

# ŠKODA KAROQ

## Vehicle presentation

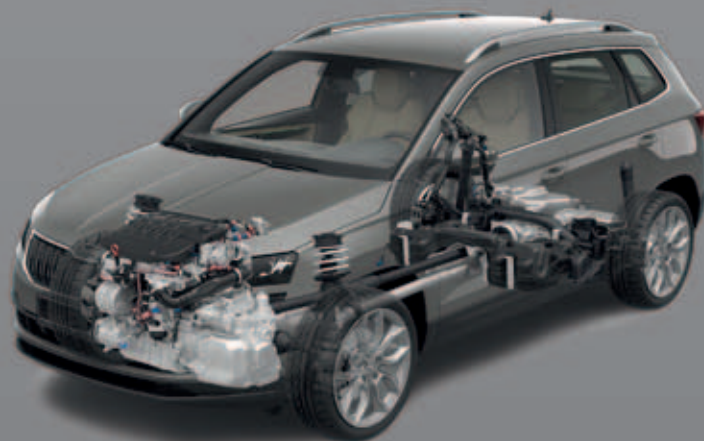
### Part II



**ŠKODA**

Self-Study Programme

117





SP117\_29

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For assembly, disassembly, repair and diagnostics instructions, as well as detailed user information see VAS diagnostics devices and onboard literature.

**Closing date - 9/2017.**

This Workbook is not subject to updates.



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# 1. Engine units

## 1.1 ŠKODA KAROQ engines

The ŠKODA KAROQ is available with two petrol and three diesel engines.

All of the engines feature a turbocharger, four valves per cylinder and direct fuel injection, and comply with the EU6 emission standard.

The engines can be combined with 6-speed manual gearboxes and/or 7-speed automatic DSGs.

All of the engines are of modular design. EA211 petrol engines, EA288 diesel engines.

1.0 TSI/85 kW	Petrol
1.5 TSI/110 kW ACT	Petrol
1.6 TDI/85 kW	Diesel
2.0 TDI/110 kW	Diesel
2.0 TDI/140 kW	Diesel



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## 1.2 Petrol engines

	1.0 TSI 85 kW engine code: CHZD	1.5 TSI 110 kW ACT engine code: DADA
Engine line	EA211	EA211
Number of cylinders/valves	3 / 12	4 / 16
Displacement	999 cm <sup>3</sup>	1,498 cm <sup>3</sup>
Maximum power output	85 kW at 5,000 - 5,500 min <sup>-1</sup>	110 kW at 5,000 - 6,000 min <sup>-1</sup>
Maximum power output in HP	115 HP	150 HP
Maximum torque	200 Nm at 2,000 - 3,500 min <sup>-1</sup>	250 Nm at 1,500 - 3,500 min <sup>-1</sup>
Emission standard	EU6	EU6

## 1.3 Diesel engines

	1.6 TDI 85 kW engine code: DDYA	2.0 TDI 110 kW engine code: DFGA	2.0 TDI 140 kW engine code: DFHA
Engine line	EA288	EA288	EA288
Number of cylinders/valves	4 / 16	4 / 16	4 / 16
Displacement	1,598 cm <sup>3</sup>	1,968 cm <sup>3</sup>	1,968 cm <sup>3</sup>
Maximum power output	85 kW at 3,250 - 4,000 min <sup>-1</sup>	110 kW at 3,500 - 4,000 min <sup>-1</sup>	140 kW at 3,500 - 4,000 min <sup>-1</sup>
Maximum power output in HP	115 HP	150 HP	190 HP
Maximum torque	250 Nm at 1,500 - 3,200 min <sup>-1</sup>	340 Nm at 1,750 - 3,000 min <sup>-1</sup>	400 Nm at 1,750 - 3,250 min <sup>-1</sup>
Emission standard	EU6	EU6	EU6

## 1.0 TSI 85 kW EA211 petrol engine

The basic-line petrol unit for the ŠKODA KAROQ is the 1.0 TSI 85 kW engine of the EA211 line.

This three-cylinder turbocharged engine with direct fuel injection produces (max.) 85 kW of power at 5,000–5,500 min<sup>-1</sup> (engine speed).

The engine boasts a combination of high power output and low fuel consumption. Its lightweight, compact structural design features an aluminium cylinder block, forged crankshaft, optimised aluminium pistons and forged con-rods, and low friction losses improve its overall economy.

The engine weight under DIN 70020 is 94 kg (including the flywheel for the MQ200 (6-speed manual gearbox)), and the engine is not fitted with any balance shaft.

Separate cylinder head and cylinder block cooling circuits.

Variably timed intake and exhaust cams. Turbocharger pressure increased to 1.6 bar. Compressed air cooler integrated into the intake manifold. Exhaust manifold integrated into the cylinder head for improved engine thermomechanics.

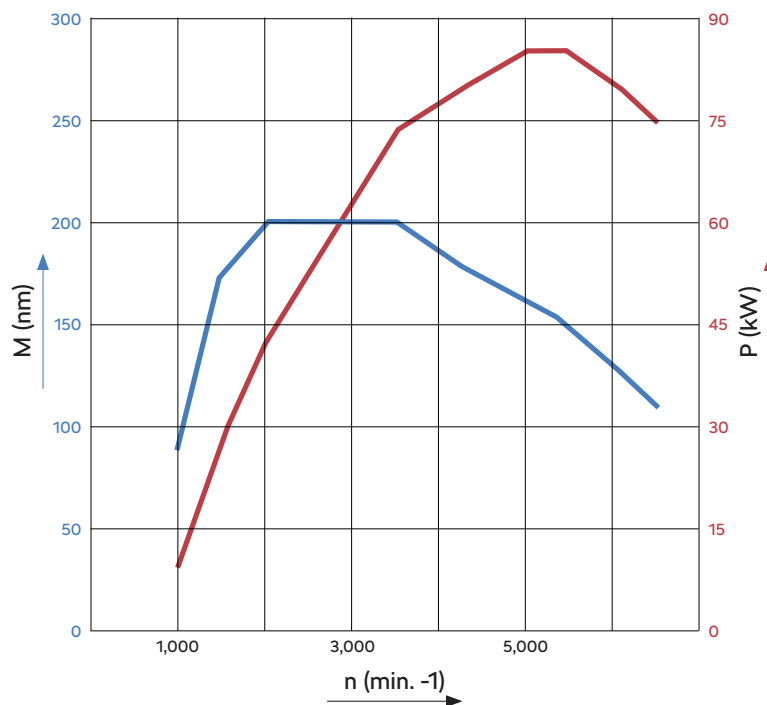
The engine can be combined with the 6-speed manual gearbox, as well as the 7-speed DSG.



## 1.4.1 1.0 TSI 85 kW EA211 parameters

Structural design	Inline petrol engine, 2x OHC, turbocharged, liquid-cooled, with direct fuel injection, front transverse mounted
Number of cylinders/valves	3 / 12
Displacement	999 cm <sup>3</sup>
Bore	74.5 mm
Stroke	76.4 mm
Max. power output	85 kW at 5,000 - 5,500 min <sup>-1</sup>
Maximum torque	200 Nm at 2,000 - 3,500 min <sup>-1</sup>
Compression ratio	10.5 : 1
Charging	Electronically controlled direct fuel injection
Ignition	Electronic, contactless, control unit-controlled
Lubrication	Pressure circulation with full-flow oil cleaner
Fuel	Lead-free petrol, minimum octane number 95
Emission standard	EU6

## 1.4.2 1.0 TSI 85 kW EA211 power output and torque graph



P – power, M – torque, n – engine speed (revs)

- Engine torque curve
- Engine power curve



### 1.4.3 Changes as compared to the MPI version

The three-cylinder 1.0 TSI 85 kW engine used in the ŠKODA KAROQ features the following changes and improvements:

- Newly designed con rod with no bush on the small eye
- DLC coated piston pin
- Pressure in the high-pressure injection branch increased from 200 to 250 bar
- Continuously controllable oil pump located directly on the crankshaft
- Intake system components redesigned for higher resistance to high pressures and temperatures
- Compressed air cooler integrated into the intake manifold
- Exhaust manifold integrated into the cylinder head
- Exhaust valves filled with sodium for improved cooling
- To ensure smooth operation, the engine is balanced by means of increased flywheel and torsional vibration damper weights

#### 1.4.3.1 New con rod design

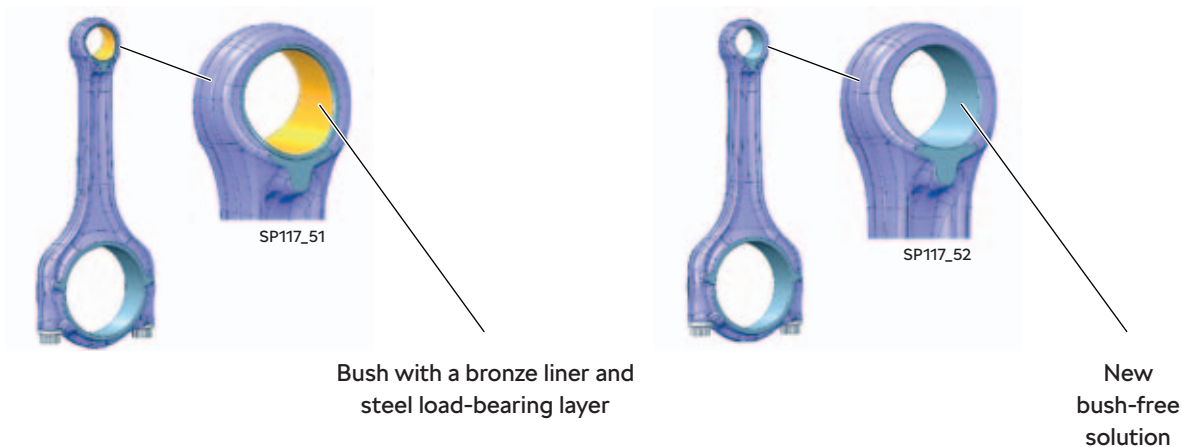
While in the 1.2 TSI engine the small eye on the con rod featured a bush with a bronze liner and a steel load-bearing layer, in the 1.0 TSI 85 kW engine the small con-rod eye is not fitted with any bush.

The eye is pre-machined and then (finely) bored and roller burnished. The bush-free eye has to be combined with a DLC-coated pin.

The key benefit of this solution is a substantially higher resistance to the small eye's ovalisation during the engine operation.

1.2 TSI con rod

1.0 TSI 85 kW con rod



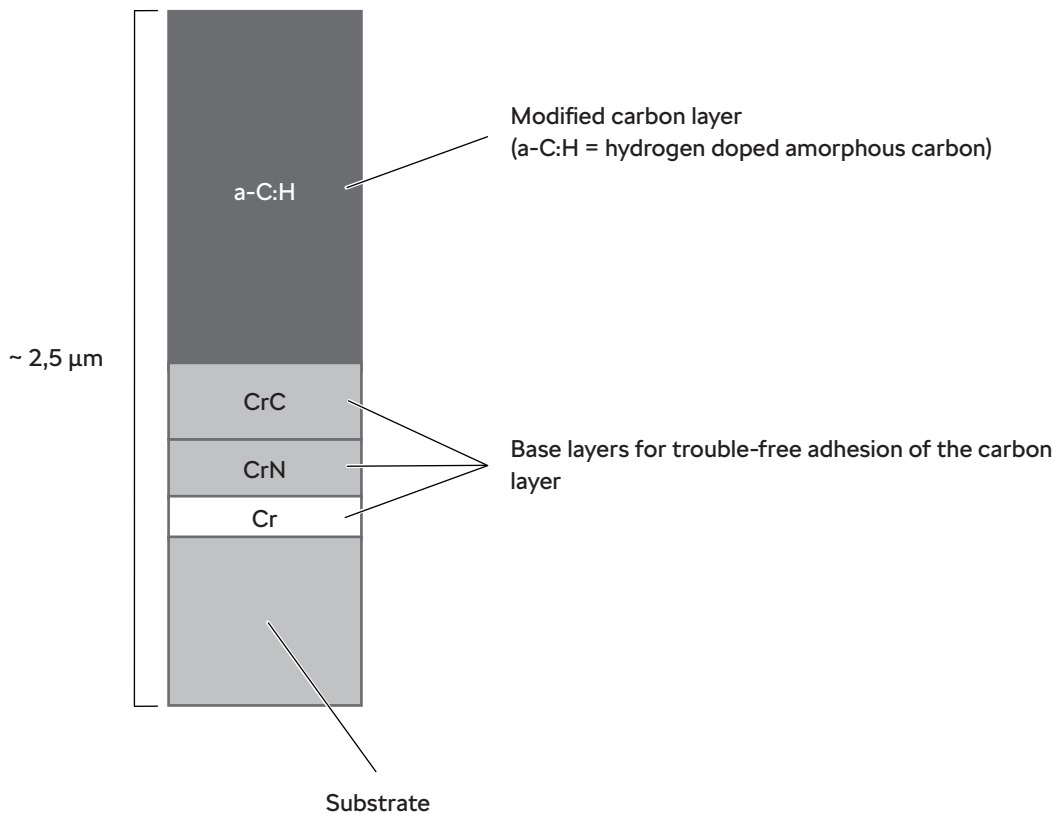
### 1.4.3.2 DLC coat on the piston pin

DLC (Diamond Like Carbon) is the designation of a metastable form of amorphous carbon featuring high mechanical hardness, chemical inertness and excellent tribological properties.

Its similarity to diamond lies in properties determined by  $sp^3$  carbon bonding.

The DLC coat is applied by spraying in an inert atmosphere, using PVD (Physical Vapour Deposition) or PACVD (Plasma Activated Chemical Vapour Deposition) at temperatures of up to 300°C.

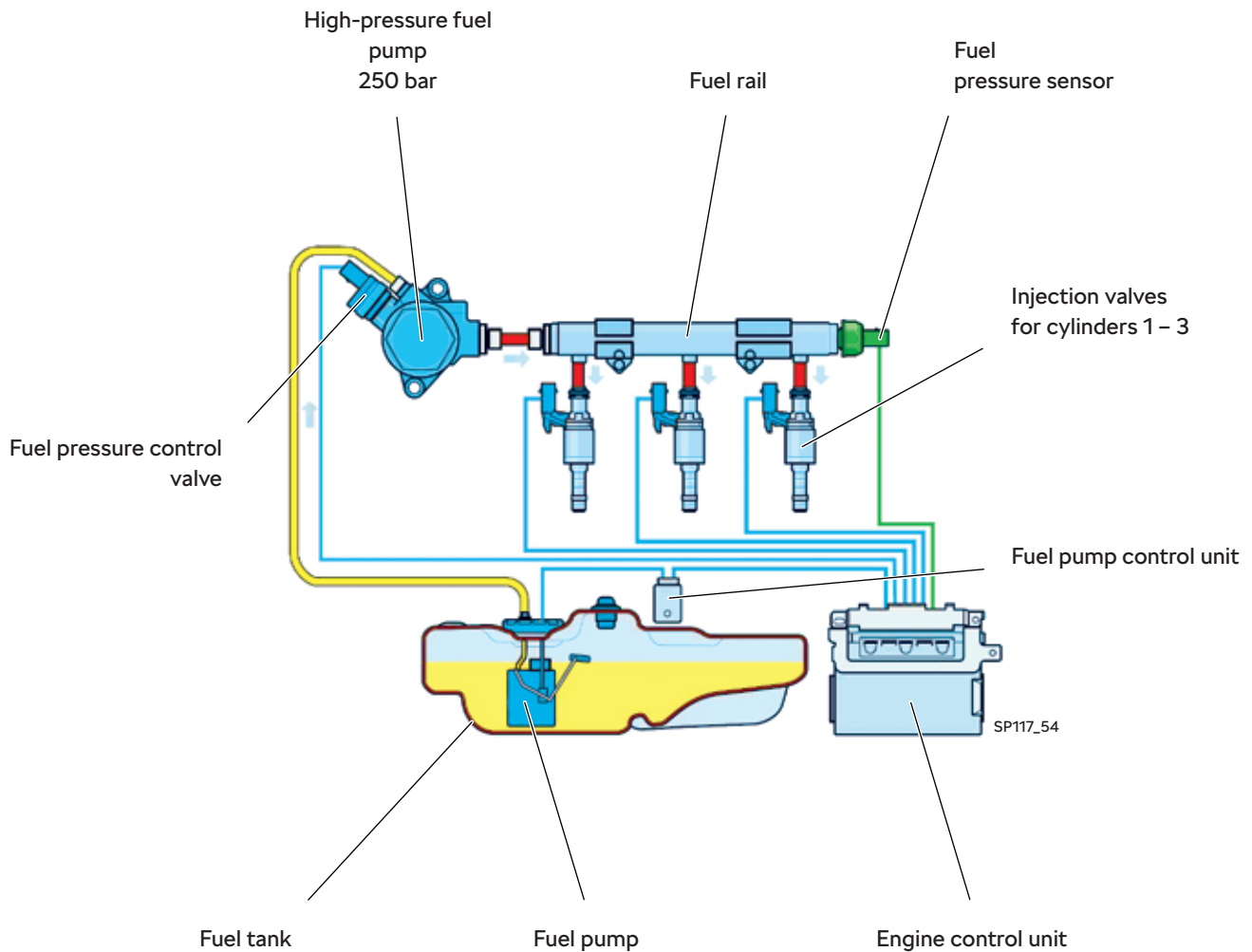
DLC COATS FOR PISTON PINS	
Layer thickness	~ 2,5 $\mu\text{m}$
Hardness	> 80 HRA (> 635 HV10)
Roughness	Rz 0.6; Rpk 0.08



### 1.4.3.3 Increased fuel pressure

The pressure in the high-pressure branch of the fuel injection system in the 1.0 TSI 85 kW engine has been increased from 200 to 250 bar.

Low-pressure fuel system components: fuel tank and fuel pump with a control unit. High-pressure fuel system components: fuel pump with a fuel pressure control valve, fuel rail and injection valves for cylinders 1 - 3.



- High-pressure fuel system
- Low-pressure fuel system
- Input signal / sensor
- Output signal / sensor

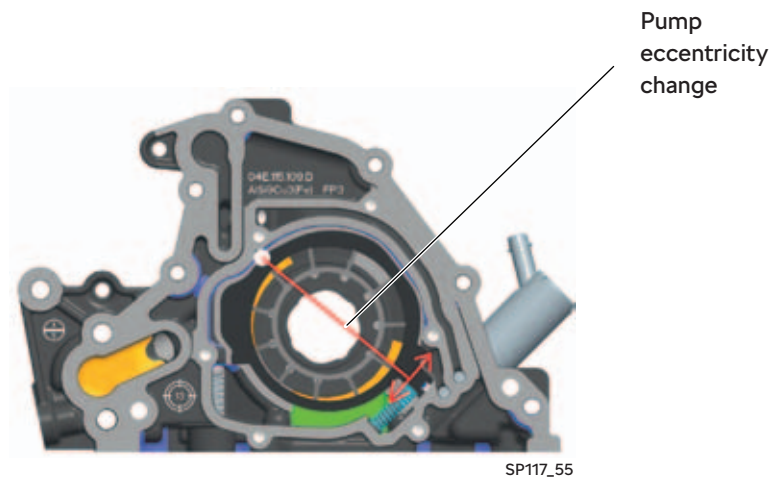
### 1.4.3.4 Controllable oil pump

The 1.0 TSI 85 kW engine is fitted with a vane oil pump with variable eccentricity (i.e. consequently also variable delivery volume) located on the crankshaft. In ordinary operating conditions the oil pressure can be controlled within a range of 1 - 4 bar, depending on the bearings-related needs and the cooling requirements for the pistons, cam adjusters, etc.

The oil pressure is sensed by a sensor in the engine head and compared against the required pressure field (“map”) in the control unit.

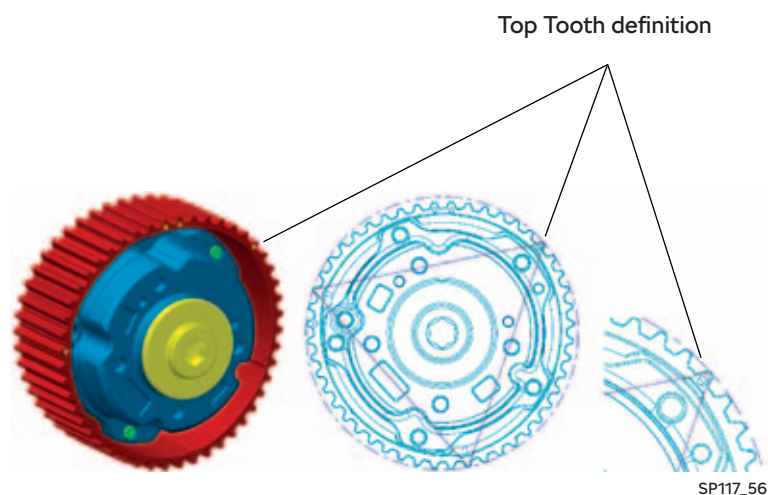
The system is controlled by PWM signal and a solenoid valve. This valve passes the high-pressure oil to a chamber above the stator, overcoming a spring and thus reducing the eccentricity level and, at the same time, the delivery level. This system ensures safe functionality in the event of a failure - the pump automatically operates on its maximum delivery level even without electric signal.

