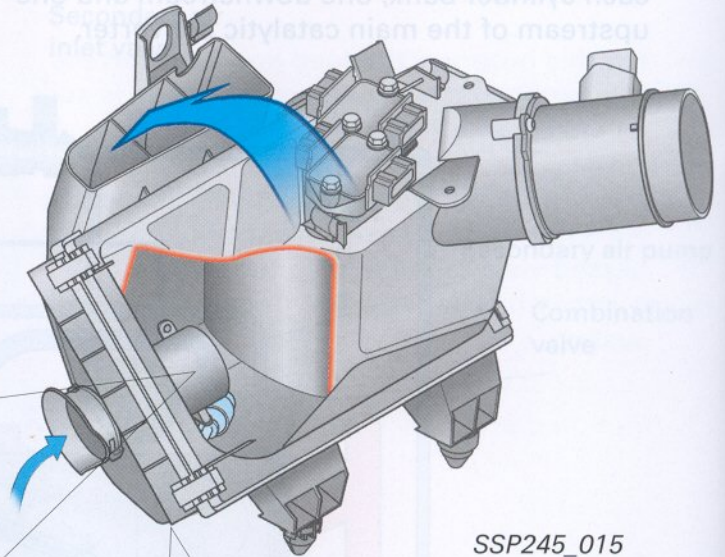
Inlet with closure flap for additional air



SSP245\_016

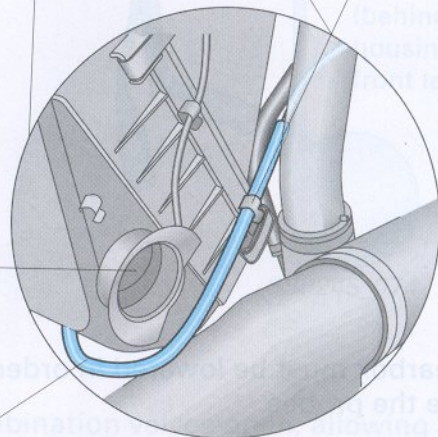
Vacuum control unit for additional air flap

Closure flap for additional air



SSP245\_015

Securing clip for vacuum line to air cleaner housing



SSP245\_019

Vacuum line to additional air valve

## Intake air change-over valve

The approx. 40 per cent increase in engine power output requires higher air throughput. For this reason, the air cleaner housing features an additional air inlet.

In accordance with a load and engine speed-dependent map and at a vehicle speed exceeding 50 km/h, the intake air changeover solenoid valve N335 is electrically actuated by the engine control unit.

In turn, the valve N335 actuates the mechanical valve by vacuum, which opens or closes the flap.

The intake air changeover valve N335 is mounted on a bracket together with the valve N112 for secondary air injection under the exhaust gas temperature senders.

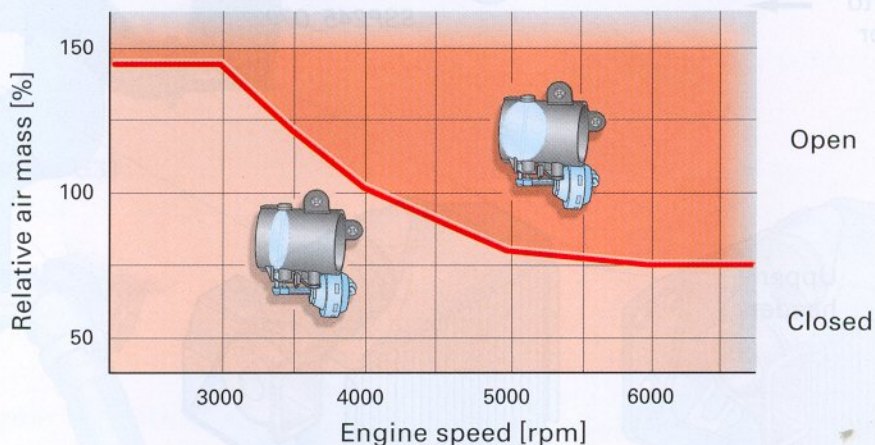
To check the intake air changeover valve, use final control diagnosis 03.



The relative air mass refers to the cylinder displacement. 100 % relative air mass means that the cylinders are completely filled with air when the piston is in the bottom dead centre position.

The following parameters must be taken into account:

