Information

Engine specifications - MA.101 and MA.102

Engine specifications	997	997 S
Engine type	MA.102	MA.101
No. of cylinders	6	6
Cubic capacity	3,614 cm³	3,800 cm³
Bore	97.0 mm	102.0 mm
Stroke	81.5 mm	77.5 mm
Compression ratio	12.5: 1 (-0.5)	12.5: 1 (-0.6)
Max. engine power (EU)	254 kW (345 bhp)	283 kW (385 bhp)
At engine speed	6,500 rpm	6,500 rpm
Max. torque (EU)	390 Nm (289 ftlb.)	420 Nm (311 ftlb.)
At engine speed	4,400 rpm	4,400 rpm
Max. output per litre	70.3 kW/l (95.5 bhp/l)	74.5 kW/l (101.3 bhp/l)
rpm limitation	Via fuel cut-off and electronic accelerator	Via fuel cut-off and electronic accelerator
At engine speed	7,500 rpm	7,500 rpm
Idle speed	680 ± 80 rpm	680 ± 40 rpm
Engine weight according to DIN 70020 A	Manual transmission: 199.8 kg	Manual transmission: 199.9 kg
	Automatic transmission: 196.5 kg	Automatic transmission: 196.7 kg

Engine design

Designation	997 (MA.102)	997 S (MA.101)

Designation	997 (MA.102)	997 S (MA.101)
Type	6-cylinder aluminium flat-six engine, water-cooled	
Crankcase	Vertically split light alloy cylinder housing	
Crankshaft	Forged, supported by 8 bearings	
Crankshaft bearings	Plain bearings, dia. 63 mm (2.48 in) Smooth bearings: Cyl. 1/3/5/7/8 Partially grooved bearings: Cyl. 2/4/6	
Connecting rods	Forged, l = 140 mm	
Con-rod bearings	Plain bearings	
Pistons	Pressed light alloy	
Cylinders	Aluminium silicon cylinder liner surface	
Cylinder head	1-part light alloy cylinder head	
Valve arrangement	2 valves, suspended in parallel V arrangement	
Diameter of inlet valve	39.5 mm	41.8 mm
Diameter of exhaust valve	34.2 mm	36.1 mm

Engine control

Designation	997 (MA.102)	997 S (MA.101)
Valve lift of inlet	Large lift: 10.5 mm	11.00 mm
	Small lift: 3.6 mm	Small lift: 3.6 mm
Valve lift of outlet	10.35 mm	11.00 mm
Camshaft	From the crankshaft directly via one timing chain per cylinder bank to the intake and outlet camshaft	
Camshaft adjustment	Porsche VarioCam Plus with 40° adjustment (vane adjuster and valve travel adjustment)	

Designation	997 (MA.102)	997 S (MA.101)
Valve clearance	Hydraulic valve-clearance compensation	
Timing*: Inlet opens, large lift	19° after top dead centre (TDC)	11° after TDC
Timing*: Inlet closes, large lift	62° after bottom dead centre (BDC)	59° after BDC
Timing*: Inlet opens, small lift	44° after TDC	39° after TDC
Timing*: Inlet closes, small lift	14° after BDC	19° after BDC
Timing*: Outlet opens	40° before BDC	50° before BDC
Timing*: Outlet closes	3° before TDC	4° before TDC
Engine control unit	Siemens SDI 3.1	
Ignition	DME, active ignition module, knock control	
Firing order	1-6-2-4-3-5	
Spark plugs	Bosch FRG NQEO4	
Electrode gap	1.6 ± 0.05 mm	
Electronic throttle	Electronic throttle actuator control via DME	
USA LEV II version	On-Board Diagnosis II (OBDII)	
Euro 4	Euro-On Board Diagnosis (EOBD)	
Euro 2	Customer service - OBD I	

* Timing in late position with 1-mm valve lift and zero clearance

Engine - Lubrication system

Designation	997 (MA.102)	997 S (MA.101)

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Type	Integrated dry sump lubrication with demand-controlled oil pump	
Oil cooling	Via oil-water heat exchanger	
Installation position of oil filter	On pressure side behind oil pump ahead of feed to engine	
Oil pressure at 5,000 rpm and 90 °C	Controlled according to load	
Oil pressure indicator	Oil pressure indicator with oil pressure warning light plus oil temperature	
Consumption of oil over 1000 km	Max. 500 cm³	
Quantity of oil for new engine	10.0 l	
Oil change quantity	7.50 l	
Engine oil level check	Display in instrument cluster and PIWIS Tester function	

Engine - Cooling system

Designation	997	997 S
Cooling type/installation location	Water cooling; radiators in front of the front wheels	
No. of radiators	Manual transmission: 2 radiators	
Fans	2 electric fans, infinitely controllable	
Coolant filling quantity (depending on equipment)	28.9 – 31.5 litres	