Further, the pump features a safety ball valve set to ~ 7 bar for cold starts.



### 1.4.3.5 Tri-oval timing gear pulleys

The tri-oval geometry of the intake and exhaust adjusters in the 1.0 TSI 85 kW engine is oriented exactly to the crankshaft position. The key benefit of the tri-oval gear profile definition and orientation is its significant contribution in terms of optimising the behaviour of the engine timing system and reducing its dynamic load.



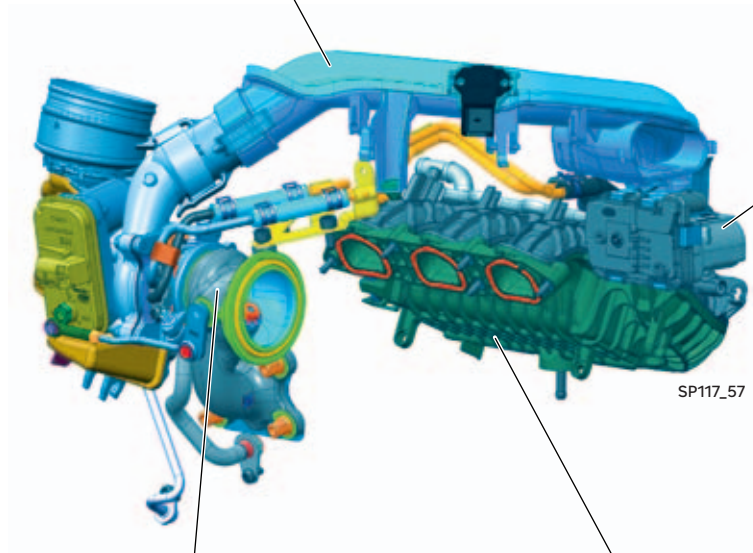
### 1.4.3.6 Optimised intake system

The intake system components in the 1.0 TSI 85 kW engine have been redesigned for a higher resistance to high pressures and temperatures.

The turbocharger generates 1.6 bar of relative charging pressure, and its thermal resistance is up to 1,050 °C. The bypass valve is electrically controlled.

The intake manifold integrates a compressed air intercooler.

Compressed air duct



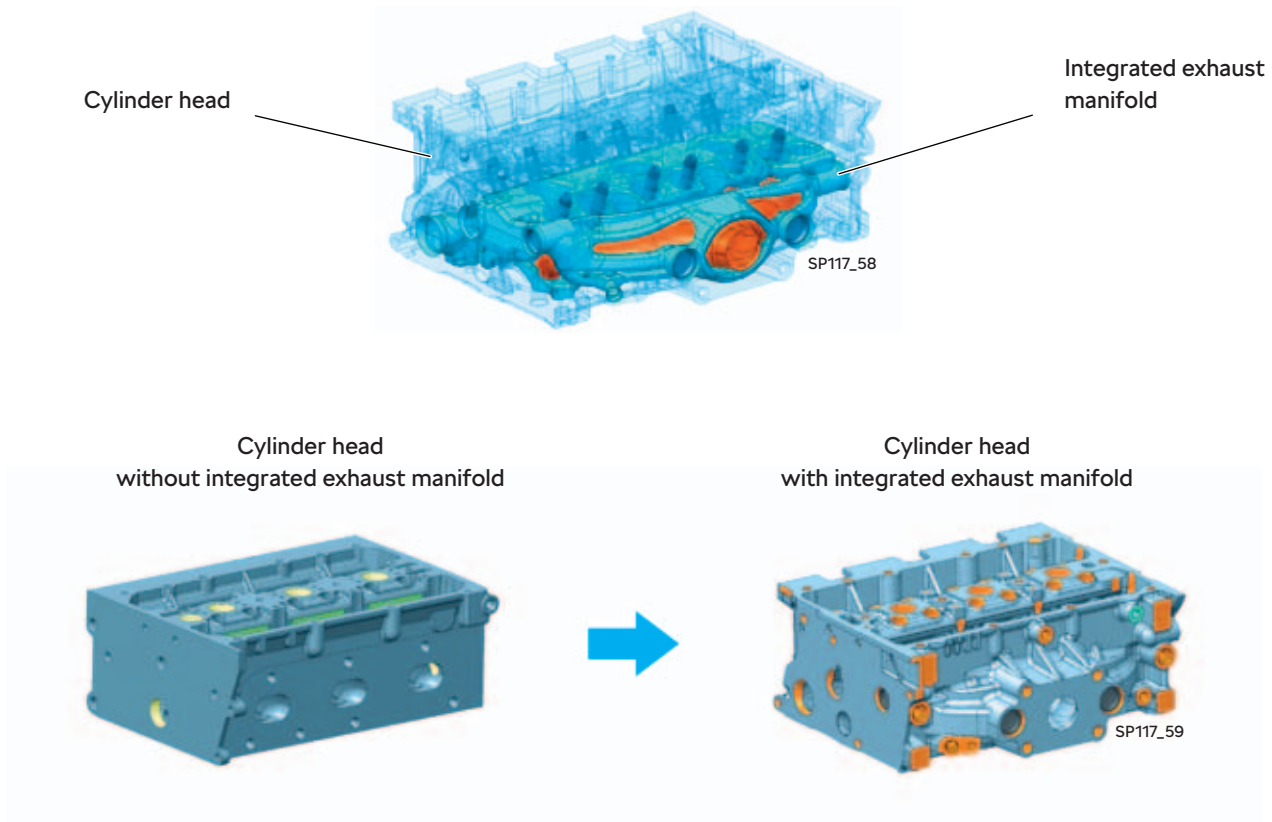
Throttle valve body

Turbocharger

Intake manifold  
with integrated compressed air  
intercooler

### 1.4.3.7 Exhaust manifold integrated into the cylinder head

The exhaust manifold of the 1.0 TSI 85 kW engine is integrated into the cylinder head. In terms of structural design, this component is a high-strength aluminium alloy casting. The key benefit of this solution is a reduced temperature of exhaust gases upstream of the turbocharger and therefore reduced mixture enrichment requirements. Another benefit is a faster engine warm-up.



### 1.4.3.8 Sodium-cooled exhaust valves

Used exclusively in the 1.0 I TSI 85/81 kW engine, this solution is a measure taken to prevent thermal overload on the valves (the stems might get “burnt off”). An increased quantity of heat is discharged from the valve head to the stem (guide) in the cylinder head, thanks to which the valve can operate at higher exhaust gas temperatures. The weight of the sodium valve is 3 g lower than that of the conventional valve. This is a benefit in terms of the valve control dynamics. The stem bore  $\varnothing$  is 3 mm (the wall thickness is only 1 mm).

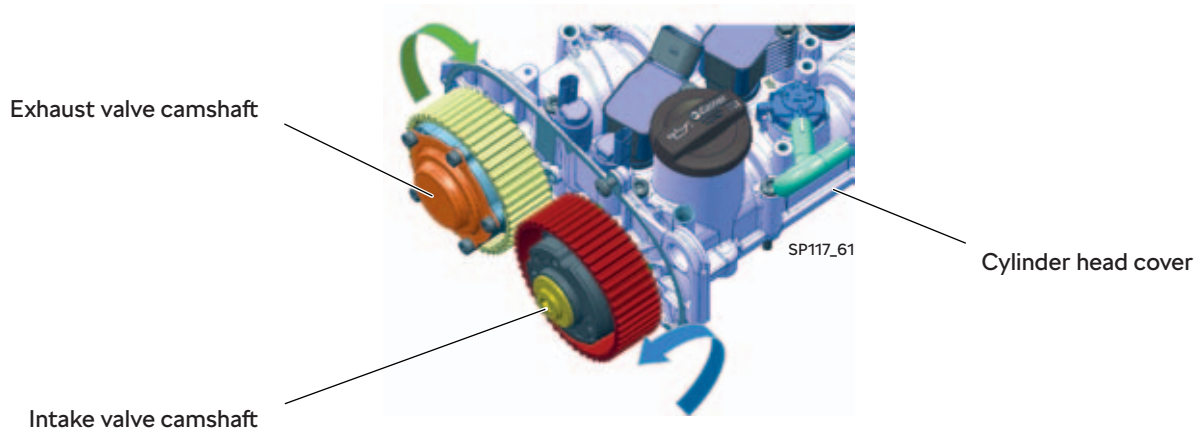
The valve stem cavity is filled to 60% with sodium that melts at 97.5 °C. When the engine is running, the liquid sodium oscillates inside the valve, thus transferring heat from the valve head to the stem.



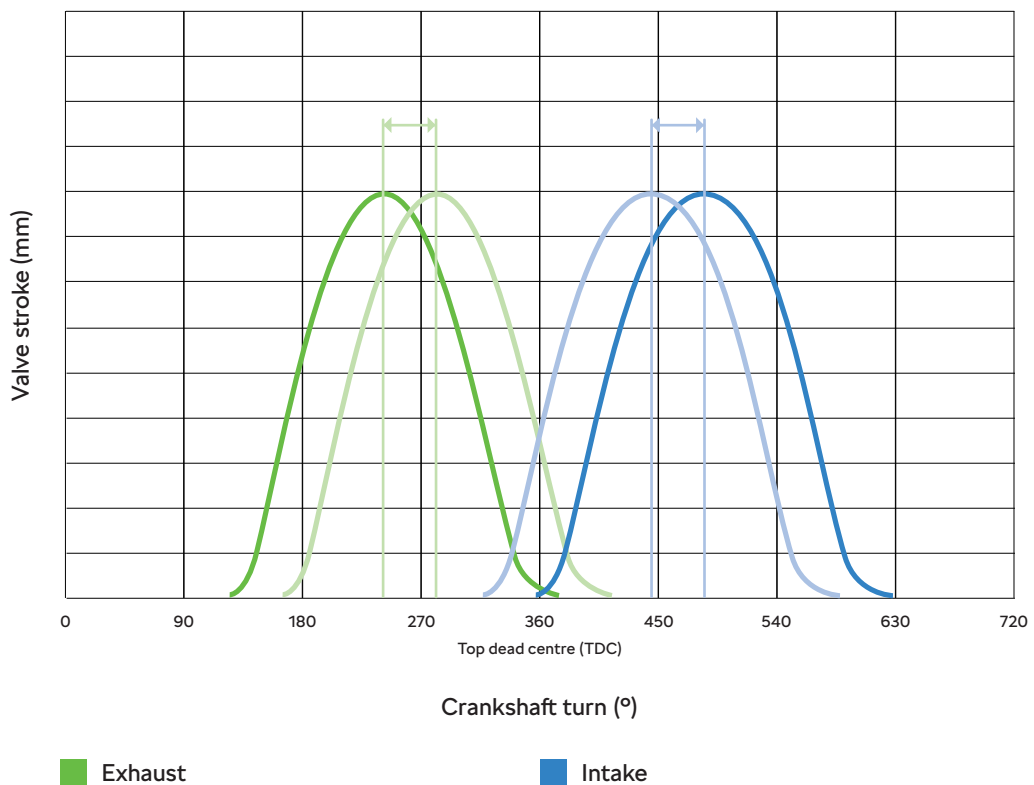
### 1.4.3.9 Variable intake and exhaust valve timing

The variable valve timing system increases the efficiency of the combustion process in the respective modes - across the whole range of revs and loads.

The 1.0 TSI 85 kW engine features a system of independent changes in the timing of the intake and exhaust camshafts.



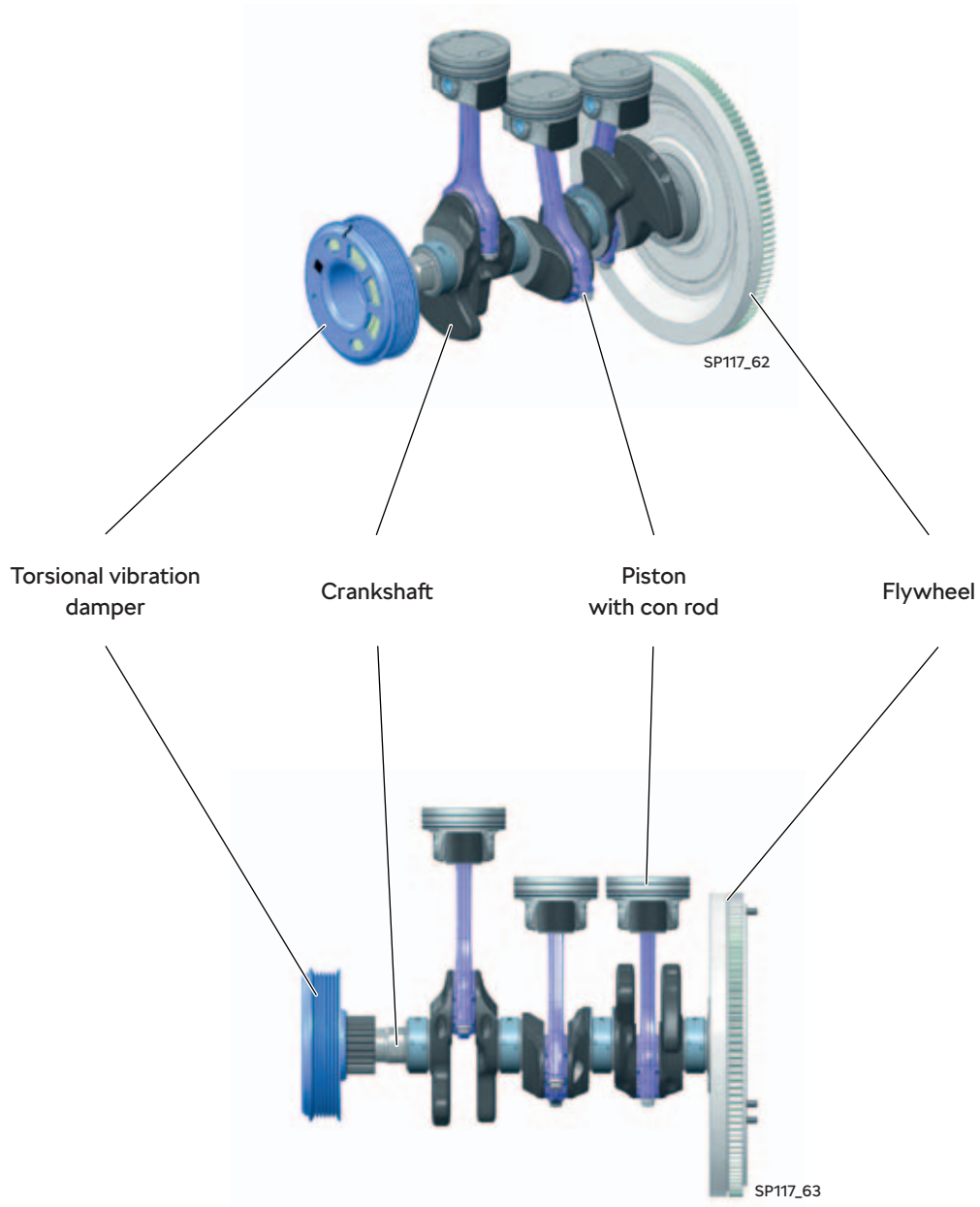
Variable valve timing in the 1.0 TSI 85 kW EA211 engine



### 1.4.3.10 Engine balancing

To improve the balancing of the 1,0 TSI 85 kW, the brand uses targeted application of the product of first-order inertia forces by means of increased flywheel and torsional vibration damper weights. Moving its vector to horizontal position facilitates the process of optimising the rigidity of the engine mount elements.

The result is a substantially reduced transfer of vibration into the vehicle's interior, particularly at idle.





## 1.5 1.5 TSI 110 kW ACT EA211 petrol engine

The high-end petrol unit for the ŠKODA KAROQ is the 1.5 TSI 110 kW ACT engine of the EA211 line. This new unit is making its debut at ŠKODA.

This four-cylinder turbocharged engine with direct fuel injection produces (max.) 110 kW of power at 5,000–5,500 min<sup>-1</sup> (engine speed).

The engine boasts a combination of high power output and low fuel consumption. Its lightweight, compact structural design features an aluminium cylinder block, forged crankshaft, optimised aluminium pistons and forged con-rods, and low friction losses improve its overall economy.

The engine weight under DIN 70020 is 115 kg (including the fly-wheel for the MQ250 (6-speed manual gearbox)).

The engine features Active Cylinder Technology (ACT). As necessary and depending on the engine load, the ACT system can deactivate the middle two engine cylinders to reduce the vehicle's fuel consumption.

Separate cylinder head and cylinder block cooling circuits. Water pump fitted with a couple of ball valves.

Variably timed intake and exhaust cams. Turbocharger pressure increased to 1.6 bar. Compressed air cooler integrated into the intake manifold. Exhaust manifold integrated into the cylinder head for improved engine thermomechanics.

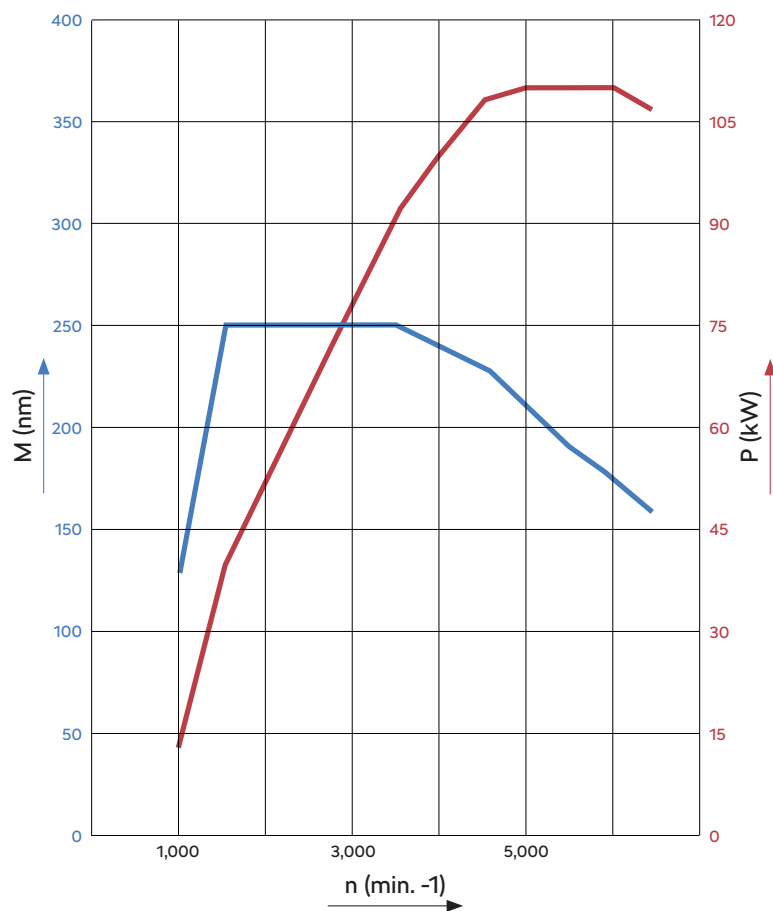
The engine can be combined with the 6-speed manual gearbox, as well as the 7-speed DSG.