Air pressure: 1013 hPa  
Temperature: 0 °C



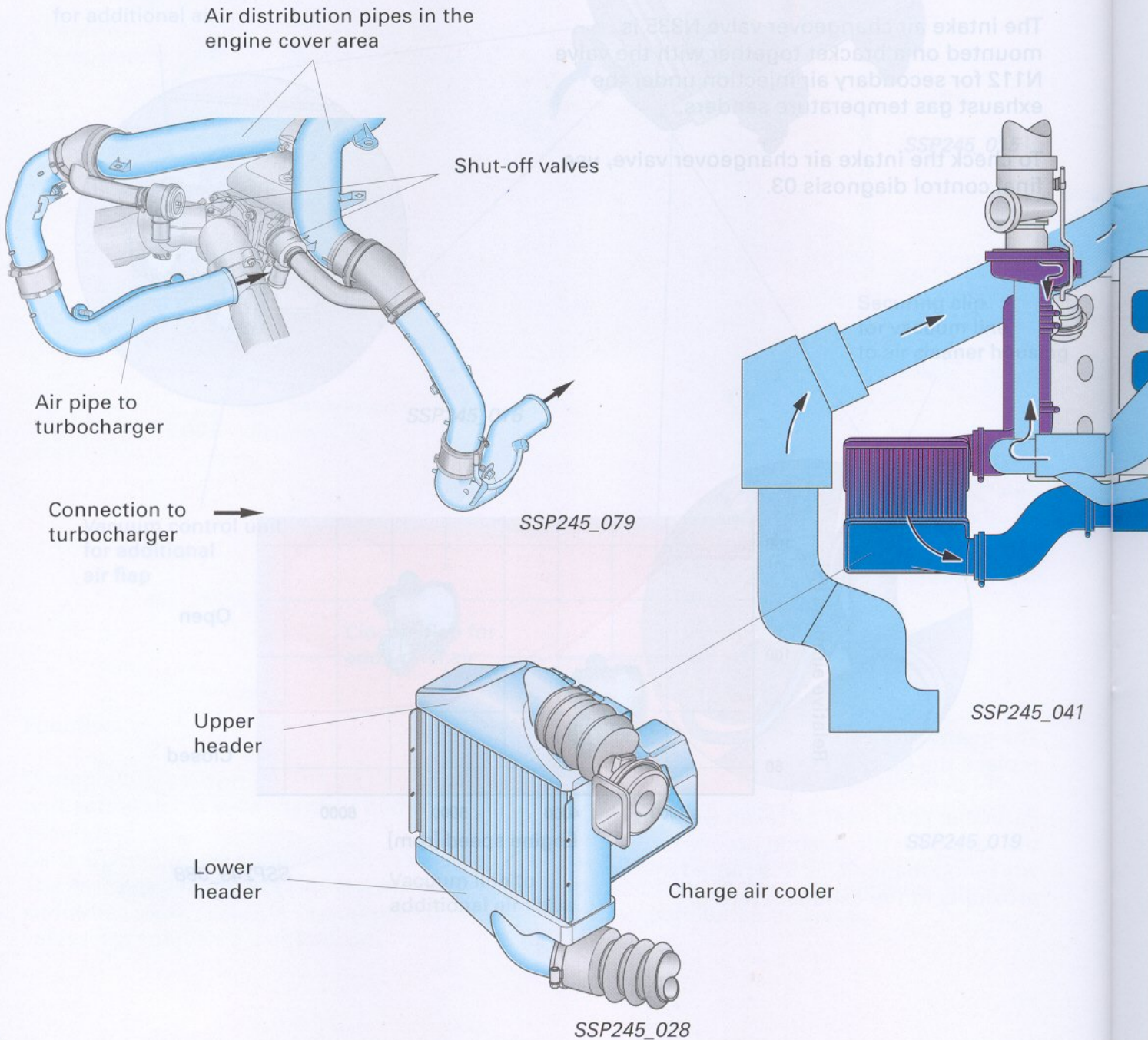
SSP245\_088

# Engine and gearbox

## Charge air cooler

The large air requirement of the engine (up to 1200 kg/h) has led to a new adapted charge air cooler and all the associated components. Routing via the air mass meter, which features an increased diameter and the intake manifold with an enlarged swivel tube diameter, terminates in an aluminium throttle valve flange, the size of which has also been increased.

Owing to the higher pressure conditions downstream from the turbocharger to the throttle valve flange, it was necessary to replace the previous plastic air ducts with stronger, cast aluminium parts. Thanks to the increased diameter of the air pipes, no significant loss of pressure occurs prior to entry into the compressor.

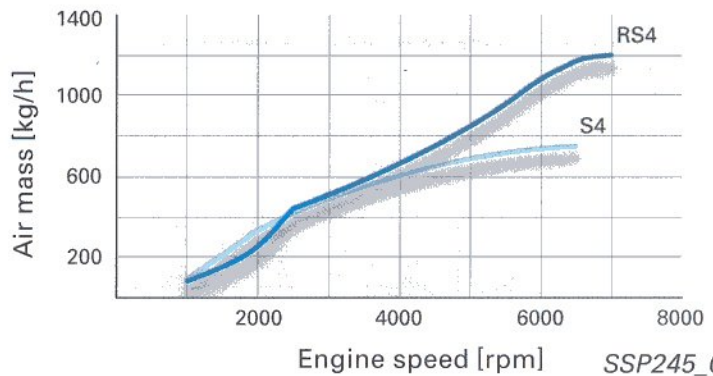
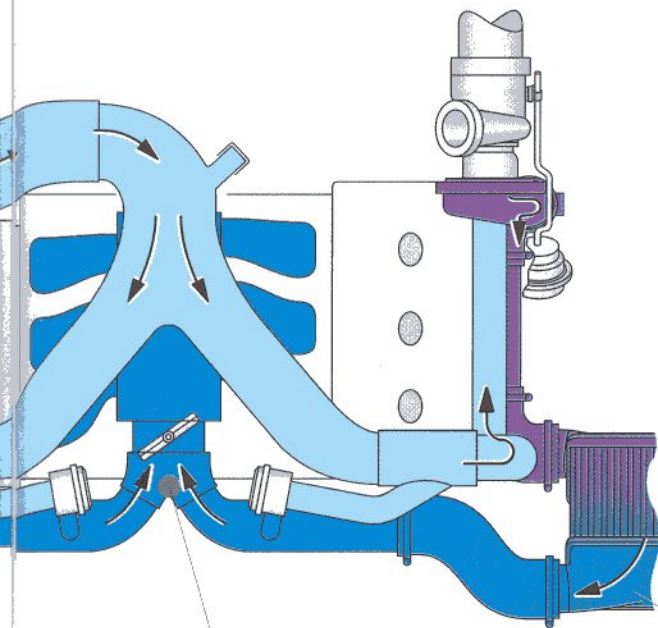


The charge air cooler cross sections have been enlarged by 37 % compared to the Audi S4 and the air-cooled surfaces by 16 %. The moulded rubber parts between the intake and pressure sides have been replaced by more flexible new designs due to spatial and pressure considerations.

The use of aluminium for the lower and upper headers was necessary in order to accommodate the increased pressure conditions downstream of the turbochargers. The cumulative effect of all the design modifications have lead to improved efficiency.