## 1.5.1 1.5 TSI 110 kW ACT EA211 parameters

Structural design	Inline petrol engine, 2x OHC, turbocharged, liquid-cooled, with direct fuel injection, front transverse mounted
Number of cylinders/valves	4 / 16
Displacement	1,498 cm <sup>3</sup>
Bore	74.5 mm
Stroke	85.9 mm
Max. power output	110 kW at 5,000-6,000 min <sup>-1</sup>
Maximum torque	250 Nm at 1,500 - 3,500 min <sup>-1</sup>
Compression ratio	10.5: 1
Charging	Electronically controlled direct fuel injection
Ignition	Electronic, contactless, control unit-controlled
Lubrication	Pressure circulation with full-flow oil cleaner
Fuel	Lead-free petrol, minimum octane number 95
Emission standard	EU6

## 1.5.2 1.5 TSI 110 kW ACT EA211 power output and torque graph

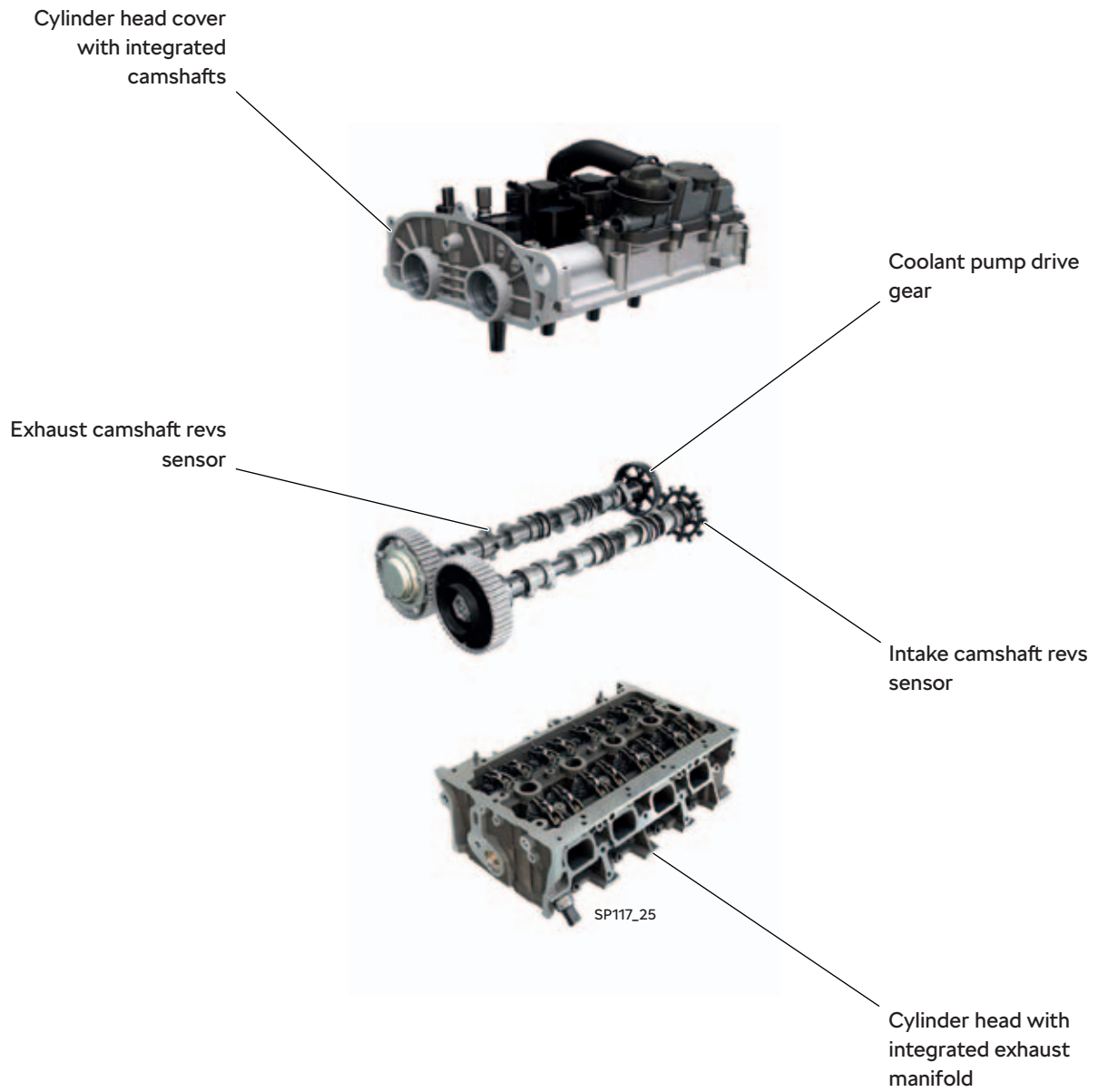


P – power, M – torque, n – engine speed (revs)

- Engine torque curve
- Engine power curve

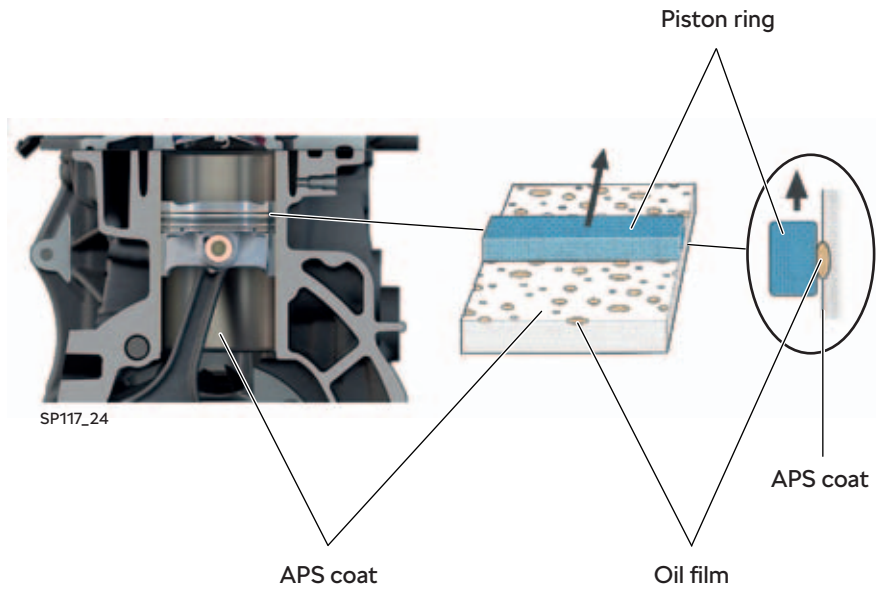
### 1.5.3 Cylinder head – integrated camshafts and exhaust manifold

Like in all EA211 engines, both of the camshafts in the 1.5 TSI 110 kW ACT engine are integrated into the cylinder head cover. The exhaust manifold is integrated into the cylinder head.



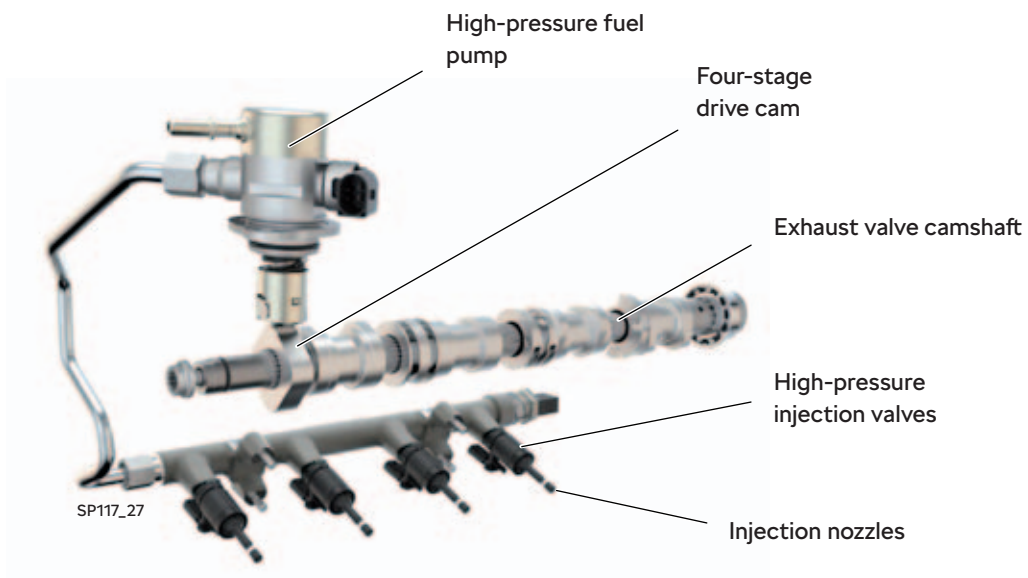
### 1.5.4 APS coat on cylinder walls

The 1.5 TSI 110 kW ACT engine features a thermal spray coat designed to protect the surface of the inner cylinder walls against abrasion and thermal exposures - APS (Atmospheric Plasma Spraying).



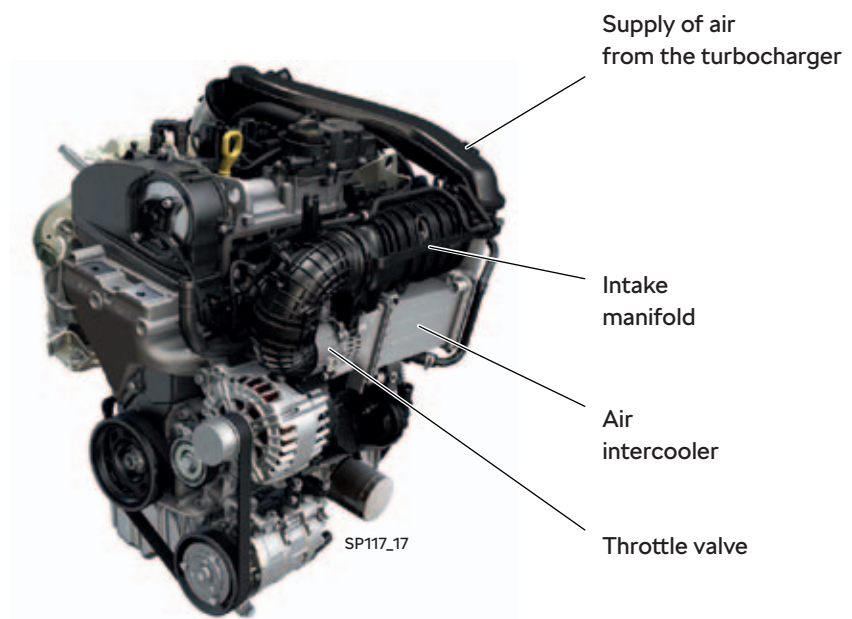
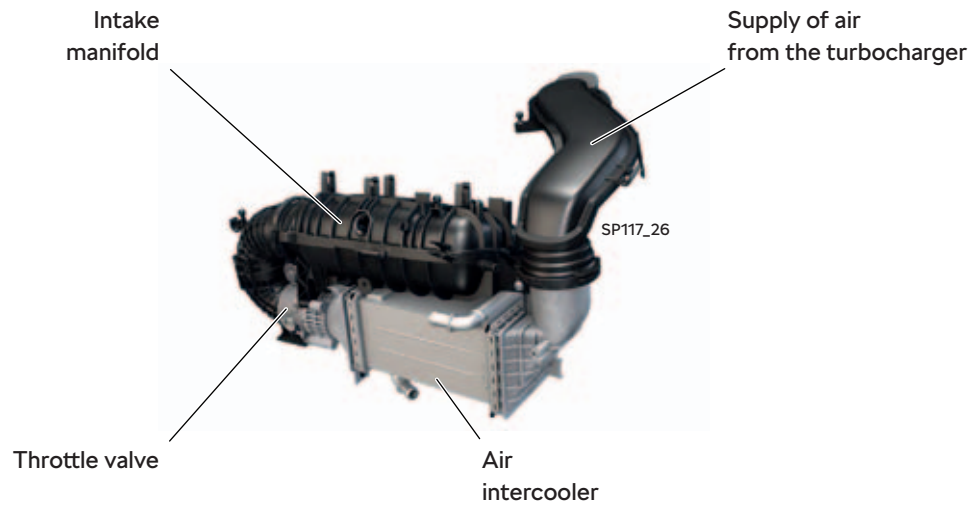
### 1.5.5 High-pressure fuel injection

The 1.5 TSI 110 kW ACT engine features increased fuel injection pressure levels for improved dispersion of fuel in the combustion chamber. The fuel system operates at pressures of up to 350 bar.



## 1.5.6 Air intercooler

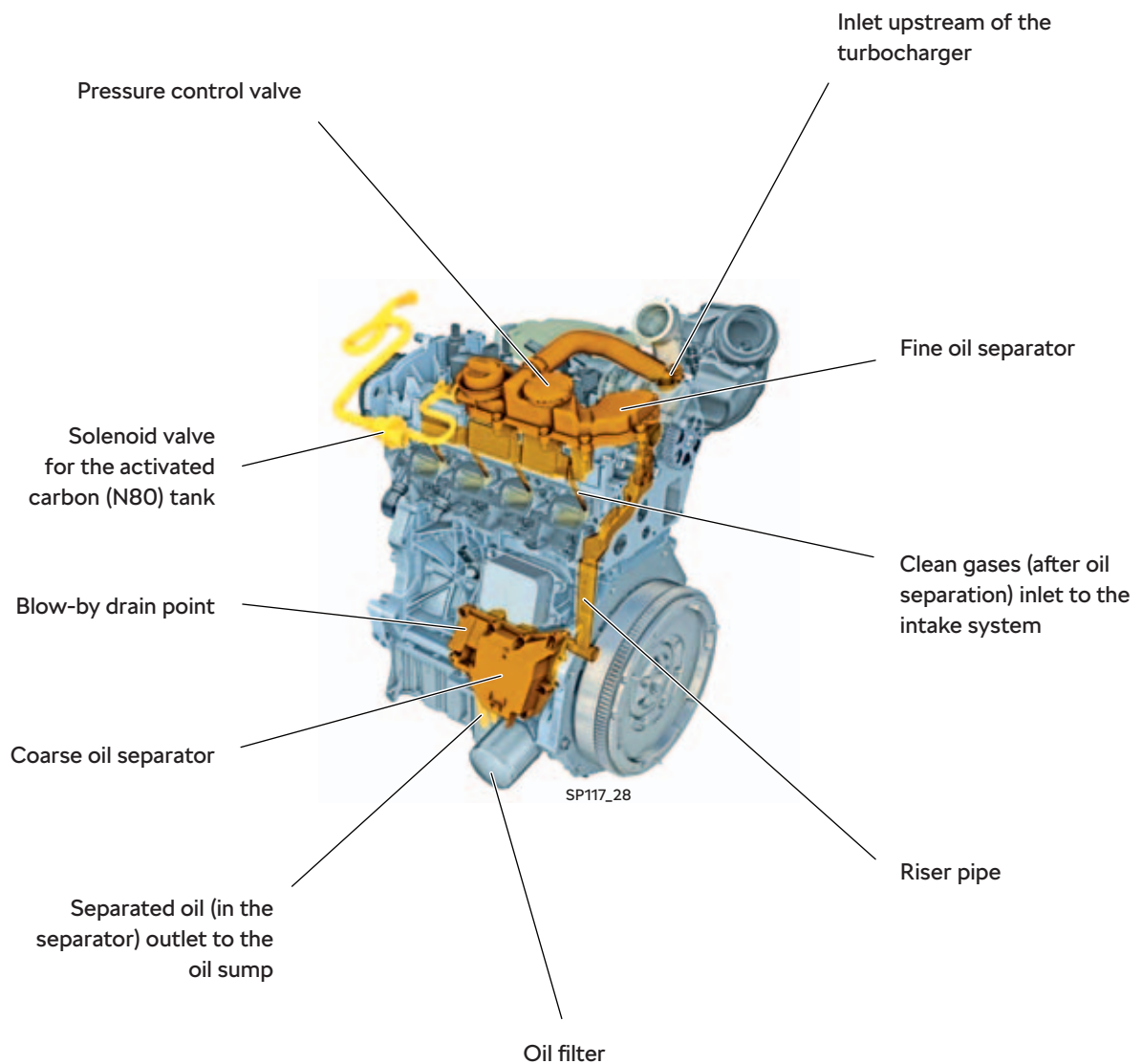
The intake manifold of the 1.5 TSI 110 kW ACT engine is fitted with an independent (external) air intercooler whose role is to reduce the temperature of air heated during its passage through the turbocharger and thus increase the efficiency of the mixture combustion process.



## 1.5.7 Crankcase ventilation

The main purpose of PCV, positive crankcase ventilation, is blow-by mixture vacuum control. The blow-by mixture may contain water, carbon monoxide and carbon dioxide, fuel, air or the already combusted mixture. Another substance present in this mixture is oil in the form of oil vapours. A flammable mixture may accumulate in the crankcase, posing a danger of ignition. As the gases accumulate, the pressure inside the crankcase grows and thus increases the danger of damaging the seal. The gaseous mixture may contaminate (degrade) the oil fill.

The 1.5 TSI 110 kW ACT engine features two oil separators, coarse and fine, and activated carbon (N80) tanks for blow-by cleaning.



## 1.5.8 Thermo Management

The 1.5 l 110kW TSI ACT engine features an electronically controlled water pump with a couple of ball valves. The block cooling and cylinder head cooling circuits are separate. The water pump operates in five modes.

### Mode 1

Both ball valves are closed, the coolant does not flow.

### Mode 2

Ball valve 1 is completely open, ball valve 2 is in position 2. The coolant flows through the block to the cylinder head and subsequently through the cylinder head outlet to the heating system. The cylinder block outlet to the water pump is closed.

### Mode 3

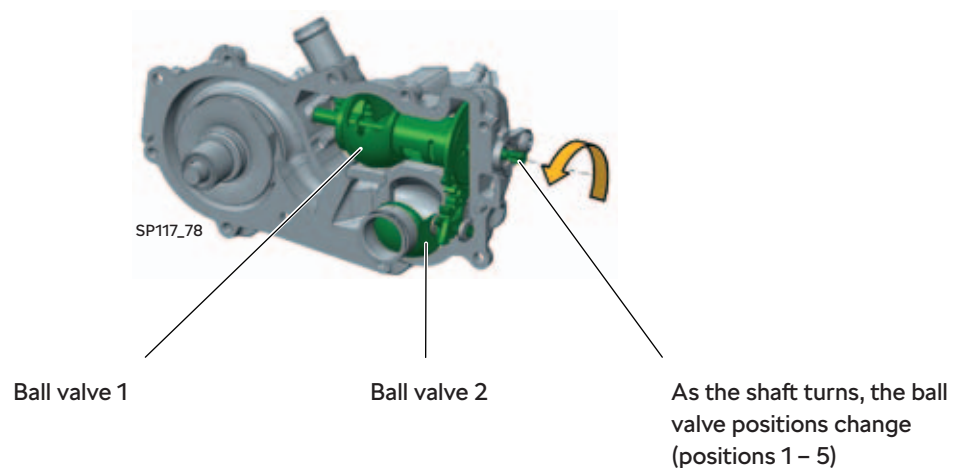
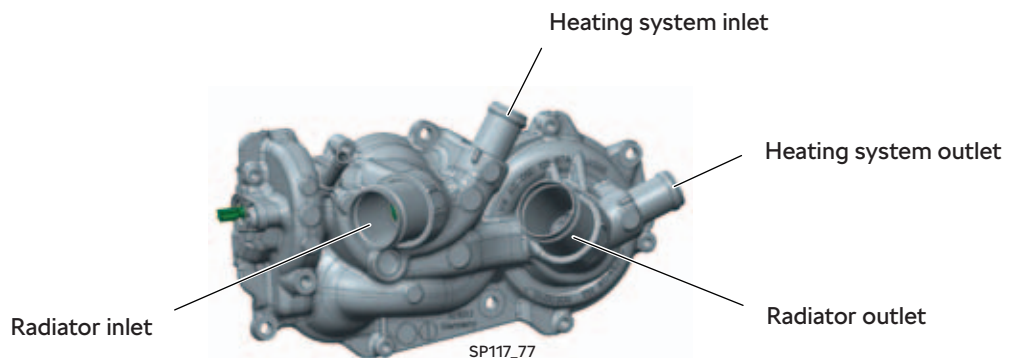
Ball valve 1 is completely open, ball valve 2 is in position 3. The coolant flows through the block to the cylinder head and subsequently through the block and cylinder head outlets, via the water pump, to the heating system. The cylinder block outlet to the water pump is open. From Mode 3 on, the cooling system is ventilated.

### Mode 4

Ball valve 1 is completely open, ball valve 2 is in position 4. The coolant flows through the block to the cylinder head and subsequently through the block and cylinder head outlets, via the water pump, to the heating system and radiator.

### Mode 5

Both ball valves are completely open – the water pump operates at its maximum cooling level.

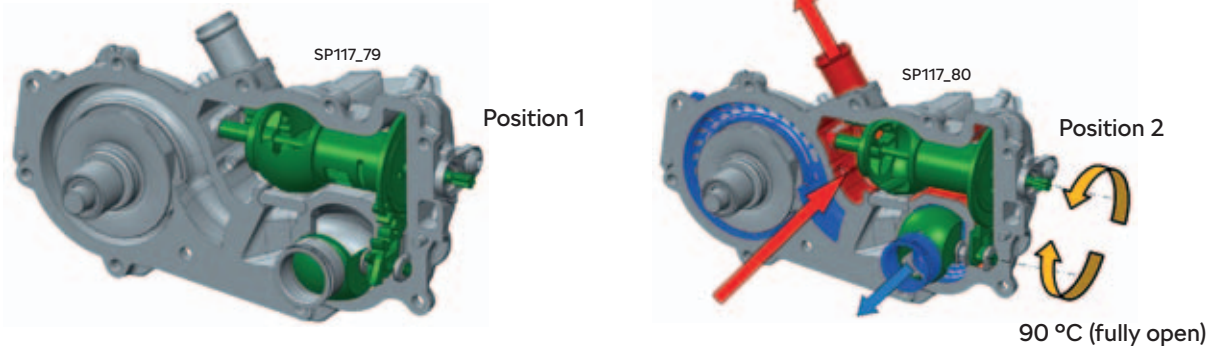


**Mode 1 (cold engine)**

Both ball valves are closed, the coolant does not flow. The engine warm-up to the operating temperature is faster (e.g. compared to EA111 engines).