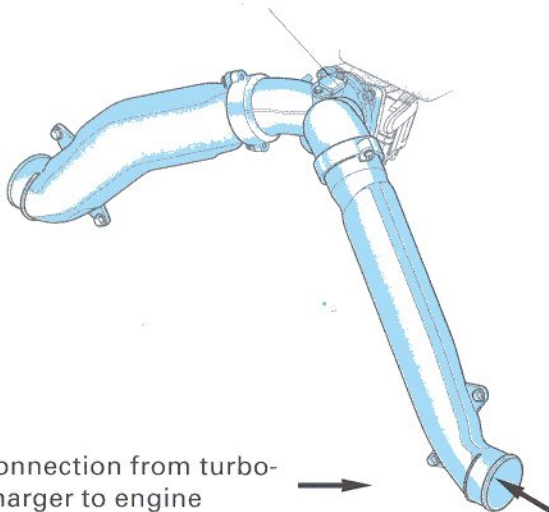
Owing to the increased loads, the pressure-side pipe ends are made from aluminium rather than from plastic, as was previously used.

All the air-guiding components have been optimised with regard to flow resistance. Thanks to this optimisation, the flow losses have been reduced and efficiency enhanced significantly despite an increase in air throughput.



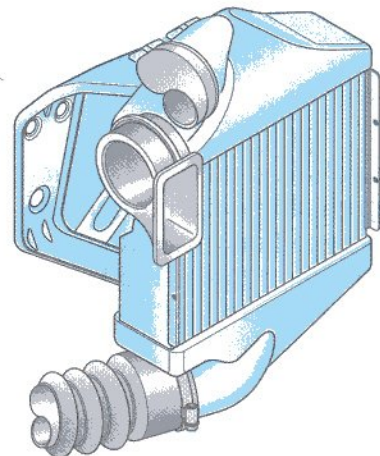
SSP245\_086

Boost pressure sender G31



Connection from turbo-charger to engine

SSP245\_034



SSP245\_027

# Engine and gearbox

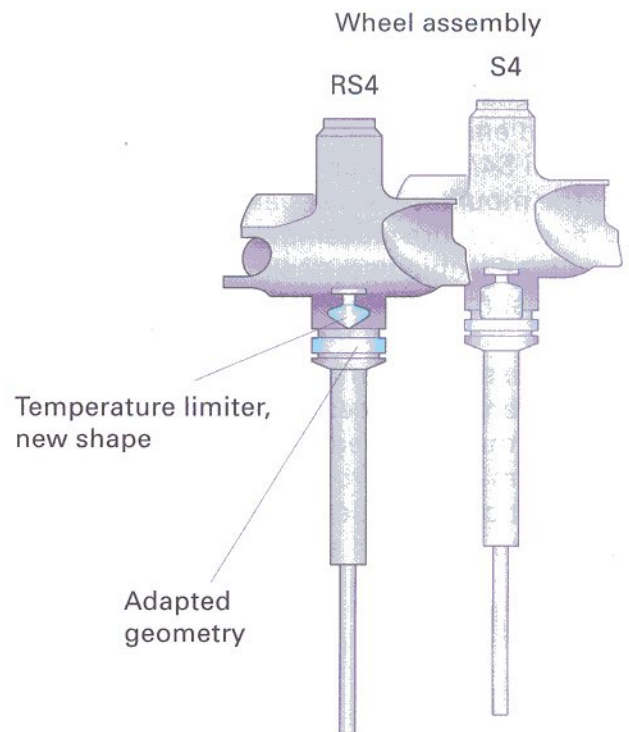
The increased-performance V6 biturbo engine of the Audi RS4 also required a larger turbo-charger.

The diameter of the compressor wheel has been increased from 46 mm to 51 mm and the turbine wheel from 45 mm to 50 mm.

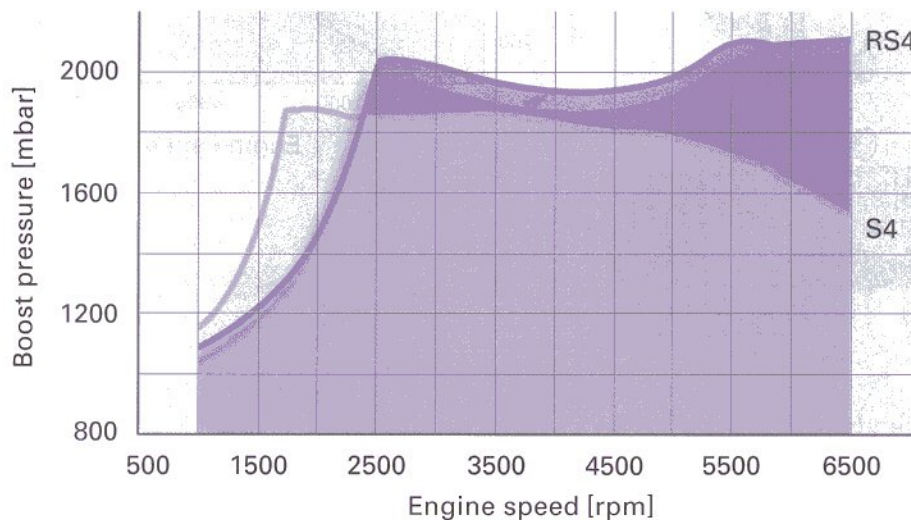
The material for the turbine housing has been adapted in accordance with the higher temperature conditions and mechanical loads. The increased pressure conditions required a larger turbine-housing connecting surface for sealing purposes.

The size of the temperature limiter integrated in the wheel assembly has been reduced in order to allow for more material to strengthen the shaft.

The temperature limiter reduces the heat radiation from the compressor side to the turbine side.