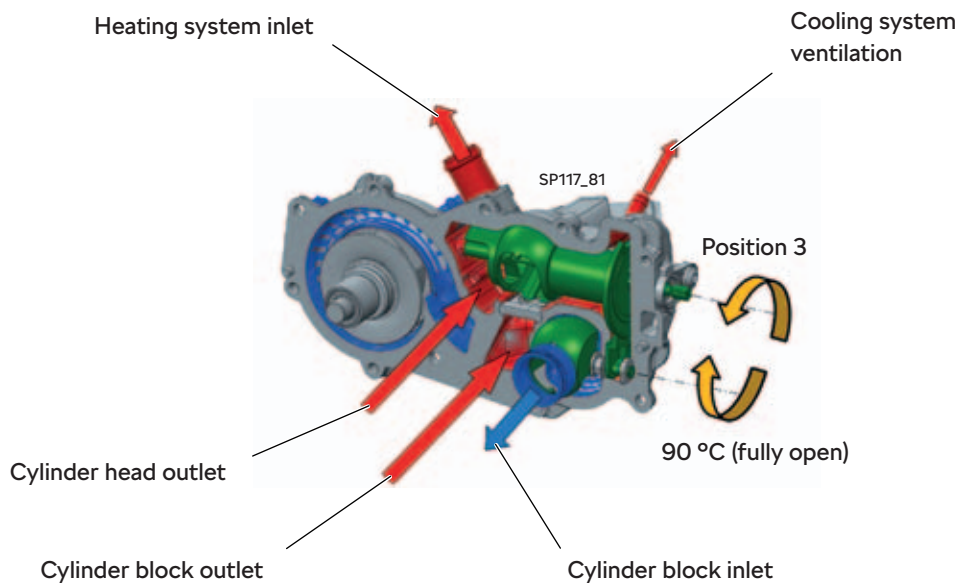
**Mode 2 (90 °C)**

Ball valve 1 is completely open, ball valve 2 is in position 2. The coolant flows through the block to the cylinder head and subsequently through the cylinder head outlet to the heating system where the first amount of heat is drawn off the coolant. The cylinder block outlet to the water pump is closed.



**Mode 3**

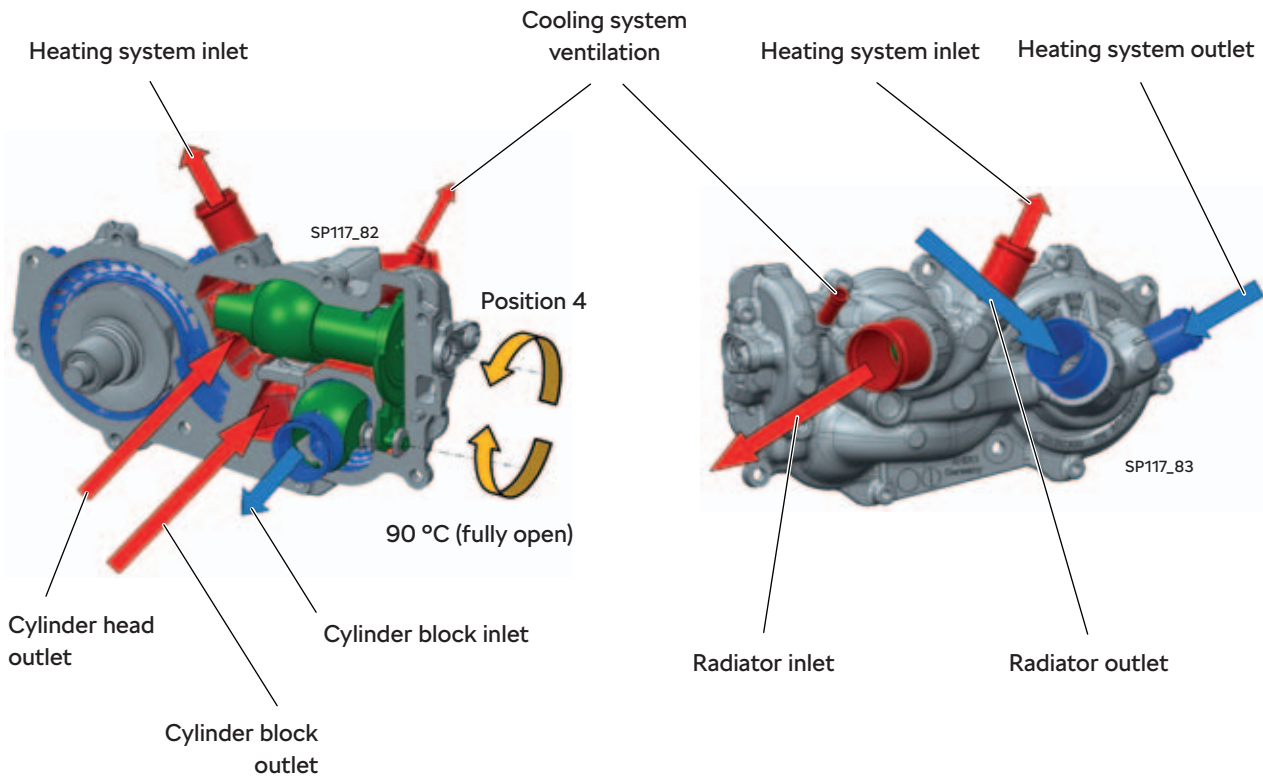
Ball valve 1 is completely open, ball valve 2 is in position 3. The coolant flows through the block to the cylinder head and subsequently through the block and cylinder head outlets, via the water pump, to the heating system. The cylinder block outlet to the water pump is open. From Mode 3 on, the cooling system is ventilated.





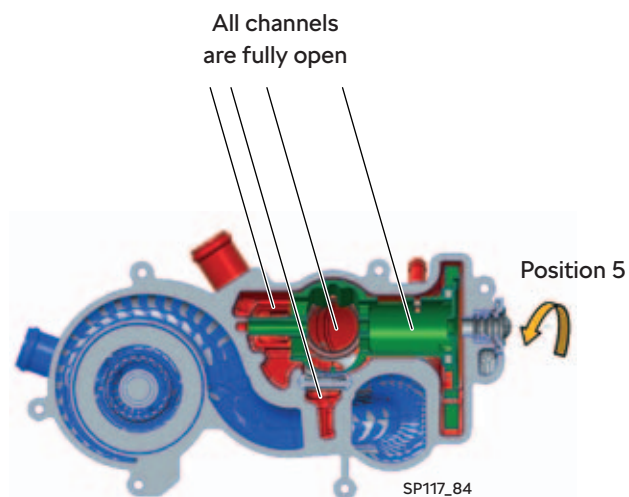
**Mode 4**

Ball valve 1 is completely open, ball valve 2 is in position 4. The coolant flows through the block to the cylinder head and subsequently through the block and cylinder head outlets, via the water pump, to the heating system and radiator.



**Mode 5**

Both ball valves are completely open – the water pump operates at its maximum cooling level.



## 1.6 Diesel engines

The diesel engines available for the ŠKODA KAROQ are based on the EA288 architecture.

EA288 engines are transverse mounted inline four-cylinder diesel units with high-pressure common rail injection and a VTG (variable turbine geometry) turbocharger. 2x OHC, balance shafts in the 140 kW version.

**Technological solutions designed to increase the diesel engine economy include, for example:**

- New alternator pulley for reduced friction
- Reduced piston friction
- 0W-30: low-viscosity oil
- Redesigned engine thermal management
- Reduced catalytic converter back pressure
- Optimised oil supply
- Compressed air intercooler

### 1.6.1 1.6 TDI 85 kW EA288 engine

The basic-line diesel unit for the ŠKODA KAROQ is the 1.6 TDI 85 kW engine.

Four-stroke, liquid-cooled inline four-cylinder diesel engine, turbocharged.. High-pressure common-rail fuel injection with solenoid injectors, injection pressure up to 2,000 bar.

Variable turbine geometry (VTG) turbocharger. Intake air intercooler integrated into the intake manifold.

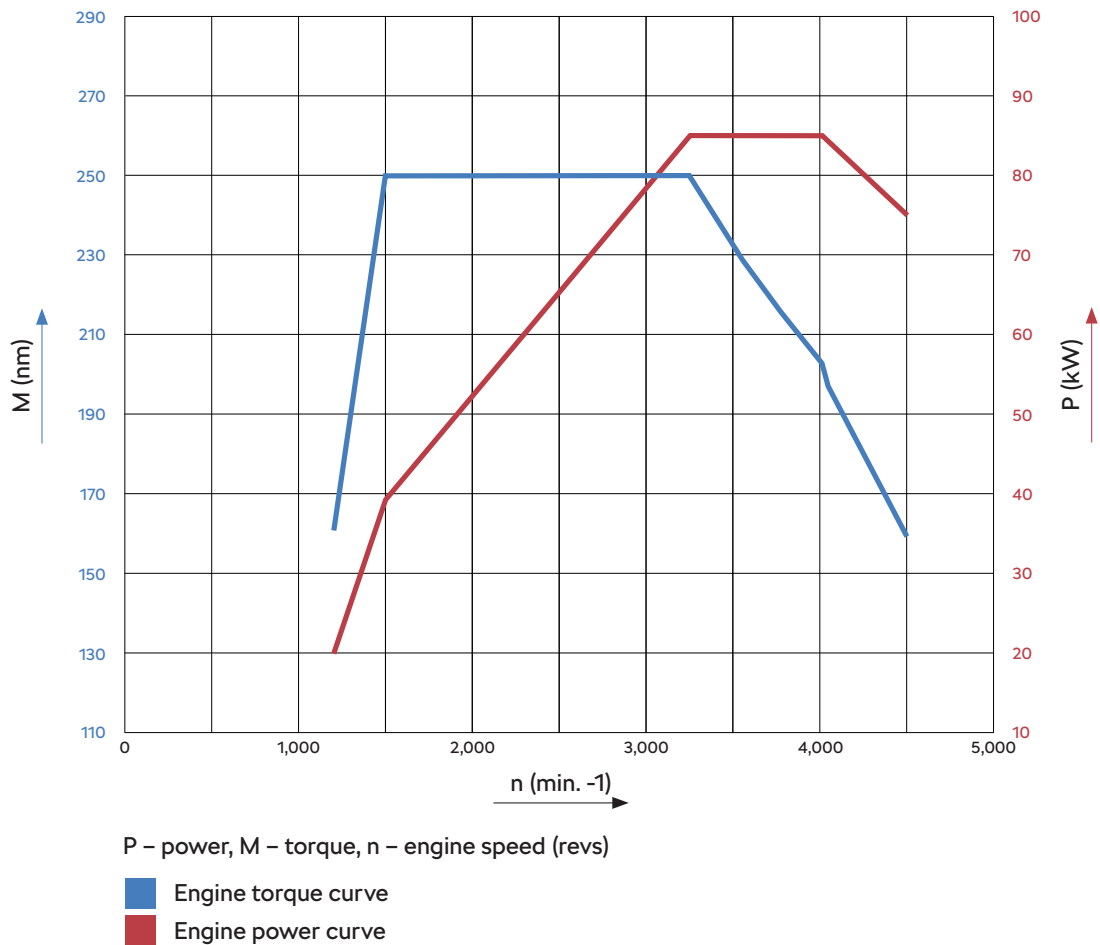
Camshafts driven by a toothed belt, replacement interval 210,000 km.

Exhaust gas cleaning/exhaust gas recirculation: two EGR valves and an exhaust gas cooler, four-way catalytic converter and DPF.

Grey cast iron engine block, aluminium cylinder head.

Structural design	Inline diesel engine with direct high-pressure fuel injection, turbocharged, variable turbine geometry. liquid-cooled, 2x OHC, front transverse mounted
Number of cylinders/valves	4 / 16
Displacement	1,598 cm <sup>3</sup>
Bore	79.5 mm
Stroke	80.5 mm
Max. power output	85 kW at 3,250 - 4,000 min <sup>-1</sup>
Maximum torque	250 Nm at 1,500 - 3,200 min <sup>-1</sup>
Compression ratio	16.2: 1
Charging	Electronically controlled direct high-pressure fuel injection - Common-Rail
Balance shafts	-
Lubrication	Pressure circulation with full-flow oil cleaner
Fuel	Diesel
Emission standard	EU6

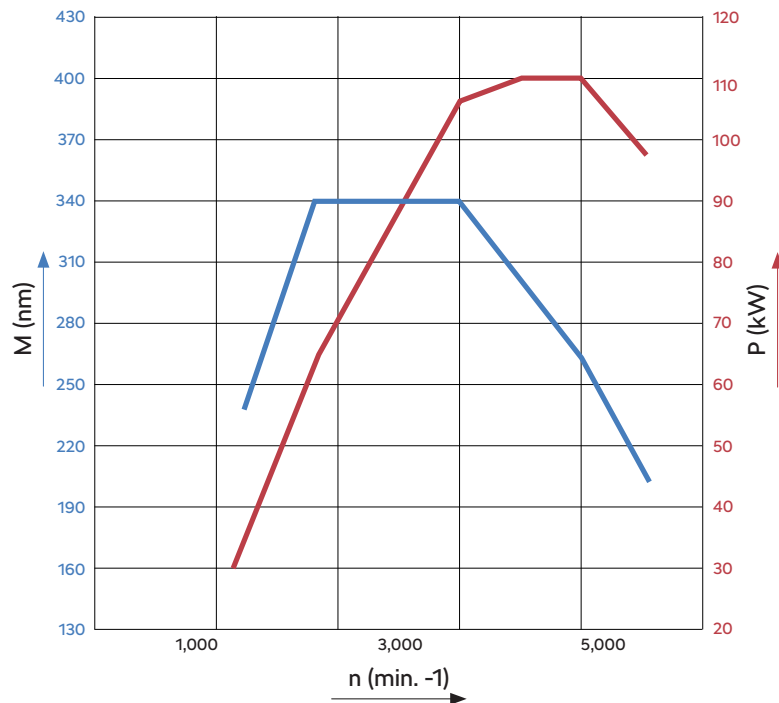
### 1.6.2 1.6 TDI 85 kW EA288 power output and torque graph



### 1.6.3 2.0 TDI 110 kW EA288 diesel engine

Structural design	Inline diesel engine with direct high-pressure fuel injection, turbocharged, variable turbine geometry. liquid-cooled, 2x OHC, front transverse mounted
Number of cylinders/valves	4 / 16
Displacement	1,968 cm <sup>3</sup>
Bore	81.0 mm
Stroke	95.5 mm
Max. power output	110 kW at 3,500 - 4,000 min <sup>-1</sup>
Maximum torque	340 Nm at 1,750 - 3,000 min <sup>-1</sup>
Compression ratio	16.2 : 1
Charging	Electronically controlled direct high-pressure fuel injection - Common-Rail
Balance shafts	-
Lubrication	Pressure circulation with full-flow oil cleaner
Fuel	Diesel
Emission standard	EU6

### 1.6.4 2.0 TDI 110 kW EA288 power output and torque graph



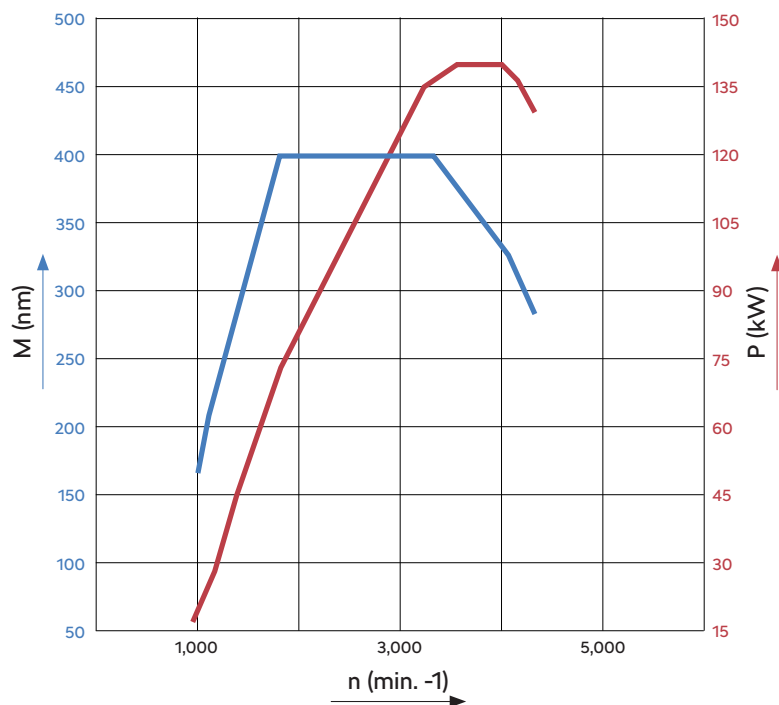
P – power, M – torque, n – engine speed (revs)

- Engine torque curve
- Engine power curve

## 1.6.5 2.0 TDI 140 kW EA288 diesel engine

Structural design	Inline diesel engine with direct high-pressure fuel injection, turbocharged, variable turbine geometry. liquid-cooled, 2x OHC, front transverse mounted
Number of cylinders/valves	4 / 16
Displacement	1,968 cm <sup>3</sup>
Bore	81.0 mm
Stroke	95.5 mm
Max. power output	140 kW at 3,500 - 4,000 min <sup>-1</sup>
Maximum torque	400 Nm at 1,900 - 3,300 min <sup>-1</sup>
Compression ratio	15.5 : 1
Charging	Electronically controlled direct high-pressure fuel injection - Common-Rail
Balance shafts	Two balance shafts
Lubrication	Pressure circulation with full-flow oil cleaner
Fuel	Diesel
Emission standard	EU6

## 1.6.6 2.0 TDI 140 kW EA288 power output and torque graph



P – power, M – torque, n – engine speed (revs)

- Engine torque curve
- Engine power curve

## 2. Gearboxes

The five engines available for the ŠKODA KAROQ can be combined with three manual gearboxes and two automatic DSGs.

The gear ratios are tailored to be in line with the power and torque parameters of each engine.

### 2.1 Gearbox-and-engine configurations

MANUAL GEARBOXES		
<b>MQ 200-6F</b>	<b>MQ 250-6F</b>	<b>MQ 350-6F/A</b>
1.0 TSI/85 kW	1.5 TSI/110 kW ACT	2.0 TDI/110 kW
	1.6 TDI/85 kW	

AUTOMATIC GEARBOXES	
<b>DQ 200-7F</b>	<b>DQ 381-7A</b>
1.0 TSI/85 kW	1.5 TSI/110 kW ACT
1.5 TSI/110 kW ACT	2.0 TDI/110 kW
1.6 TDI/85 kW	2.0 TDI/140 kW

Note: The figure behind the hyphen stands for the number of speeds. The last letter in the gearbox code stands for front-wheel-drive (F-front) and connectable rear axle (A-all-road).

## 2.2 Manual gearboxes

All of the manual gearboxes available for the ŠKODA KAROQ are six-speed units.

The MQ 200-6F, MQ 250-6F and MQ 350-6F/A boast high precision, short gear shift travel, high reliability and low maintenance demands.

	MQ 200-6F	MQ 250-6F	MQ 350-6F/A
Number of speeds (gears)	6	6	6
Torque transmission	200 Nm	250 Nm	350 Nm
Clutch design	Single plate dry clutch, flywheel	Single plate dry clutch, flywheel	Single plate dry clutch, flywheel
Synchronisation	All speeds, double for speeds 1 and 2	All speeds, double for speeds 1 and 2	All speeds, double for speeds 1, 2 and 3
Housing material	Aluminium	Aluminium	Magnesium
Control	Bowden cable	Bowden cable	Bowden cable
Transmission oil fill quantity	2.1 l	2.1 l	2.3 l
Transmission oil change interval	Permanent fill	Permanent fill	Permanent fill



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## 2.3 Automatic gearboxes

Two automatic gearboxes are available for the ŠKODA KAROQ, DQ 200-7F and DQ 381-7A that has replaced the six-speed DQ 250-6F.