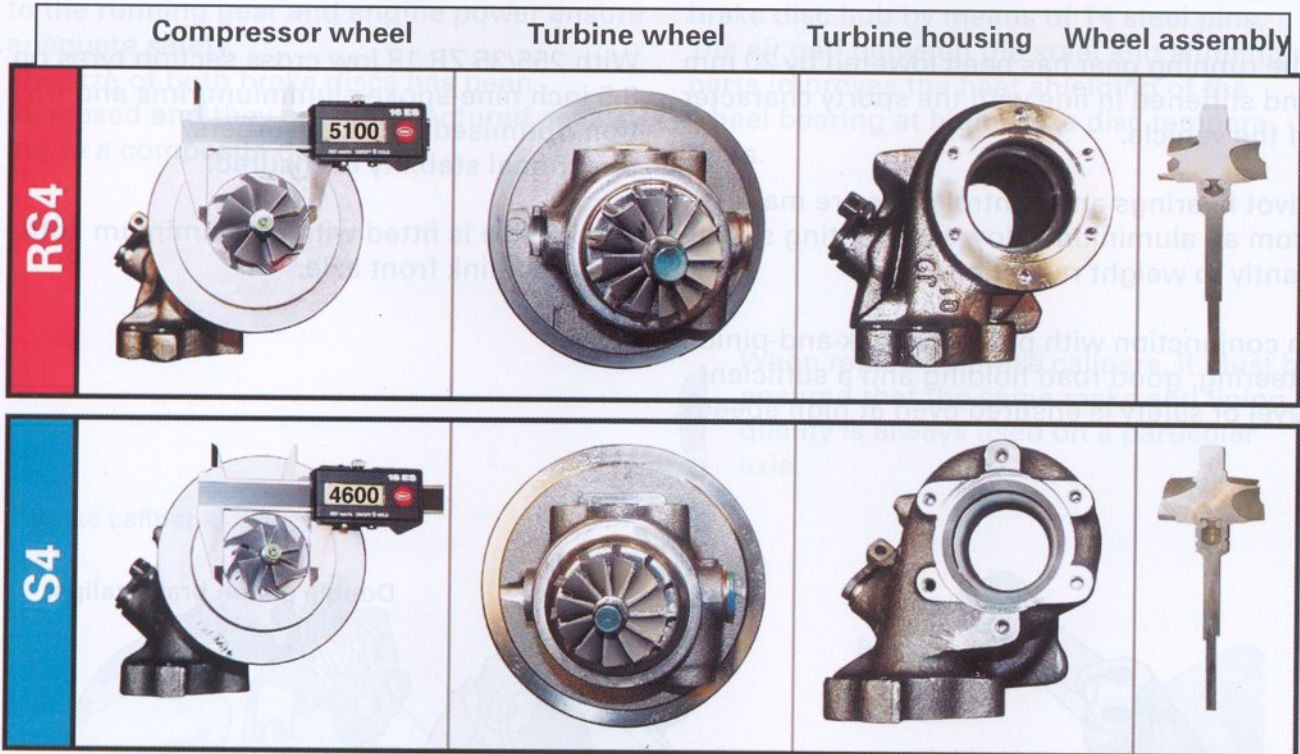


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SSP245\_087

As the chart shows, the larger turbo-charger achieves a higher boost pressure at increased engine speeds, resulting in a high power output (105 kW/l).



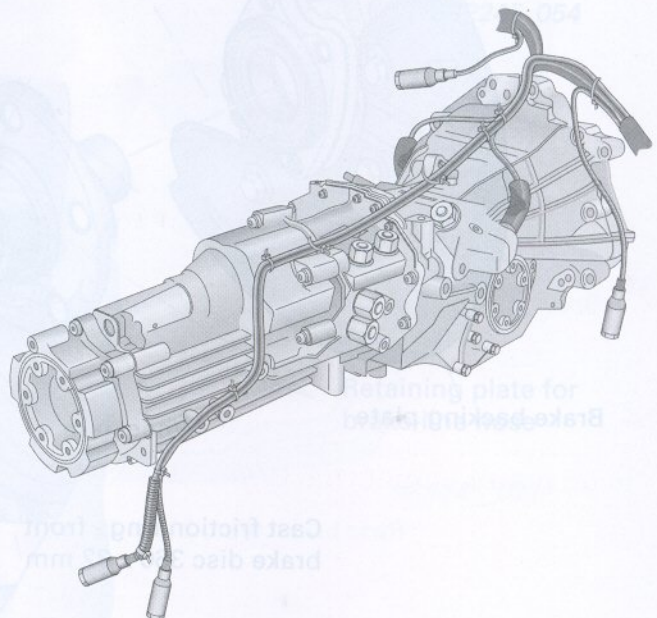
SSP245\_082

## Gearbox

The vehicle features the 01E 4WD 6-speed manual gearbox with SAC clutch. The third and fourth gear have a gear ratio lowered by 7 %.

► Table of values:

	3rd gear	4th gear
Audi S4	1.231	0.967
Audi RS4	1.320	1.034



SSP245\_091

# Running gear

## Front axle

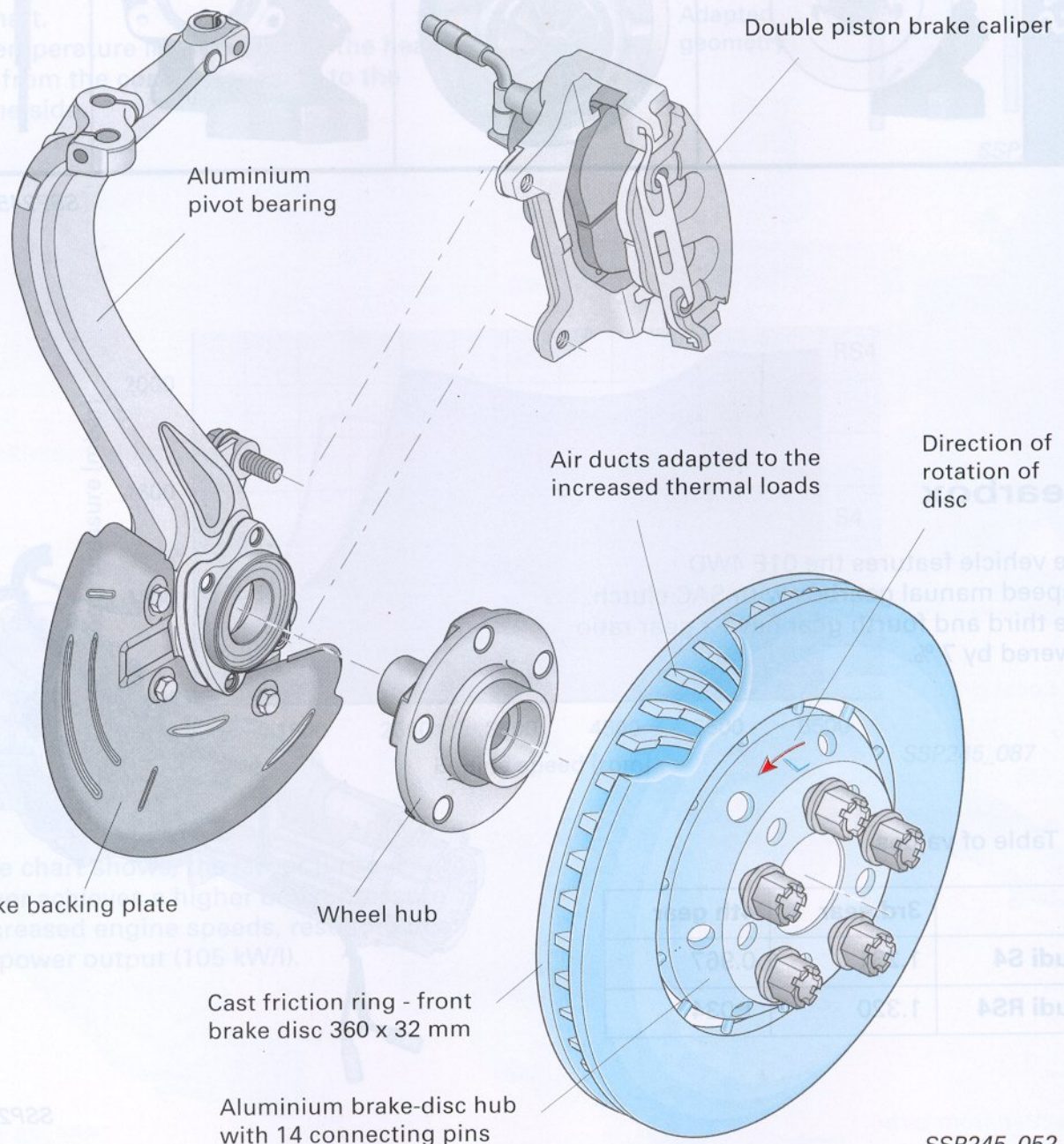
The running gear has been lowered by 20 mm and stiffened in line with the sporty character of the vehicle.

Pivot bearings and control arms are made from an aluminium alloy, contributing significantly to weight reduction.

In conjunction with precision rack-and-pinion steering, good road holding and a sufficient level of safety is ensured even at high speeds.

With 255/35 ZR 18 low cross section tyres on 8.5 inch nine-spoke aluminium rims and friction-optimised shock absorbers, directional stability is ensured.

The vehicle is fitted with an aluminium light alloy four-link front axle.



The internally ventilated brake discs, adapted to the running gear and engine power ensure adequate safety. The size of both brake discs has been increased and they are manufactured according to a composite design.

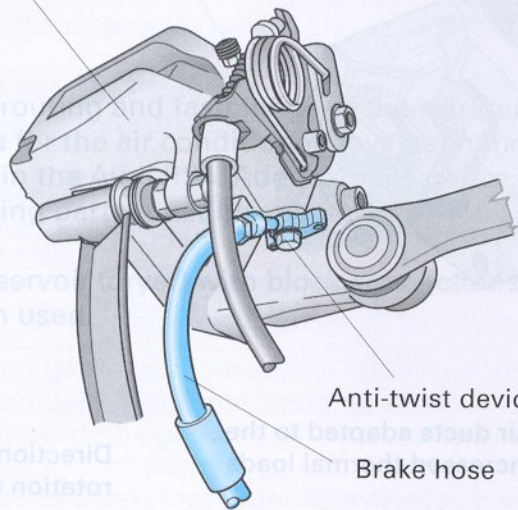
The cast friction ring is attached to the inner brake disc hub by means of 14 steel pins. The air gap between the steel and aluminium parts improves the heat shielding of the wheel bearing at high brake disc temperatures.



When replacing brake calipers, it must be ensured that the same make and lining quality is always used on a particular axle.



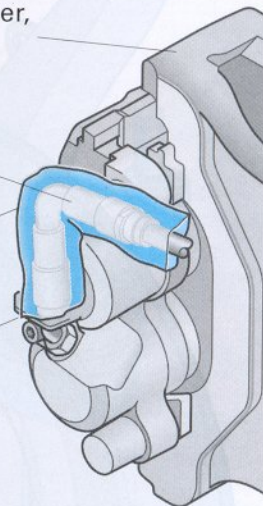
Brake caliper



SSP245\_053

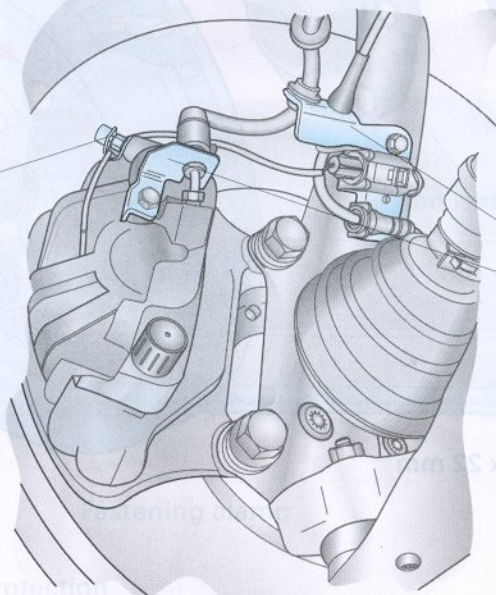
Brake caliper, front

Brake hose  
Thermal protection  
Brake hose bracket



SSP245\_054

Retaining tab for sensor wire



Retaining plate for brake-line hose

SSP245\_055

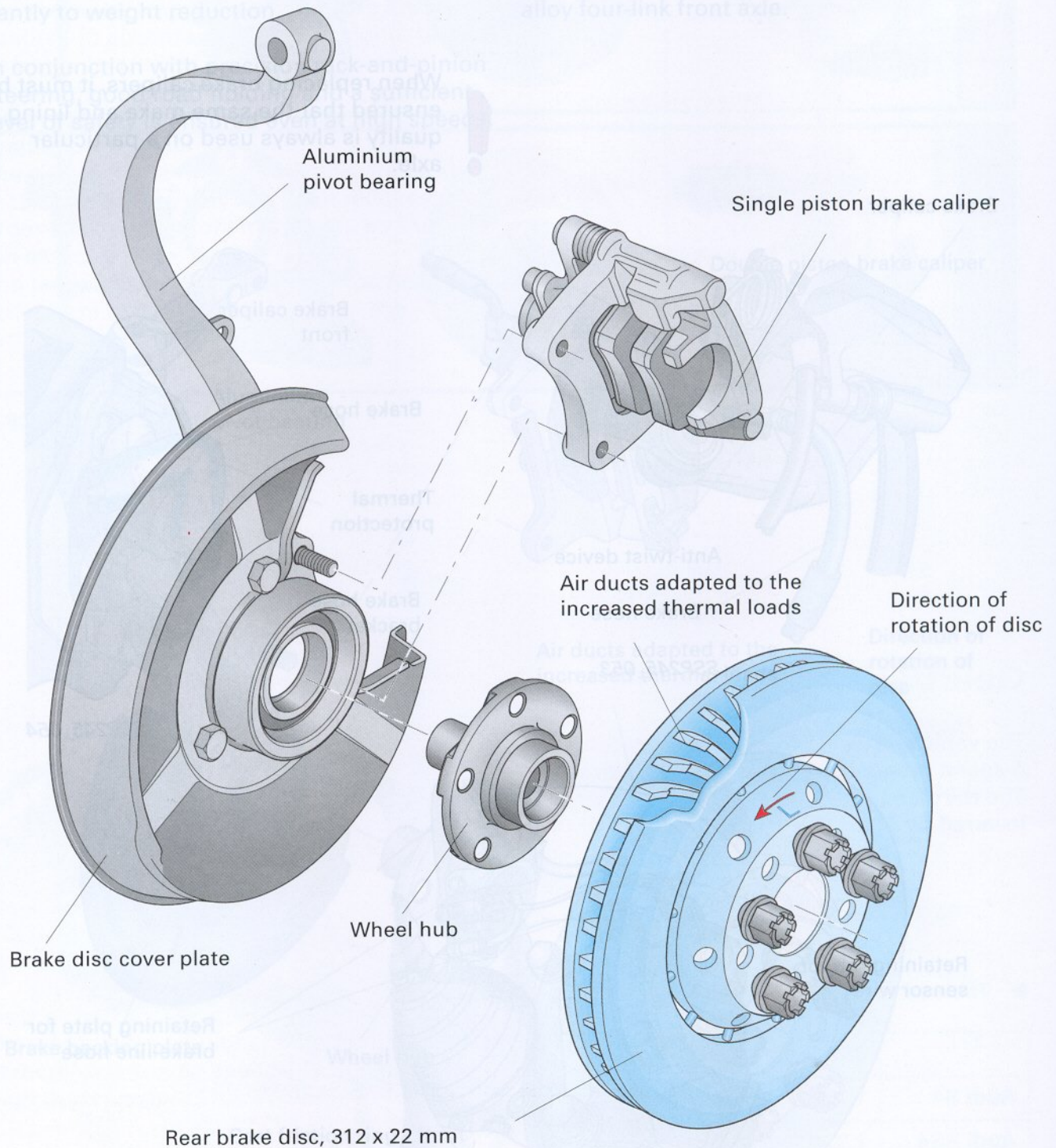


# Running gear

## Rear axle

A double transverse-link rear axle is fitted.

Rear axle braking is effected by means of a single-piston floating brake caliper.