	DQ200-7F	DQ381-7A
Number of speeds (gears)	7	7
Torque transmission	250 Nm	420 Nm (350 Nm for speed 1)
Clutch design	Torque transmitted by a dual-plate dry clutch	Torque transmitted by a dual-plate clutch in oil bath
Oil circuit	Separate oil circuits for the gearbox and the mechatronics units	Oil circuit shared by the gearbox and mechatronics
Oil cooling	No cooling	Oil/water heat exchanger (engine cooling circuit)
Oil pump	Electric oil pump in the mechatronics unit (activated as necessary)	Mechanical oil pump in the gearbox (connected permanently) and auxiliary electric pump
Transmission oil fill quantity	1.9 l (+ 1.0 l of hydraulic fluid in the mechatronics module)	7.0 l
Transmission oil change interval	Permanent fill	Every 120,000 km



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### 2.3.1 Automatic 7-speed DQ 200-7F

The automatic 7-speed DQ 200-7F gearbox is designed to transmit engine torque of up to 250 Nm, using a dual-plate dry clutch. The gearbox weight is approximately 72 kg.



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### 2.3.2 Automatic 7-speed DQ 381-7A

The DQ 381-7A, an automatic 7-speed gearbox, has replaced the six-speed DQ 250-6F. Using a dual plate clutch in an oil bath, this gearbox is designed to transmit engine torque of up to 420 Nm, except for speed 1 where the maximum torque is limited to 350 Nm. The gearbox weight is approximately 103 kg (Version A – 4x4).



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### 2.3.2.1 7-speed DQ 381-7A improvements as compared to the 6-speed DQ 250-6F

Most of the improvements made to the DQ 381-7A automatic gearbox are aimed at increasing its efficiency and thus reducing the production of CO<sub>2</sub>. Depending on the engine/vehicle configuration, this reduction can be as much as 10 g/km.



Number of speeds increased to seven, gear ratio up to 8.5.

“Fest-Los Lagerung” technology – ball bearing and roller bearing.

Hydraulic part optimised for increased efficiency. Both pumps are mechanical, auxiliary pump driven by an electric motor.

New low-viscosity transmission oil; fill quantity 7 litres, replacement interval 120,000 km.  
Oil filter - no replacement required.

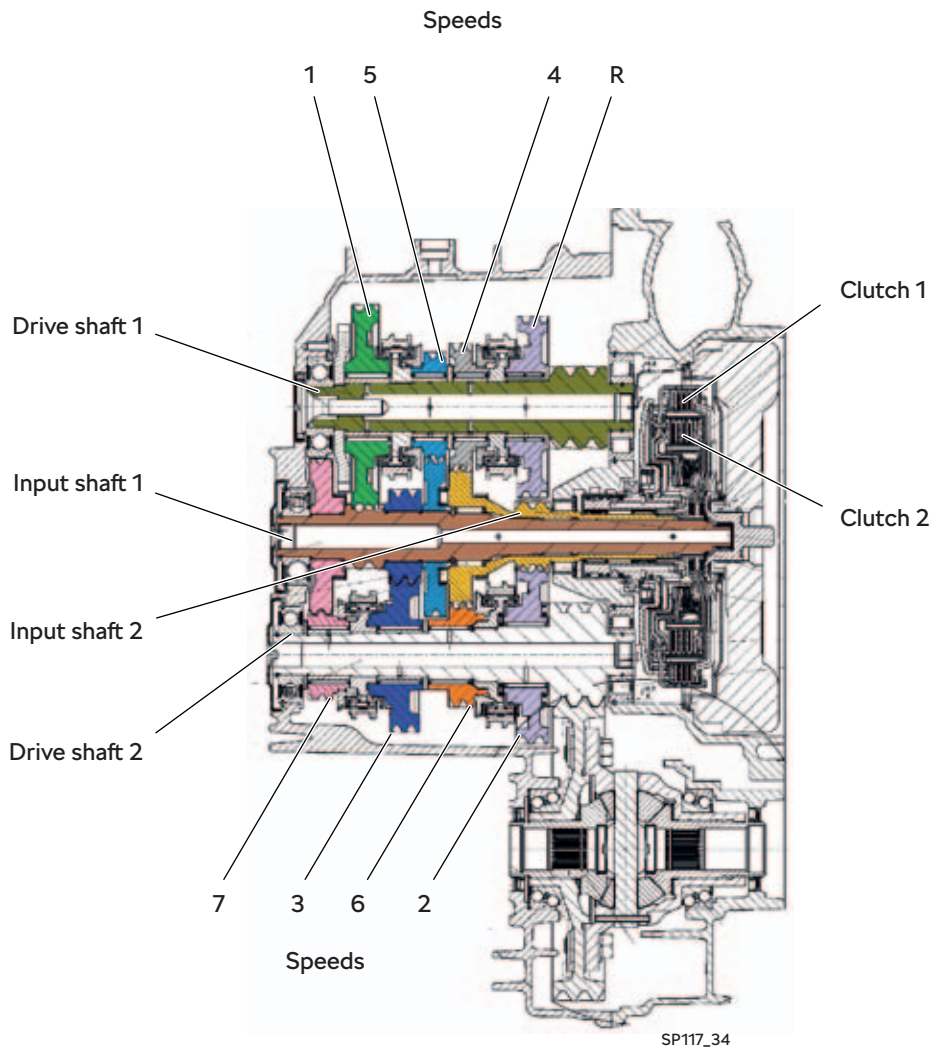
Gearbox seals optimised for increased efficiency.

Two gear ratio options in 4X4 – two different front angular gears, depending on the engine power output.

DIFFERENT FRONT ANGULAR GEARS	
<b>VAA350</b>	<b>VAA380</b>
2.0 TDI 110kW 1.5 TSI 110 kW ACT	2.0 TDI 140kW
From Speed 2 on, the engine torque is limited to 390 Nm	From Speed 2 on, the engine torque can reach as much as 420 Nm

### 2.3.2.2 7-speed DQ 381-7A cross section view

The cross section view of the 7-speed DQ 381-7A (automatic gearbox) illustrates the layout and locations of the clutch set, shafts and the individual speeds (7 + R).



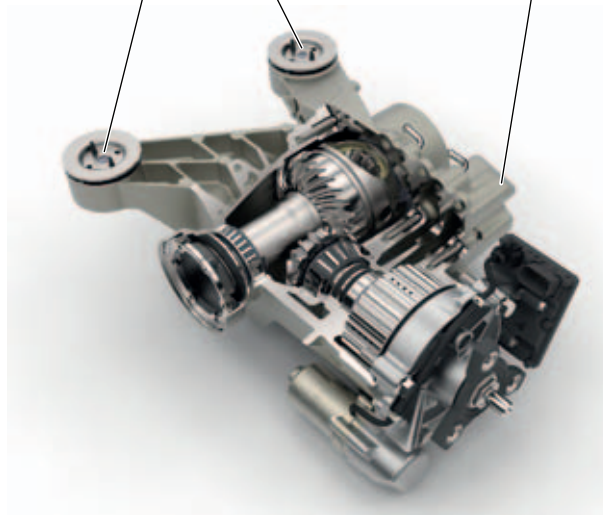
## 2.4 4x4

The 4x4 version of the ŠKODA KAROQ features the Gen 5 inter-axle clutch by Borg Warner that made its debut at ŠKODA in the Octavia 3. The rear angular gear is manufactured by MAGNA Powertrain.



Fixing beds

Inter-axle clutch

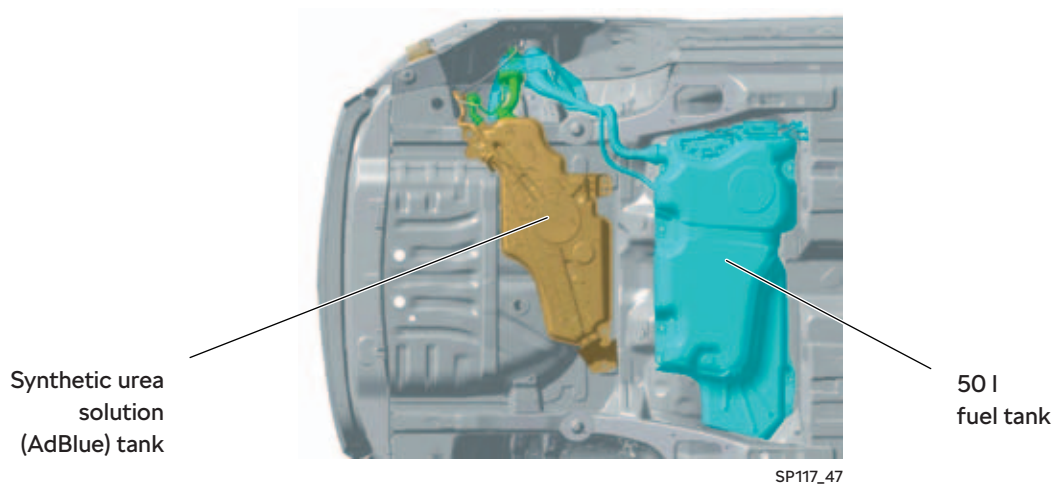


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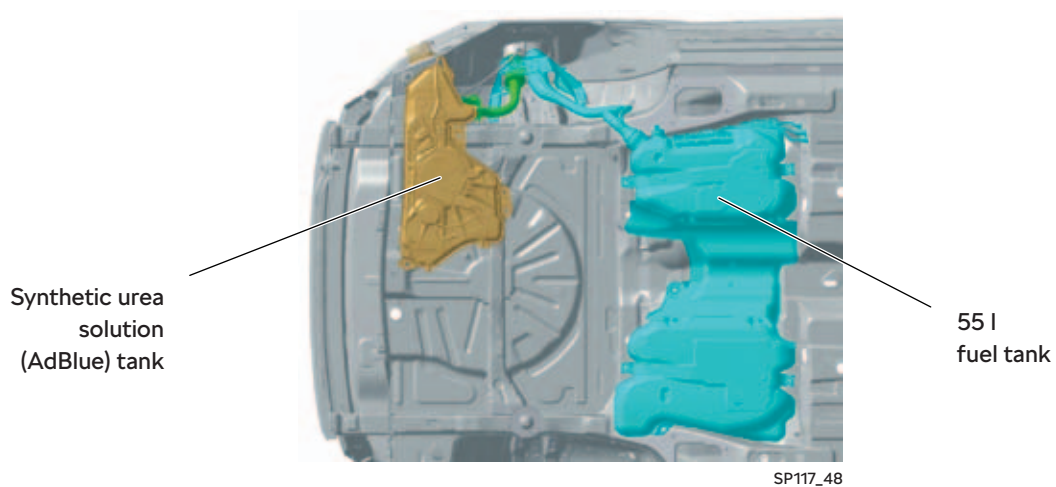
### 3. Fuel system

The fuel tanks available for the ŠKODA KAROQ come in different shapes and volumes, depending whether the vehicle is a front-wheel-drive or 4x4. In addition to the fuel tank, diesel vehicles also come with a tank for AdBlue (located near the fuel tank), a synthetic urea solution used to reduce emission levels by means of SCR – Selective Catalytic Reduction.

#### Fuel tank and AdBlue tank locations – front-wheel-drive



#### Fuel tank and AdBlue tank locations – 4x4



## 4. Multimedia information systems

The ŠKODA KAROQ's multimedia information system comes in four basic lines. The individual MIBs (Modularer Infotainment Baukasten) differ in terms of hardware and functions.

- MIB II GP ENTRY Plus
  - Without telephone functions
  - With telephone functions
- MIB II STANDARD Plus
- MIB II STANDARD Nav
- MIB II High

Save the bottom-end MIB II GP ENTRY Plus (Swing), the displays and controls are separate from the central unit in all of the MIBs.

MIB II STANDARD Nav (Amundsen) and MIB II High (Columbus) also offer navigation functions, including 2.5D and/or 3D navigation.

These systems can be connected to a variety of multimedia devices (e.g. smartphones, tablets, music players), either via cable or wireless.



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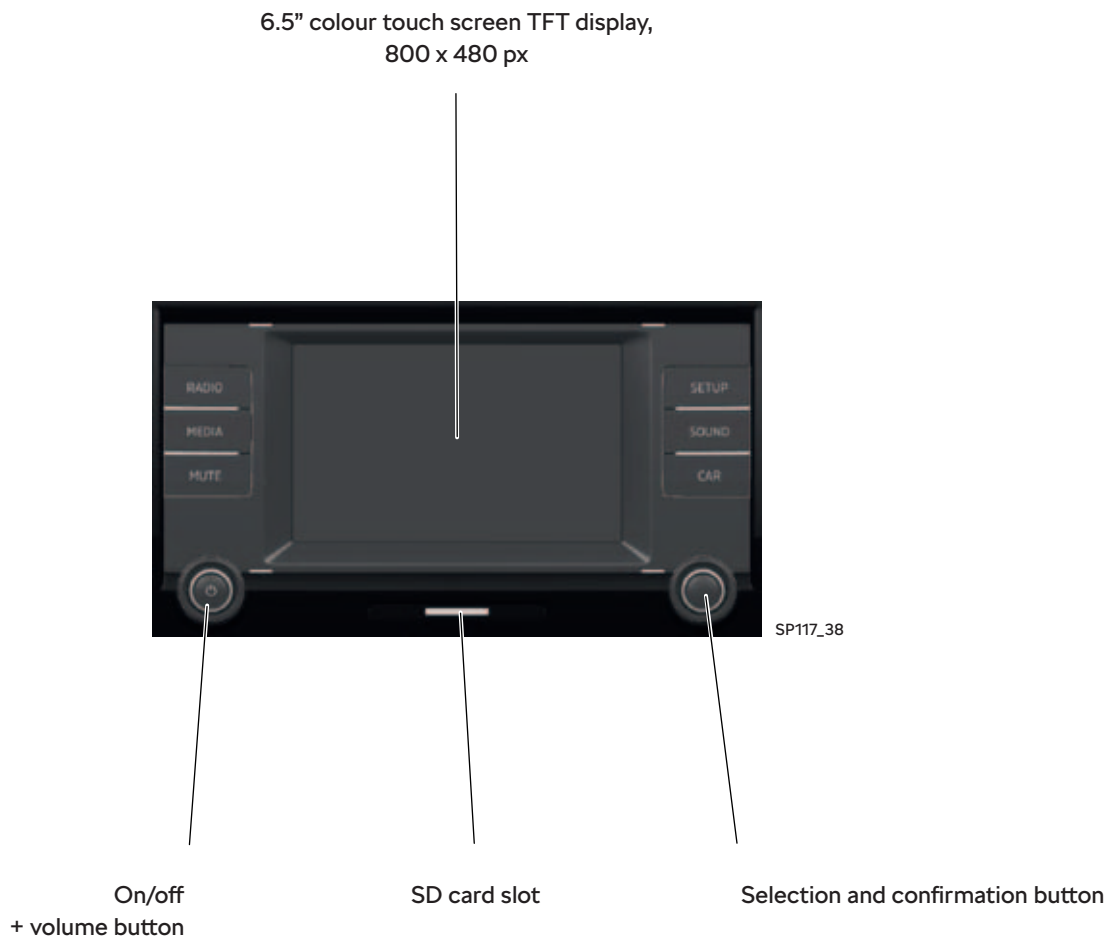
## 4.1 ŠKODA KAROQ MIB functions overview

<b>MIB SYSTEMS OVERVIEW</b>			
<b>MIB II GP ENTRY Plus SWING</b>	<b>MIB II STANDARD Plus BOLERO</b>	<b>MIB II STANDARD Nav AMUNDSEN</b>	<b>MIB II High COLUMBUS</b>
6.5" capacitive colour touch screen Resolution: 800 x 480 px Dimensions: 142 x 86 mm	8" capacitive colour touch screen Resolution: 800 x 480 px Dimensions: 174 x 104.4 mm	8" capacitive colour touch screen Resolution: 800 x 480 px Dimensions: 174 x 104.4 mm	9.2" capacitive colour touch screen Resolution: 1,280 x 640 px Dimensions: 208.7 x 104.4 mm
AM/FM, Car Menu	AM/FM, Car Menu	AM/FM, Car Menu	AM/FM, Car Menu
USB with support for Apple devices	USB with support for Apple devices	USB with support for Apple devices	USB with support for Apple devices
1 SD card slot	1 SD card slot	2 SD card slots	2 SD card slots
4 speakers in the front	4 speakers in the front 4 speakers in the rear	4 speakers in the front 4 speakers in the rear	4 speakers in the front 4 speakers in the rear
Telephony (telephone version only)	High-comfort phone calls and text messaging	High-comfort phone calls and text messaging	High-comfort phone calls and text messaging
Voice control* (only with SmartLink+)	Voice control	Voice control	Voice control
SmartLink+ (telephone version only)	SmartLink+	SmartLink+	SmartLink+
		WLAN (Hotspot)	WLAN (Hotspot)
		2.5D navigation	3D navigation
			SSD hard disc 64 GB
			DVD drive
			HD Video
<b>OTHER FUNCTIONS</b>			
DAB tuner	DAB tuner	DAB tuner	DAB tuner
4 speakers in the rear	Phone Box with wireless charging	Phone Box with wireless charging	Phone Box with wireless charging
High-comfort telephony	CANTON sound system	CANTON sound system	CANTON sound system
		MapCare (for Europe)	MapCare (for Europe)
		Wireless app - RSE Light	Wireless app - RSE
			Premium telephony (LTE, rSAP)

## 4.2 MIB II GP ENTRY Plus – Swing

The Swing multimedia system is the bottom-end infotainment system offered in the ŠKODA KAROQ.

The display and the central unit constitute a single item located in the middle of the dashboard. This multimedia system features a capacitive colour touch screen TFT display with a resolution of 800 x 480 px. An SD card slot is located under the display.



### SWING

Ports and media	USB slot with support for Apple devices (audio), SD slot, Bluetooth audio streaming
Supported audio formats	MP3, WMA, ID3 tag support
Supported imaging formats	JPG, JPEG, PNG, BMP, GIF (radio channel logos and covers of albums played from an SD card or USB memory medium)
Tuner	Double FM tuner with diversity reception technology
Power output	4 x 20W



The Swing system comes with two front-panel options, without telephony and with telephony, and each of them features different buttons.

### Non-phone version

MUTE button

SOUND button



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### Phone version

PHONE button

APP button

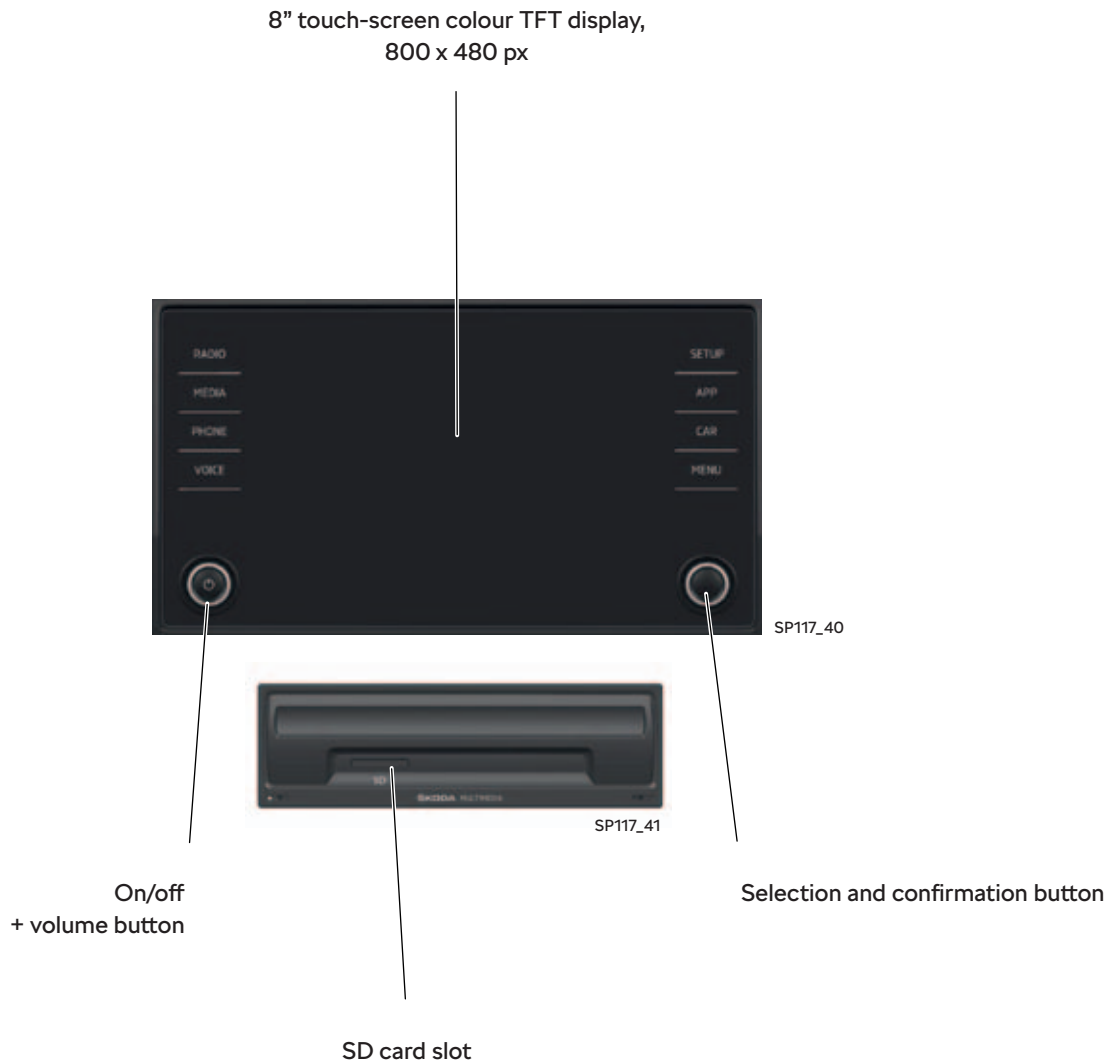


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### 4.3 MIB II STANDARD Plus - Bolero

The Bolero multimedia system is the second-level product in the ŠKODA KAROQ infotainment portfolio.