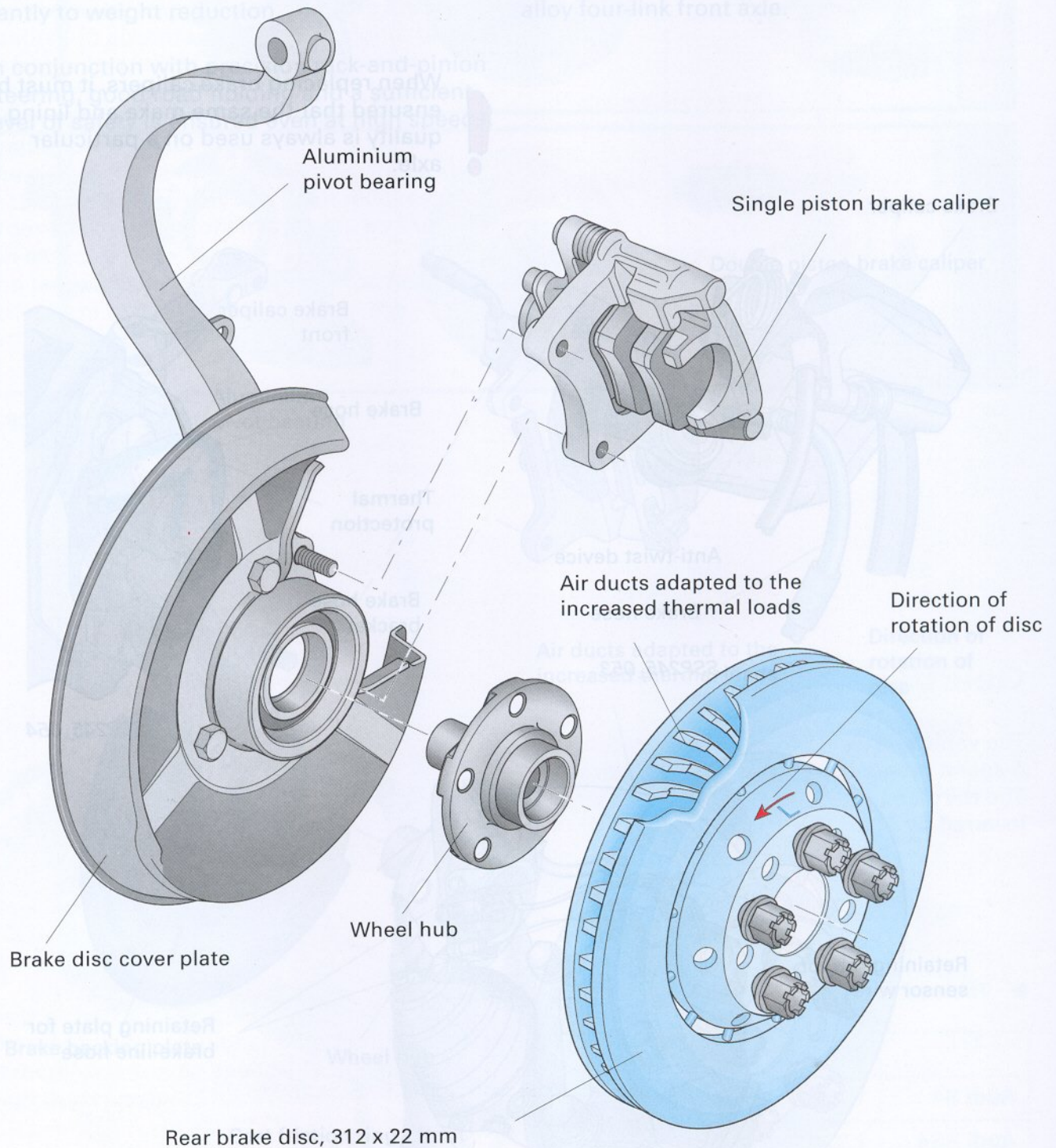
SSP245\_056

# Running gear

## Rear axle

A double transverse-link rear axle is fitted.

Rear axle braking is effected by means of a single-piston floating brake caliper.



SSP245\_056

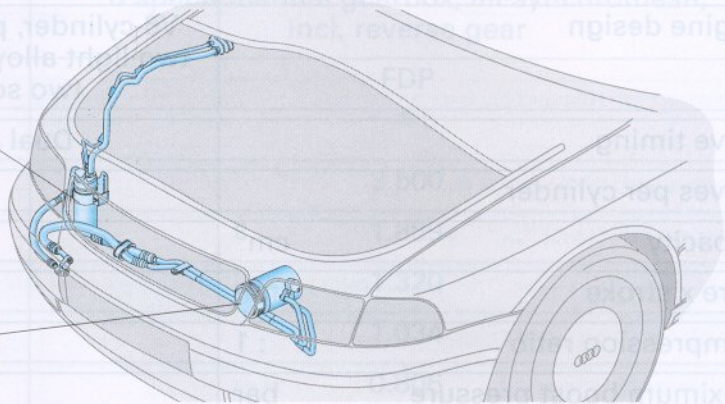
# Air conditioner

Technical data, Audi RS4 Avant

## Air conditioner

Reservoir

Air conditioner compressor

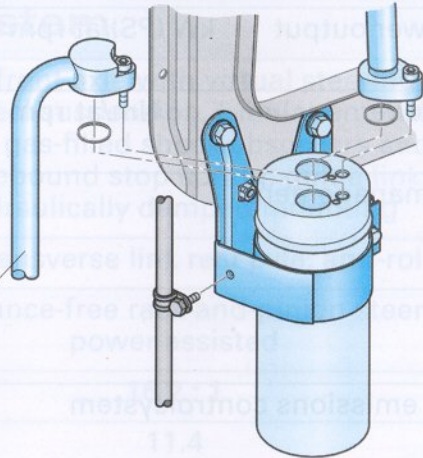


SSP245\_070

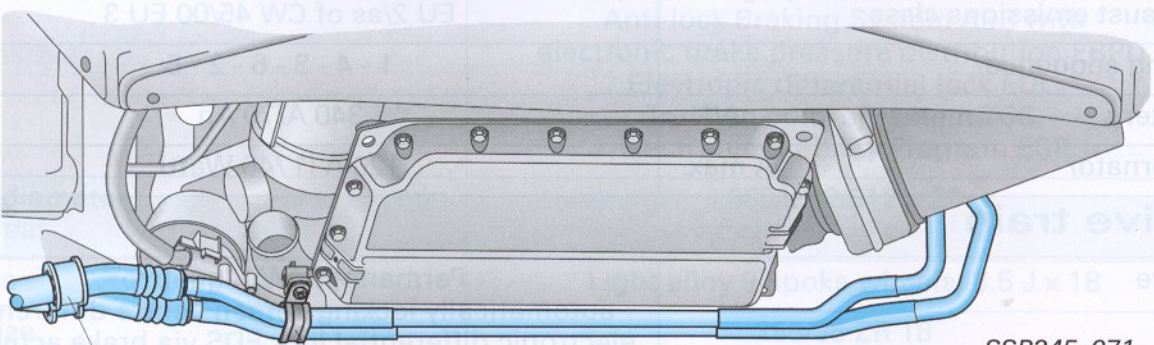
The routing and fastenings of the refrigerant lines for the air conditioner have been modified in the Audi RS4. Adequate clearance to moving parts must be ensured.