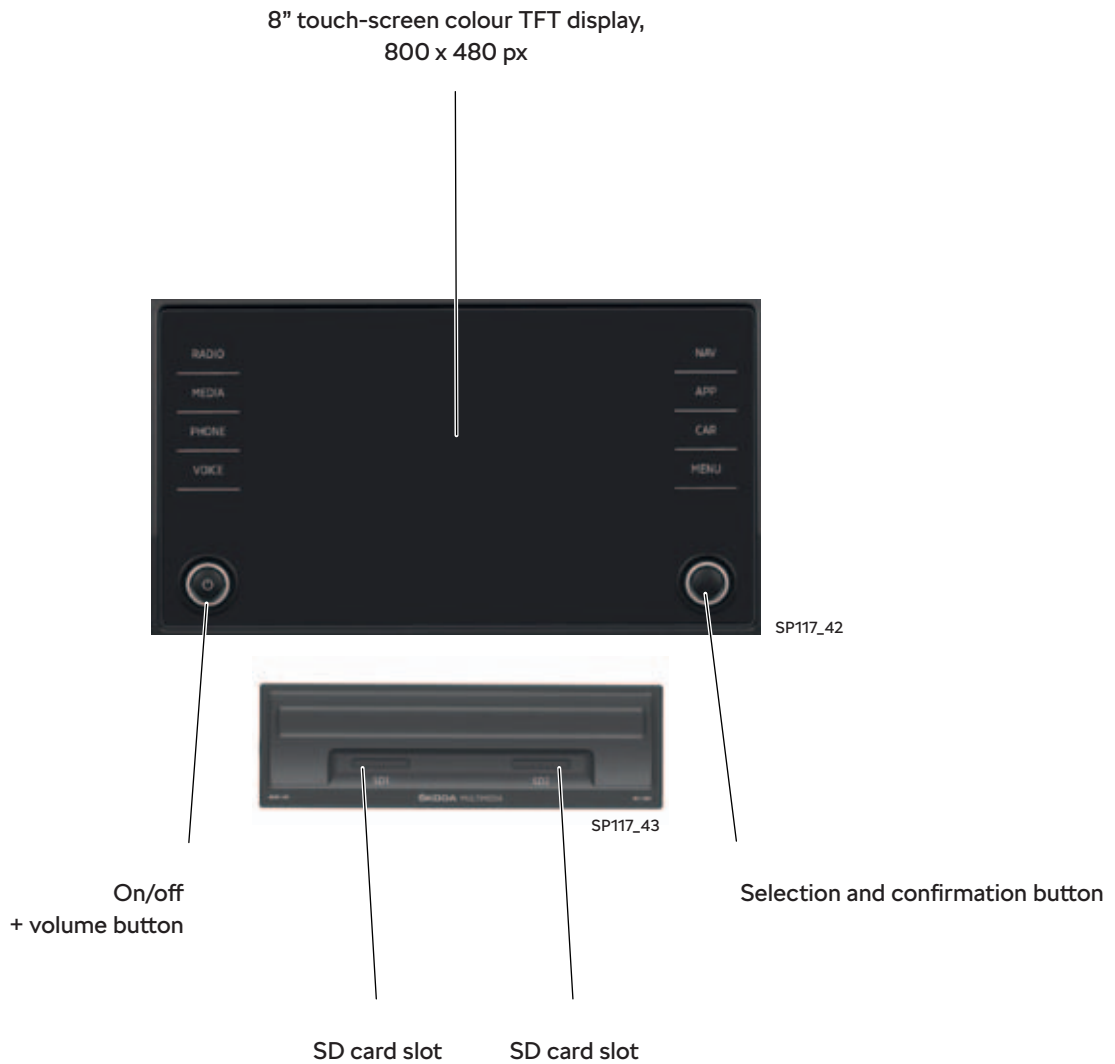
The display unit and the central unit are separate. The central unit is located in the dashboard glove box on the passenger side, and features an SD card slot. This multimedia system is fitted with an 8" capacitive colour touchscreen TFT display with a resolution of 800 x 480 px.



The controls on the left and right sides take the form of touch-screen buttons. The display unit and the control buttons are protected with a shared glass cover.

## 4.4 MIB II STANDARD Nav - Amundsen

Like the Bolero infotainment system, the Amundsen navigation system consists of two parts. The main difference lies in availability of navigation functions. Compared to Bolero (1 slot), Amundsen features 2 SD card slots. The 8" touch screen colour TFT display with a resolution of 800 x 480 px is identical with that used in Bolero, the only difference is the NAV button (in Amundsen).



The controls on the left and right sides take the form of touch-screen buttons. The display unit and the control buttons are protected with a shared glass cover.

## 4.5 MIB II HIGH – Columbus

The Columbus navigation and multimedia system is the top-end product in the ŠKODA KAROQ infotainment portfolio. The system-provided functions and features include 3D navigation, a video-ready DVD drive (including 5.1 sound in combination with the CANTON sound system), 2 SD card slots and, optionally, 1 SIM card slot/LTE internet connection.

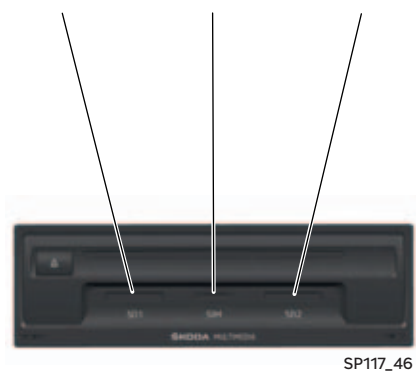
The system is fitted with a 9.2" colour capacitive touch screen display with a resolution of 1,280 × 640 px.

Columbus is the only multimedia system to feature exclusively sensory (touch) buttons.

9.2" touch-screen colour TFT display,  
1280 x 640 px



SD card slot      SIM card slot      SD card slot



## 4.6 Setting the main menu format

The Standard and High MIBs make it possible to set the format of the main menu - either Carousel Menu or standard tiles.



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Main menu - carousel

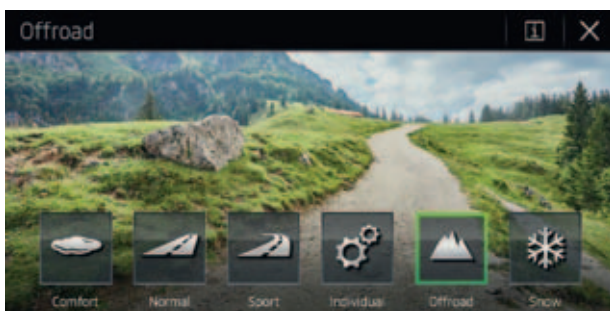


SP117\_65

Main menu - tiles

## 4.7 Setting the Offroad driving profile

The Offroad driving profile can be selected using the Mode button or, if fitted, the Offroad button. As standard, the MIB shows three types of data: wheel turn angle, compass and altitude. By swiping their finger on the display, the user can also view the coolant temperature and oil temperature.



SP117\_66

Driving profile menu



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Information provided upon selecting the Offroad driving mode

## 4.8 Three-level steering wheel heating intensity control

Depending on the vehicle's accessory configuration, a three-level steering wheel heating intensity control system is available, in combination with seat heating and/or ventilation.

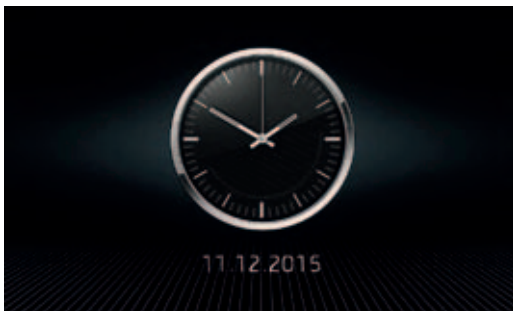


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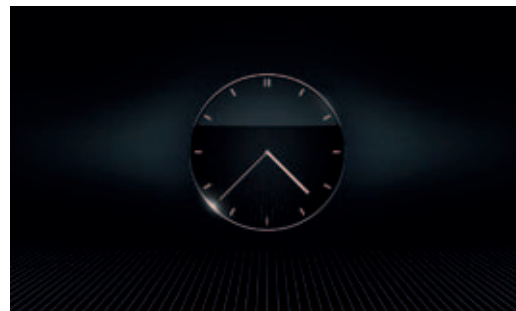
Three-level steering wheel heating intensity control (settings) on the MIB display

## 4.9 New Stand-By mode views

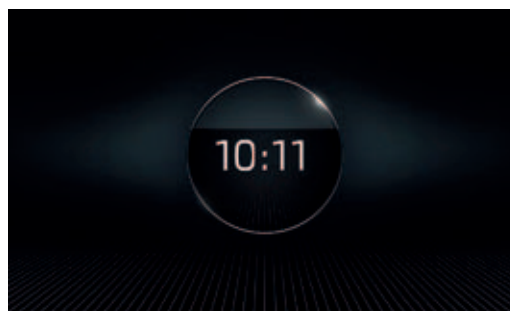
As an innovation, three clock formats are now available in the Stand-By mode ("C-Skin"), two analogue clocks and one digital clock.



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## 4.10 Bolero, Amundsen and Columbus multimedia systems - functions overview

<b>BOLERO</b>	
Ports and media	USB slot with support for Apple devices, SD slot, Bluetooth audio streaming
Supported audio formats	MP3, WMA, AAC, MP4, M4A, WAV, FLAC, OGG, ID3 tag support
Supported imaging formats	JPG, JPEG, PNG, BMP, GIF (radio channel logos and covers of albums played from an SD card or USB memory medium)
Tuner	Double FM tuner with diversity reception technology
Power output	4 x 20W

<b>AMUNDSEN</b>	
Ports and media	USB slot with support for Apple devices, 2 SD slots, Bluetooth audio streaming, WiFi streaming
Supported audio formats	MP3, WMA, AAC, MP4, M4A, WAV, FLAC, OGG, ID3 tag support
Supported imaging formats	JPG, JPEG, PNG, BMP, GIF (radio channel logos and covers of albums played from an SD card or USB memory medium)
Tuner	Double FM tuner with diversity reception technology; third FM tuner for traffic news (TMC)
Power output	4 x 20W
Available navigation functions	2D and 2.5D (bird's eye perspective) maps, TMC, street names pronounced, junctions viewed in detail, fuel alert – possibility of navigation to the nearest or selected petrol station
Map data	Map data stored on an SD card. Updates available for up to 5 years after termination of the system production.

## COLUMBUS

Ports and media	USB slot with support for Apple devices, 2 SD slots, Bluetooth audio streaming, WiFi streaming
Supported audio formats	MP3, WMA, AAC, MP4, M4A, WAV, FLAC, OGG, ID3 tag support
Supported imaging formats	JPG, JPEG, PNG, BMP, GIF (radio channel logos and covers of albums played from an SD card or USB memory medium)
Supported video formats	MPEG, WMV, DivX, Xvid, MOV, MKV and AVI
Tuner	Double FM tuner with diversity reception technology; third FM tuner for traffic news (TMC)
Power output	4 x 20W
Internal memory	SSD disc 64 GB – 10 GB for user data, 32 GB for map data
Available navigation functions	2D and 2.5D (bird's eye perspective) maps, 3D models of selected cities, TMC, street names pronounced, junctions viewed in detail, fuel alert – possibility of navigation to the nearest or selected petrol station
Other functions	Media library (internal memory organisation system), voice control, image viewer, video player, Gracenote database
Map data	Map data stored on the SSD disc. Updates available for up to 5 years after termination of the system production.

### 4.11 Cable and wireless connections overview

#### CABLE AND WIRELESS CONNECTIONS TO MIB

Cable	Wireless
SD card slot (as standard)	Wireless connection for Bluetooth audio Streaming (as standard in Bolero, optional in Swing)
Front USB connector (as standard)	WLAN/Wi-Fi (Amundsen and Columbus)
Second rear USB connector (optional extra)	
Second rear USB connector – charging only (optional extra)	
CD/DVD drive (exclusively in Columbus)	



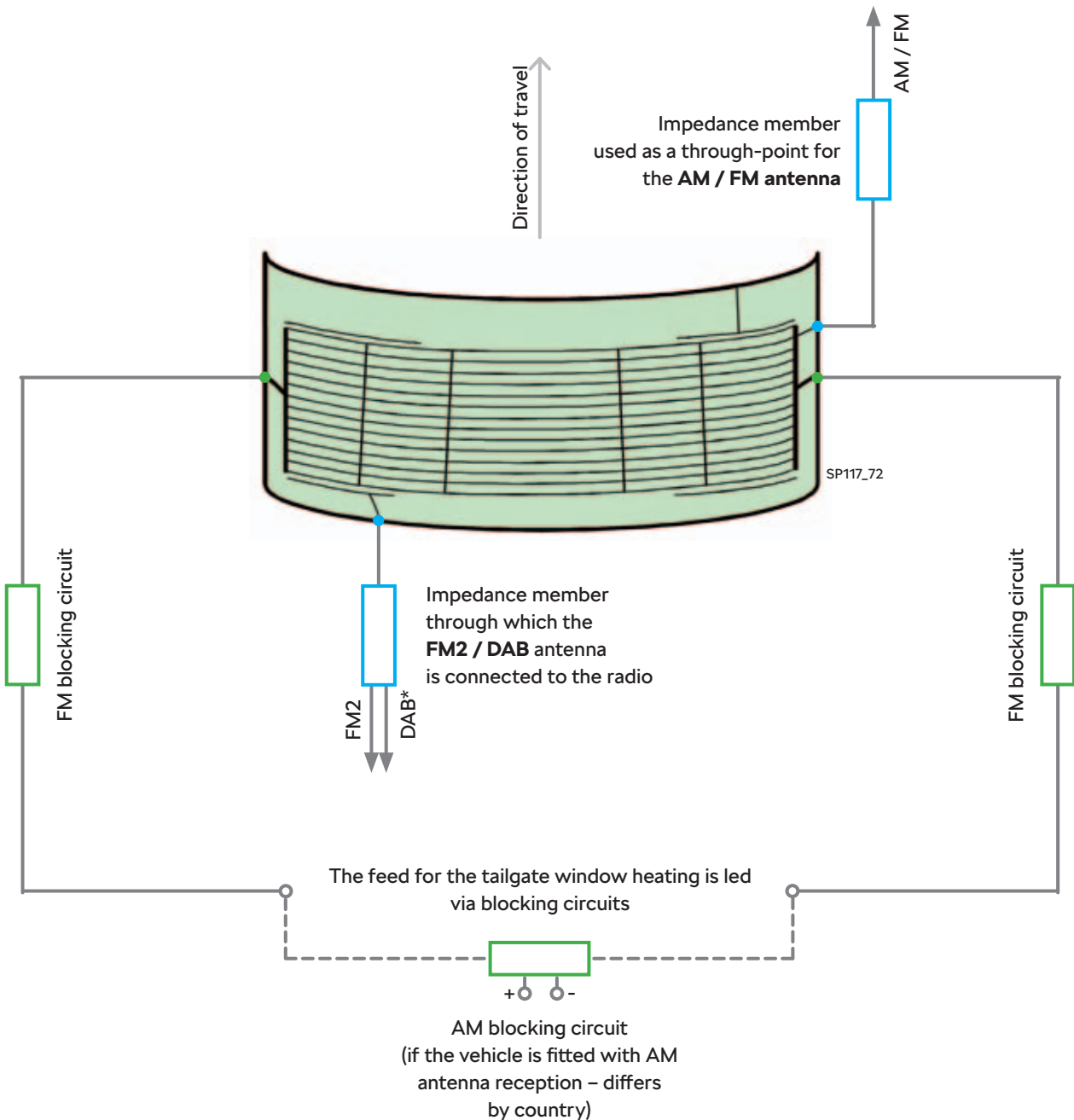
## 5. Antennas

The ŠKODA KAROQ features four types of antenna systems - the antenna function is performed across a number of devices:

### 5.1 Antennas integrated into the tailgate window

The tailgate window heating element in the ŠKODA KAROQ also performs the functions of AM\*, FM, FM2 and DAB antennas. To filter VF signal components on the heating bus, both charging poles are fitted with blocking circuits.

\* The vehicle does not necessarily have to be fitted with AM antenna reception (differs by country)



## 5.2 Roof antenna

The ŠKODA KAROQ's roof antenna features three technologies (functions):

**T** – antenna for mobile telephony with 4G support (for the mobile phone stored in the Phone Box)

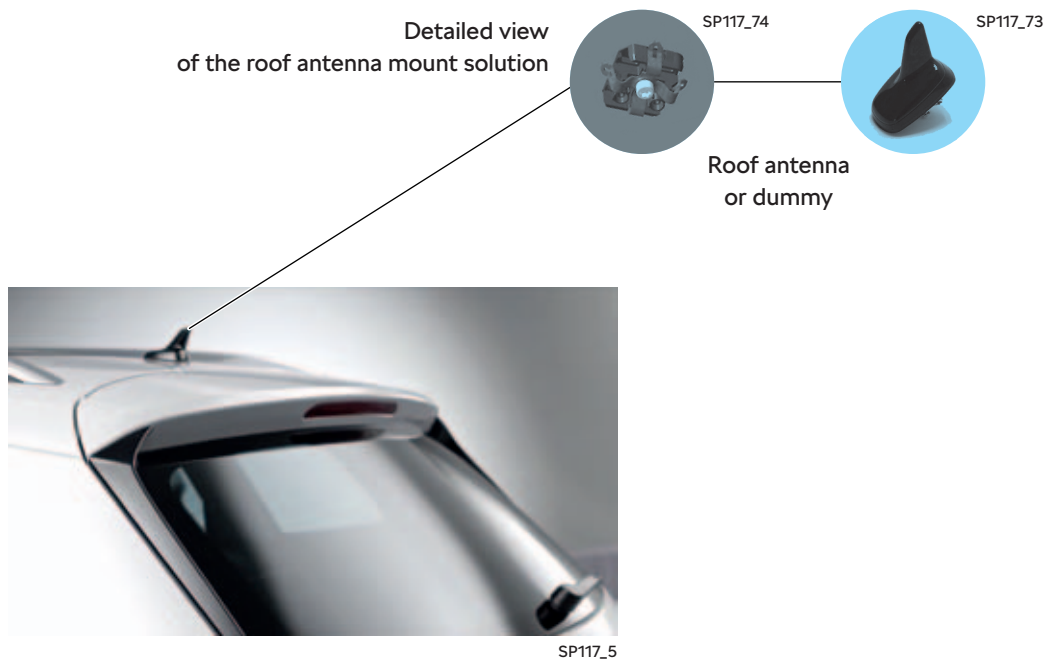
**N/OCU** – antenna for navigation or navigation antenna for the OCU

**FFB** – antenna for remote control of the auxiliary heater

The antenna configuration options are as follows:

- Roof antenna for T/FFB
- Roof antenna for N/OCU
- Roof antenna for N/OCU + T/FFB
- Roof antenna for N/OCU + T + FFB

In cases where the vehicle does not feature any of these antenna functions the roof is fitted with a dummy antenna (in the installation opening).



### 5.3 Antennas under the rear bumper

A couple of LTE antennas that receive phone signal and support 4G (high-speed internet connection) are located under the rear bumper.