A reservoir (dryer) with block connections has been used.

Refrigerant line with block connection



SSP245\_072



SSP245\_071

Fastening clamp

Scuff protection

## Technical data, Audi RS4 Avant

Type of data	Unit	2.7 biturbo (280 kW)
<b>Engine/Electrical system</b>		
Engine code		ASJ/AZR
Engine design		V6-cylinder, petrol engine, five-valve technology, two light alloy cylinder heads, three intake valves, two sodium-cooled exhaust valves
Valve timing		Dual overhead camshafts (DOHC)
Valves per cylinder		5
Capacity	cm <sup>3</sup>	2671
Bore x stroke	mm	81.0 x 86.4
Compression ratio	: 1	9 : 1
Maximum boost pressure	bar	1.20
Cylinder spacing	mm	88
Idle speed	rpm	800
Maximum engine speed	rpm	7200
Max. power output	kW (PS)/at rpm	280/380/6100 - 7000 (according to 80/1269/EEC)
Max. torque	Nm/at rpm	440/2500 - 6000 (according to 80/1269/EEC)
Engine management		Dual turbocharger, fully electronic sequential multi-point injection with air mass metering, map-controlled ignition with static high-voltage distribution, camshaft timing control, cylinder-bank selective exhaust temperature control, co-ordinated engine torque control
Exhaust emissions control system		Two air-gap insulated manifolds, two primary catalytic converters, close to engine, two underfloor main catalytic converters, cylinder-bank selective lambda probe control with four heated lambda probes
Exhaust emissions class		EU 2/as of CW 45/00 EU 3
Firing sequence		1 - 4 - 3 - 6 - 2 - 5
Battery	A/Ah	340 A/70 Ah
Alternator	A max.	120 A (1740 Watt)
<b>Drive train</b>		
Drive		Permanent 4WD, quattro <sup>®</sup> , automatically locking Torsen centre differential, electronic differential lock EDS via brake activation for all driven wheels



Type of data	Unit	2.7 biturbo (280 kW)
Clutch		Hydraulically operated single-disc dry clutch with asbestos-free linings, dual-mass flywheel
Type of gearbox		6-speed manual gearbox, all-synchromesh, incl. reverse gear
Gearbox code		FDP
Gear ratios		
1st gear		3.500
2nd gear		1.889
3rd gear		1.320
4th gear		1.034
5th gear		0.806
6th gear		0.684
Reverse gear/axle ratio		3.455
Axle ratio		4.111
<b>Running gear/steering/brake system</b>		
Front axle		Four-link front axle with virtual steering axis, single wheel suspension, tubular anti-roll bar, twin-tube gas-filled shock absorbers and coil springs, rebound stop spring, guide link with hydraulically damped mounting
Rear axle		Double transverse link rear axle, anti-roll bar
Steering		Maintenance-free rack-and-pinion steering, power assisted
Overall steering ratio		16.2 : 1
Turning circle	m	11.4
Brake system, front/rear		Dual circuit, diagonally split brake system, ventilated brake discs, front/rear, double-piston high-performance brakes at front Anti-lock Braking System ABS with electronic brake pressure distribution EBPB, Electronic differential lock EDL, Traction control system TCS, Electronic Stability Program ESP
Brake diameter front/rear	mm	360 x 32/312 x 22
Wheels		Light alloy 9-spoke wheels, 8.5 J x 18
Tyre size		255/35 ZR 18



## Technical data, Audi RS4 Avant

Type of data	Unit	2.7 biturbo (280 kW)
<b>Body/Dimensions</b>		
Type of body		Five-seater estate with four doors and tailgate self-supporting, fully galvanised, Front/rear crumple zones
Number of doors/seats		5 doors with additional side protection, five seats
Cross-sectional area A	m <sup>2</sup>	2.04
Drag coefficient C <sub>d</sub>		0.34
Total length	mm	4525
Width without mirrors	mm	1799
Width with mirrors	mm	1848
Vehicle height*	mm	1400
Wheelbase	mm	2607
Turning circle	m	11.4
Front/rear track	mm	1549/1530
Tailgate sill height	mm	569
Luggage compartment volume	l	390 (with rear seat backrest folded down: 1250)
<b>Weight</b>		
Unladen weight (ready for use)**	kg	1620
Total permissible weight	kg	2170
Weight distribution f/r	kg	59.6/40.4 %
Permissible axle load, front/rear	kg	1130/1040
Permissible roof load	kg	75
Payload	kg	495
Permissible towing weights		Supplied without trailer coupling

\* Vehicle height depends on the type of tyres fitted and running gear.

\*\* The unladen weight is increased by the subsequent installation of accessories.

Type of data	Unit	2.7 biturbo (280 kW)
<b>Capacities</b>		
Cooling system capacity (incl. heater)	l	6.0
Engine oil system capacity (incl. filter)	l	6.0
Tank capacity	l	62
Windscreen washer system reservoir with headlamp washer system	l	4.5
<b>Performance/fuel consumption/noise</b>		
Maximum speed	km/h	250 (electronically limited)
Acceleration		
0 ..... 60 km/h	s	2.3
0 ... 100 km/h	s	4.9
0 ... 160 km/h	s	11.3
0 ... 200 km/h	s	17
Type of fuel		Super plus unleaded, 98 RON (95 RON with loss of power)
Consumption according to 93/116/EC		
Urban: l/100 km		16
Non-urban: l/100 km		8.9
Overall: l/100 km		11.5
CO <sub>2</sub> emissions	g/km	276
Theoret. range	km	791
Standing/driving noise	dB(A)	82/71
Const. drive-by		75
<b>Maintenance/warranty, Germany</b>		
Oil change interval	km	Maintenance interval display
Inspection interval	km	Maintenance interval display and additionally at 30,000 and 60,000 km
Insurance classes	VK/TK/HK	35/37/23
Warranty Vehicle/paintwork/body	years	1 year without mileage limitation /3 years/12 years