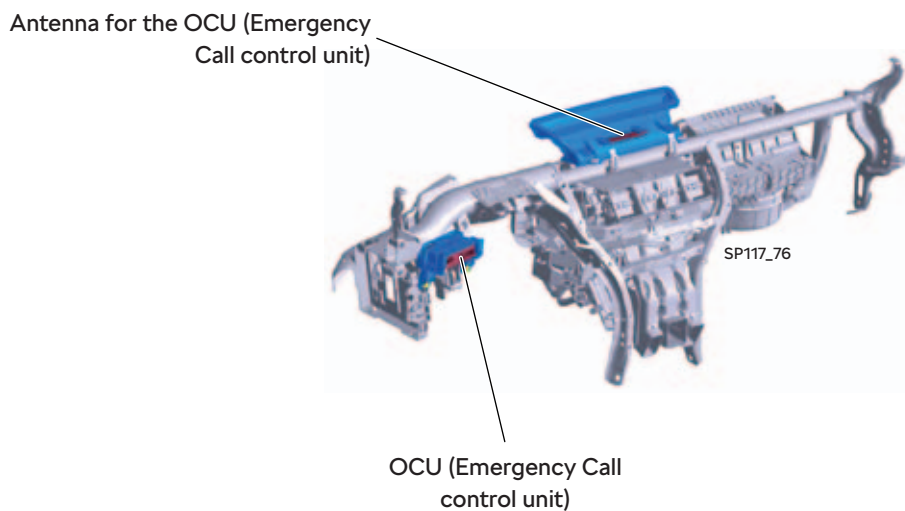


### 5.4 Antenna under the dashboard

The GSM antenna for the Emergency Call control unit – OCU (Online Connectivity Unit) is located under the dashboard, in the upper middle part, in front of the middle windscreen air vent.

Besides the GSM antenna, the roof antenna for vehicle localisation is also connected to the OCU control unit.

In vehicles fitted with infotainment systems with navigation the roof antenna can be connected to the infotainment unit. In such cases the vehicle location information is delivered to the OCU by the vehicle's data bus.



## 6. Interior ambient lighting

### 6.1 Ambient lighting - principle and description

Interior ambient lighting is a subsidiary lighting system designed to facilitate in-car orientation while also serving as a modern decorative element. The ŠKODA KAROQ's interior ambient lighting system consists of independent dashboard and front-door modules.

The lights come on automatically upon opening the door and are switched off upon locking the car or 30 sec after shutting the door with the ignition off.

The dashboard lighting strip is divided into three segments, one against the front-seat passenger and two against the driver, one on each side of the steering wheel. These strips are switched off automatically upon switching the ignition on, but the driver can activate them.

The ambient lighting modules take the form of decorative luminous strips - light tubes with RGB diode modules on their ends.

As an innovation, these luminous strips in the ŠKODA KAROQ are used either as just direct lighting or as both direct and indirect lighting. While the direct lighting system casts light into the vehicle's interior, the indirect one illuminates also the area around itself, for example the dashboard.

### 6.2 Ambient lighting control from the infotainment system

The ŠKODA KAROQ makes it possible to use the infotainment system to select the required colour and intensity of the ambient lighting. Ten pre-set colours are available.

In the factory settings the brightness level is identical across all of the modules, but it can be set independently for the left and right parts of the dashboard and the front door panels.



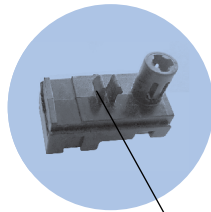
SP117\_2

### 6.3 RGB module locations

The smaller luminous strips on the driver's side and in the doors are illuminated by one RGB module. On the driver's side the modules are located in the middle of the strip, in the doors they are located in the rear part (in the direction of travel). The passenger-side luminous strip is illuminated by two RGB modules located in the middle of the strip.

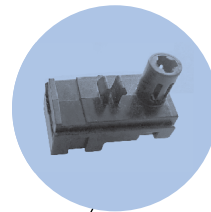
The strips can be installed using either a welded or screwed joint.

- Independently controlled component
  - 1 light tube
  - 1 RGB module
- Direct and indirect lighting
- Screwed joint solution



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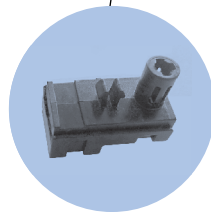
- Independently controlled component
  - 1 light tube
  - 1 RGB module
- Direct and indirect lighting
- Screwed joint solution



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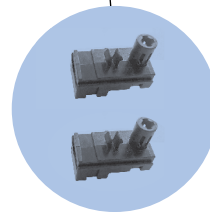


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SP117\_1

- Independently controlled component
  - 1 light tube
  - 1 RGB module
- Direct lighting only
- Welded joint solution



SP117\_1

- Independently controlled component
  - 1 light tube
  - 2 RGB modules
- Direct and indirect lighting
- Screwed joint solution

## 7. Onboard network control unit – BCM

### 7.1 Principle and functions

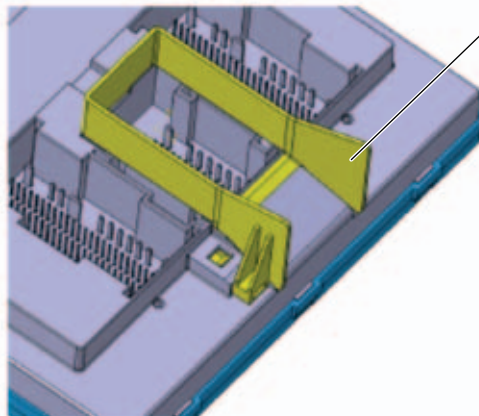
The ŠKODA KAROQ's BCM (the onboard network control unit) communicates with other control units via CAN-Buses and LIN-Buses (6x LIN; LIN4 not active in the ŠKODA KAROQ). Connected to CAN Comfort, the unit comes in four versions: High, Medium Plus, Medium and Entry.

### 7.2 Changes and new functions

The ŠKODA KAROQ's BCM (the onboard network control unit) features the following changes and new functions:

- Manual headlamp inclination controlled directly via BCM;
- Front wipers power-controlled directly from BCM;
- Start/Stop, Offroad and FPA (driving profile settings) buttons activated and backlit by BCM;
- TOP version with Full LED headlamps: BCM powers the LEIMO units (lighting functions controlled via CAN); the decorative "eye lashes" and fog lights are controlled from BCM,
- Acoustic locked-car confirmation has been deactivated;
- Interior Monitor function deactivatable in MIB menu

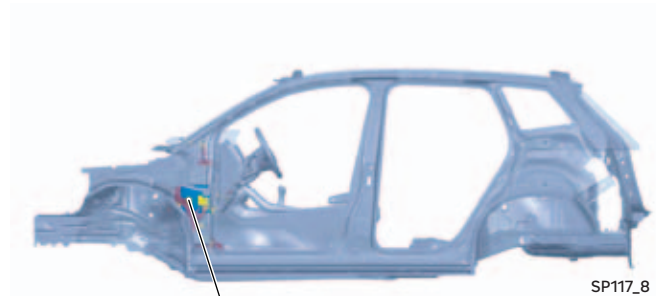
Installation aid  
to facilitate interconnection of BCM  
connectors



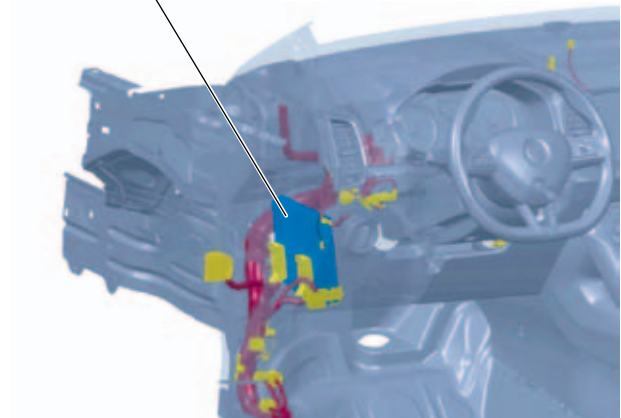
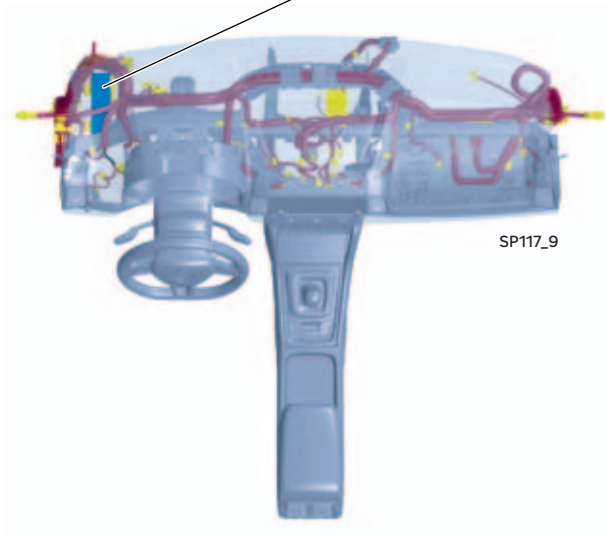
SP117\_11

### 7.3 Installation solution (locations)

The ŠKODA KAROQ's onboard network control unit is located in the front left part of the vehicle for both right-hand-side and left-hand-side traffic.



Onboard network control  
unit – BCM

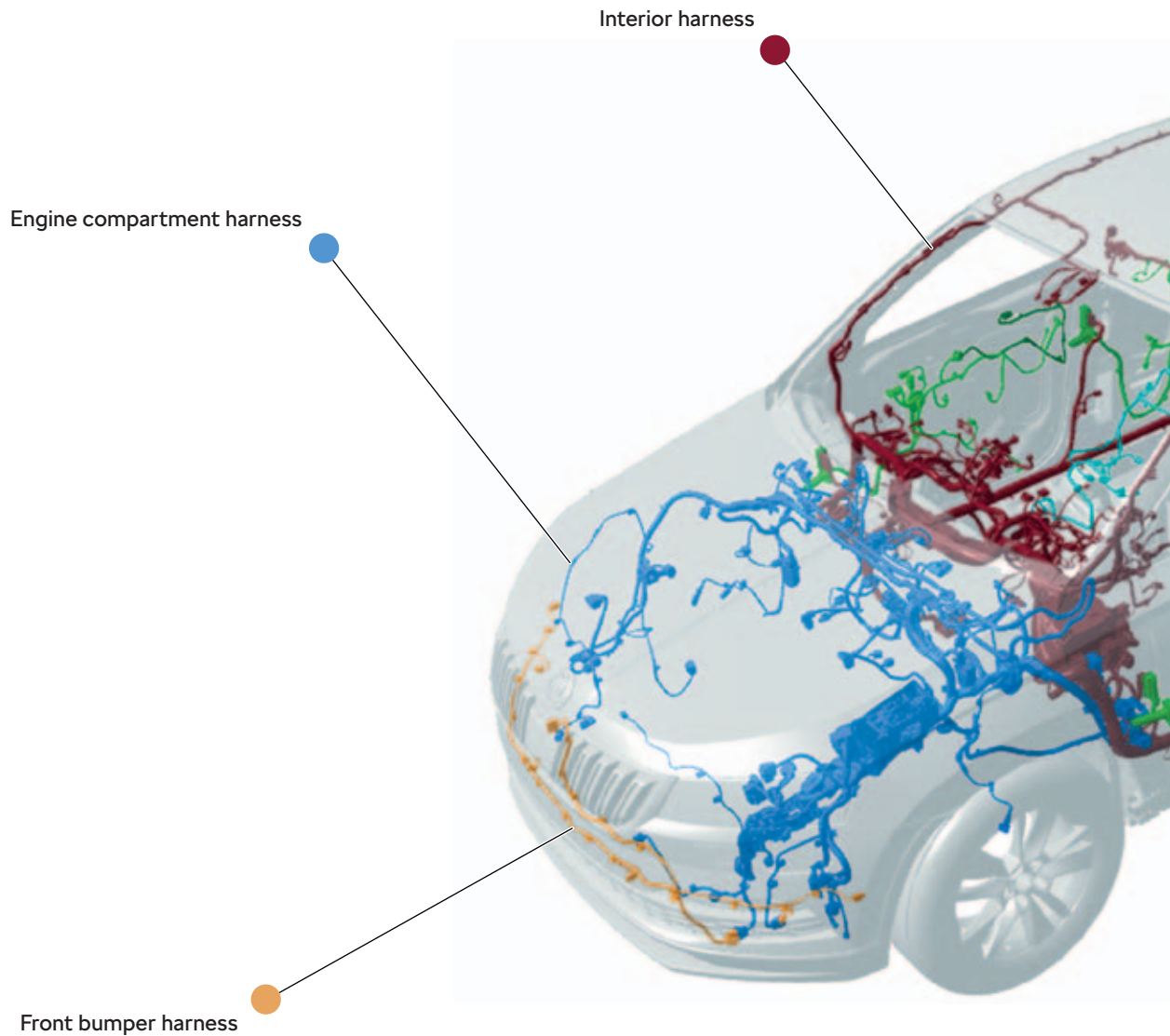


## 8. Wiring system layout overview

Depending on the manufacturing format, the ŠKODA KAROQ's electrical harnesses can be divided into two categories, modular and customer-specific: MQB A/B platform-based modular electrical harnesses are those that the ŠKODA KAROQ shares with other Group vehicles. Customer-specific harnesses have been designed exclusively for the ŠKODA KAROQ.

Customer-specific electrical harnesses:

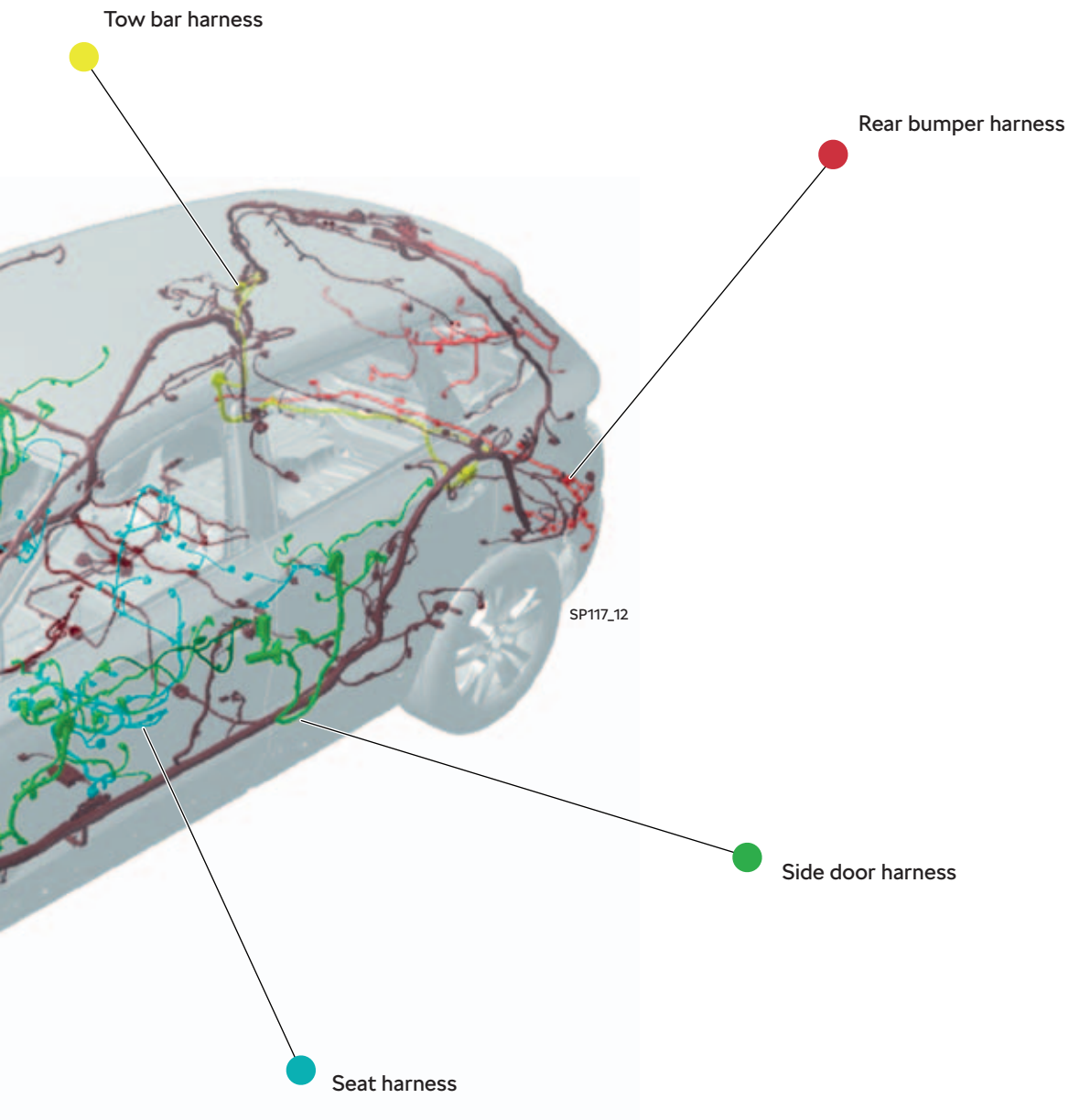
- Engine compartment
- Interior
- Tow bar
- Bumpers
- Side doors
- Seats





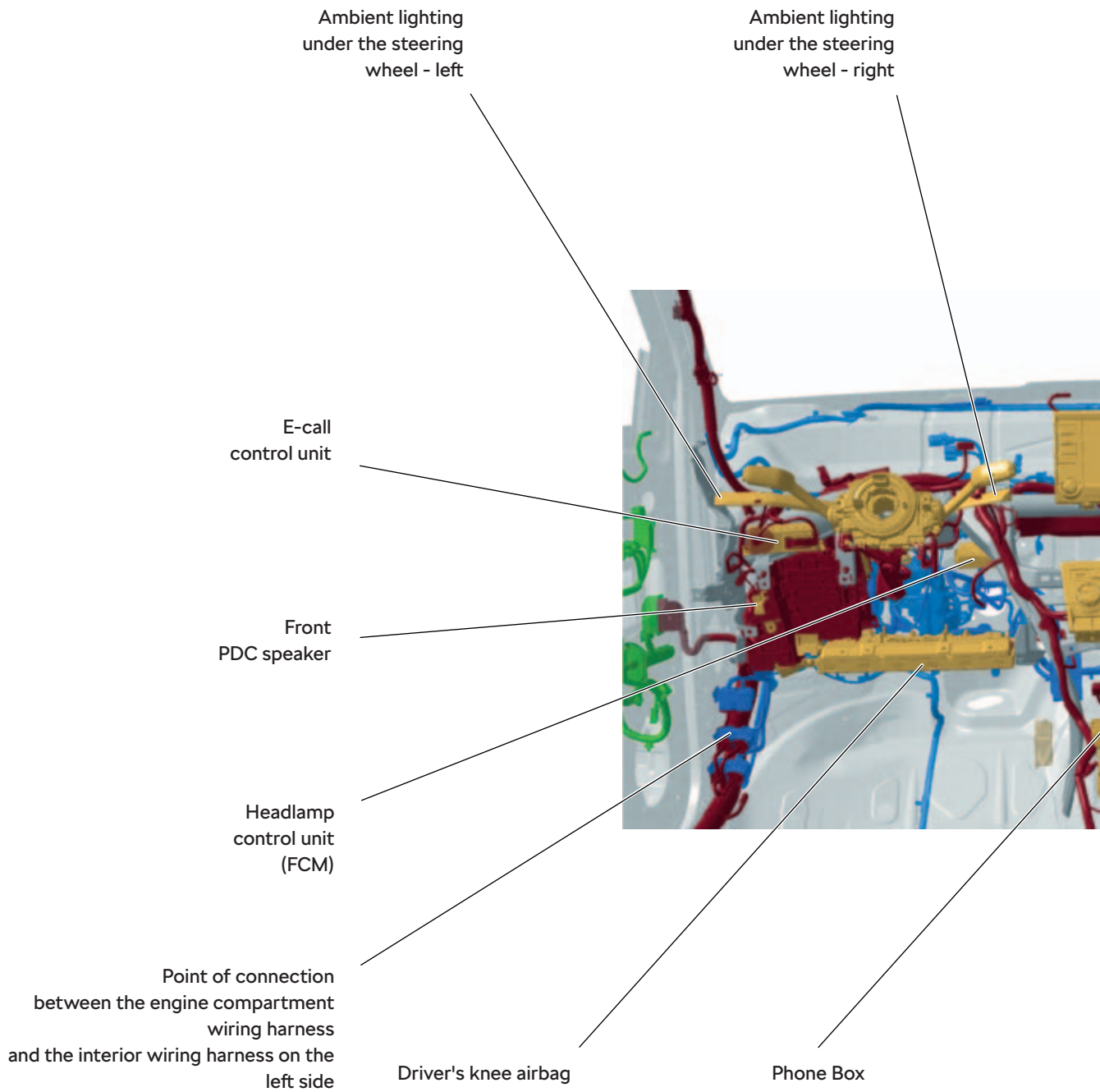
Modular electrical harnesses:

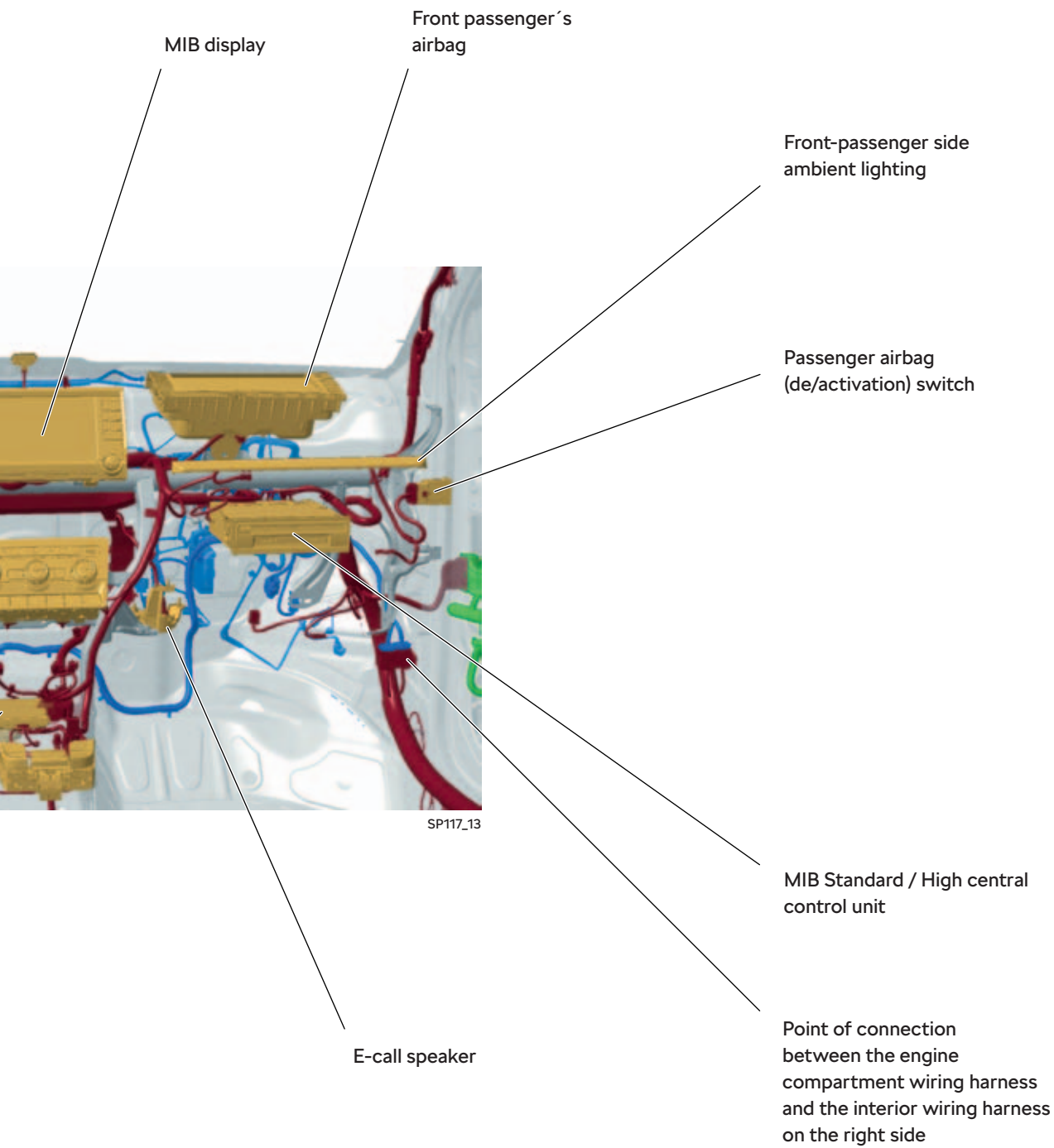
- Alternator
- Engine
- Engine grounding
- Accumulator (+ pole, - pole)
- Steering
- Panoramic sunroof
- 4X4 Haldex clutch
- Air conditioning
- Exhaust flap



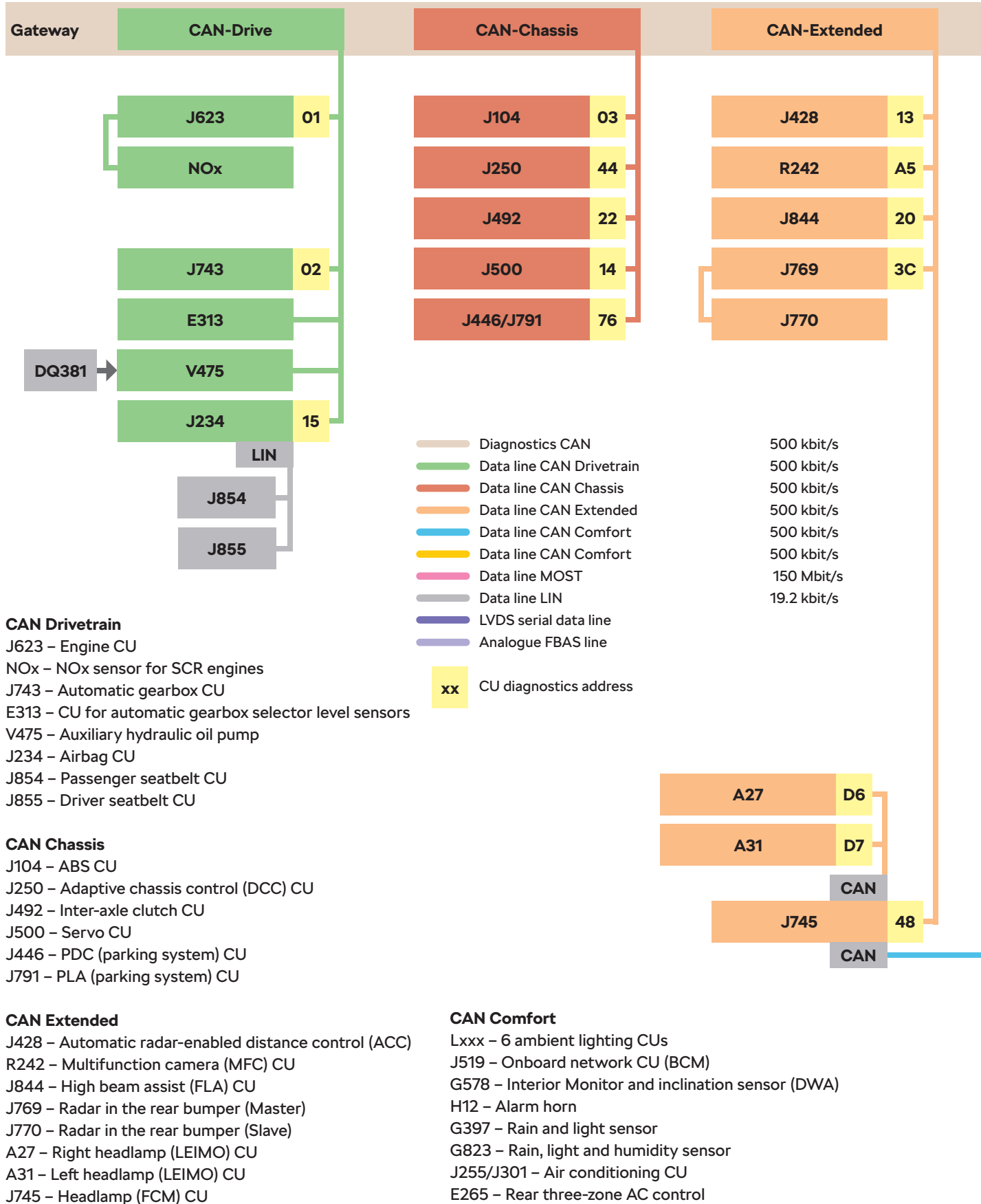
## 8.1 Wiring in the dashboard compartment

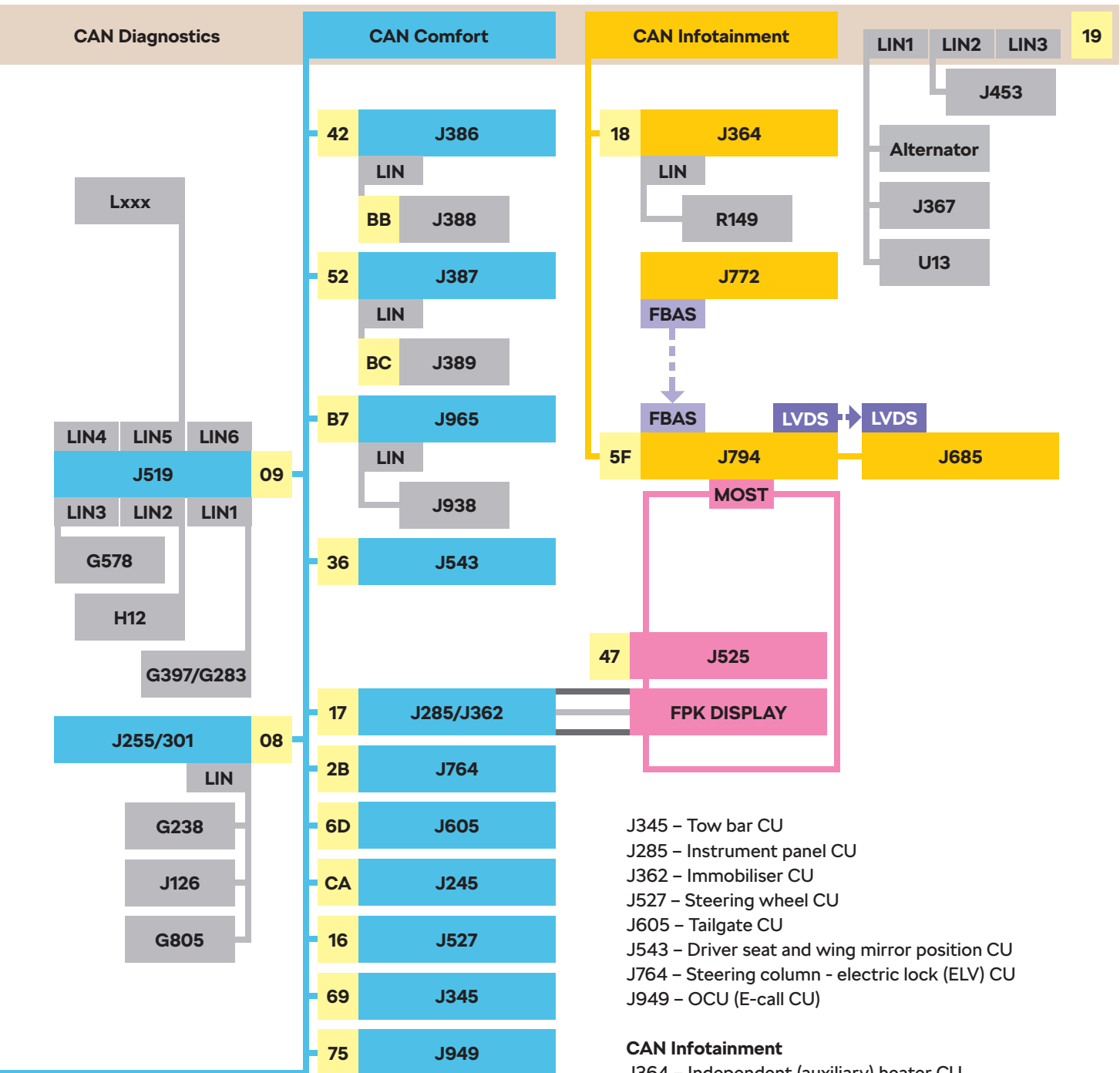
The electronics located under the ŠKODA KAROQ's dashboard are connected using the interior wiring harness and engine compartment wiring harness.





# 9. ŠKODA KAROQ – DATA BUS – OVERVIEW





- J126 – Fresh air ventilator CU
- G805 – AC refrigerant pressure sensor
- G238 – Air quality sensor
- J386 – Door system CU - left side
- J387 – Door system CU - right side
- J388 – rear left door electronics
- J389 – rear right door electronics
- J965 – KESSY CU
- J938 – Virtual Pedal CU
- J245 – Sunroof CU

- J345 – Tow bar CU
- J285 – Instrument panel CU
- J362 – Immobiliser CU
- J527 – Steering wheel CU
- J605 – Tailgate CU
- J543 – Driver seat and wing mirror position CU
- J764 – Steering column - electric lock (ELV) CU
- J949 – OCU (E-call CU)

**CAN Infotainment**

- J364 – Independent (auxiliary) heater CU
- R149 – Remote control radio signal receiver for the auxiliary heater
- J772 – Rear View Camera CU
- J794 – Central MIB CU
- J685 – MIB display
- J525 – Amplifier
- FPK DISPLAY – integrated digital instrument panel

**LIN**

- J453 – Multifunction steering wheel
- J367 – Accumulator control (BDM) CU
- U13 – DC/AC – 230V socket

## Notes



## Self-Study Programmes issued so far

### No. Name

- 1 Mono-Motronic
- 2 Central Locking
- 3 Car Alarm Equipment
- 4 Work with Wiring Diagrams
- 5 ŠKODA FELICIA
- 6 ŠKODA Car Safety
- 7 ABS - Basics - not issued
- 8 ABS - FELICIA
- 9 Starting Protection Device with Transponder
- 10 Air Conditioning in Car
- 11 FELICIA Air Conditioning
- 12 1.6 - MPI 1AV Engine
- 13 Four-Cylinder Compression Ignition Engine
- 14 Power Steering
- 15 ŠKODA OCTAVIA
- 16 1.9 I TDI Compression Ignition Engine
- 17 ŠKODA OCTAVIA Comfort Electronics System
- 18 ŠKODA OCTAVIA 02K, 02J Mech. Gearbox
- 19 1.6 I and 1.8 I Gasoline Engines
- 20 Automatic Gearbox - Basics
- 21 01M Automatic Gearbox
- 22 1.9 I/50 kW SDI, 1.9 I/81 kW TDI Compression Ignition Engines
- 23 1.8 I/110 kW and 1.8 I/92 kW Gasoline Engines
- 24 OCTAVIA, CAN-BUS Data Bus
- 25 OCTAVIA - CLIMATRONIC
- 26 OCTAVIA - Vehicle Safety
- 27 OCTAVIA - 1.4 I/44 kW Engine and 002 Gearbox
- 28 OCTAVIA - ESP - Basics, Design, Function
- 29 OCTAVIA 4 x 4 - All-Wheel Drive
- 30 2.0 I 85 kW and 88 kW Gasoline Engines
- 31 Radio Navigation System - Design and Function
- 32 ŠKODA FABIA - Technical Information
- 33 ŠKODA FABIA - Electrical Devices
- 34 ŠKODA FABIA - Electrohydraulic Power Steering
- 35 1.4 I - 16 V 55/74 kW Gasoline Engines
- 36 ŠKODA FABIA - 1.9 I TDI Pump-Nozzle
- 37 02T and 002 Mechanical Gearbox
- 38 ŠKODA OCTAVIA; Model 2001
- 39 Euro-On-Board-Diagnose
- 40 001 Automatic Gearbox
- 41 02M Six-Speed Gearbox
- 42 ŠKODA FABIA - ESP
- 43 Emissions in Exhaust Gases
- 44 Extended Service Intervals
- 45 1.2 I Three-Cylinder Spark-Ignition Engines
- 46 ŠKODA SUPERB; Presentation of the Vehicle, Part I
- 47 ŠKODA SUPERB; Presentation of the Vehicle, Part II
- 48 ŠKODA SUPERB; V6 2.8 I/142 kW Spark-Ignition Engine
- 49 ŠKODA SUPERB; V6 2.5 I/114 kW TDI Compression Ignition Engine
- 50 ŠKODA SUPERB; 01V Automatic Gearbox
- 51 2.0 I/85 kW Spark-Ignition Engine with Balancing Shafts and 2-Stage Intake Pipe
- 52 ŠKODA FABIA; 1.4 I TDI Engine with Pump-Nozzle Injection System
- 53 ŠKODA OCTAVIA; Presentation of the Vehicle
- 54 ŠKODA OCTAVIA; Electrical Components
- 55 FSI Spark-Ignition Engines; 2.0 I/110 kW and 1.6 I/85 kW
- 56 DSG-02E Automatic Gearbox
- 57 Compression Ignition Engine; 2.0 I/103 kW TDI with Pump-Nozzle Units, 2.0 I/100 kW TDI with Pump-Nozzle Units
- 58 ŠKODA OCTAVIA, Chassis and Electromechanical Power Steering
- 59 ŠKODA OCTAVIA RS, Engine 2.0 I/147 kW FSI Turbo

### No. Name

- 60 2.0 I/103 kW 2V TDI Compression Ignition Engine; Diesel Particulate Filter with Additive
- 61 Radio Navigation Systems in ŠKODA Cars
- 62 ŠKODA ROOMSTER; Presentation of the Vehicle, Part I
- 63 ŠKODA ROOMSTER; Presentation of the Vehicle, Part II
- 64 ŠKODA FABIA II; Presentation of the Vehicle
- 65 ŠKODA SUPERB II; Presentation of the Vehicle, Part I
- 66 ŠKODA SUPERB II; Presentation of the Vehicle, Part II
- 67 Compression Ignition Engine; 2.0 I/125 kW TDI with Common Rail Injection System
- 68 1.4 I/92 kW TSI Spark-Ignition Engine, Turbo Charged
- 69 3.6 I/191 kW FSI Spark-Ignition Engine
- 70 All-Wheel Drive with Generation IV Haldex Clutch
- 71 ŠKODA YETI; Presentation of the Vehicle, Part I
- 72 ŠKODA YETI; Presentation of the Vehicle, Part II
- 73 LPG System in ŠKODA Cars
- 74 1.2 I/77 kW TSI Spark-Ignition Engine, Turbo Charged
- 75 7-Speed Automatically Controlled Gearbox with OAM Double Clutch
- 76 Green-Line Cars
- 77 Geometry
- 78 Passive Safety
- 79 Independent Heating
- 80 Compression Ignition Engines 2.0 I; 1.6 I; 1.2 I with Common Rail Fuel Injection System
- 81 Bluetooth in ŠKODA Cars
- 82 Motor Vehicle Sensors - Drivetrain
- 83 1.4 I/132 kW TSI Spark-Ignition Engine, Double Supercharged (Compressor, Turboblower)
- 84 ŠKODA FABIA II RS; Presentation of the Vehicle
- 85 KESSY System in ŠKODA Cars
- 86 START-STOP System in ŠKODA Cars
- 87 Immobilizers in ŠKODA Cars
- 88 Brake and Stabilization Systems
- 89 Sensors in ŠKODA Cars - Safety and Comfort
- 90 Customer Satisfaction Enhancement through CSS Study
- 91 ŠKODA Car Wiring Repairs
- 92 ŠKODA CITIGO - Presentation of the Vehicle
- 93 Five-Speed OCF Mechanical Gearbox and ASG Automated Five-Speed Gearbox
- 94 OAM and 02E Automatic Gearbox Diagnostics
- 95 ŠKODA RAPID - Presentation of the Vehicle
- 96 ŠKODA OCTAVIA III - Presentation of the Vehicle - Part I
- 97 ŠKODA OCTAVIA III - Presentation of the Vehicle - Part II
- 98 ŠKODA OCTAVIA III - Electronic systems
- 99 Engines 1.8 I TFSI 132 kW and 2.0 I TFSI 162 kW - EA888
- 100 1.6 I TDI and 2.0 I TDI; EA288 Design Series
- 101 EA211 series spark-ignition engines
- 102 CNG system in vehicles ŠKODA AUTO
- 103 ŠKODA FABIA III - Vehicle presentation - Part I
- 104 ŠKODA FABIA III - Vehicle presentation - Part II
- 105 Three-cylinder combustion ignition engine 1.4 I TDI - EA288
- 106 ŠKODA SUPERB III - Vehicle Presentation - part I
- 107 ŠKODA SUPERB III - Vehicle Presentation - part II
- 108 ŠKODA SUPERB III - Vehicle Presentation - part III
- 109 Connectivity in vehicles ŠKODA AUTO
- 110 Refrigerant R1234yf for air conditioning systems in ŠKODA AUTO vehicles
- 111 Spark-ignition three-cylinder engine 1.0I TSI 85 kW series EA211
- 112 ŠKODA KODIAQ Vehicle presentation Part I
- 113 ŠKODA KODIAQ Vehicle presentation Part II
- 114 ŠKODA KODIAQ Vehicle presentation Part III
- 115 Seven-speed dual clutch ODL gearbox
- 116 ŠKODA KAROQ Vehicle presentation Part I
- 117 ŠKODA KAROQ Vehicle presentation Part II

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