

Engine Specifications

Engine

| | | |
|-------------------------|--------------------------|-------------------------------|
| Engine Type | - Tiptronic | M 64/24 |
| | - Manual transmission | M 64/23 |
| Number of cylinders | | 6 |
| Bore | mm (in.) | 100 (3.94) |
| Stroke | mm (in.) | 76.4 (3.01) |
| Displacement | cm ³ (cu.in.) | 3600 (219.7) |
| Compression ratio | | 11.3 - 1 |
| max. Engine performance | kW (PS) | 210 (285) |
| at engine speed | 1/min | 6300 |
| max. torque | Nm | 340 |
| at engine speed | 1/min | 6300 |
| max. Liter performance | kW/l (PS / l) | 58.3 (79.2) |
| Engine speed limiter | | |
| through | | fuel interruption |
| at | 1/min | 6700 |
| Engine speed at idle | 1/min | 800 ± 40 |
| | with A/C | 880 ± 20 |
| | Tiptronic | 800 ± 40 in P and N |
| | | 750 ± 40 in all running steps |

Engine design

| | | |
|--|---|---|
| Design | | 6-cylinder-4 stroke-Otto-Engine with 2 opposing cylinder banks (boxer engine) Bi-Turbo |
| Engine case | | two-part light alloy engine case |
| Crankshaft | | forged |
| Crankshaft bearings | | friction bearings |
| Connecting rods | | forged |
| Connecting rod bearings | | friction bearings |
| Pistons | | light alloy, compression molded |
| Cylinder | | light alloy singular cylinder (compression molded) |
| Cylinder head | | light alloy singular cylinder heads with ceramic exhaust port liner |
| Valve guides | | pressed in |
| Arrangement of valves | | 1 intake, 1 exhaust, V-shaped, hanging |
| Valve train | | right and left each one overhead camshaft |
| Camshaft | | cast |
| Camshaft drive | | twin chain |
| Valve gap | | hydraulic valve gap compensation |
| Valve timing at 1 mm valve lift and no play | Intake opens Intake closes at Exhaust opens Exhaust closes | 0 Degrees before TDC 239 Degrees after TDC 227 degrees before TDC 5 Degrees after TDC |
| Intake air system | | with resonance volume and controlled resonance flap (Varioram) |

Engine cooling

| | |
|--------------------------|---|
| Type | air cooled |
| Fan drive | from crankshaft via V-belt |
| Ratio: crankshaft/fan | approximately 1 : 1.6 |
| Air mass supply | 1010 l / sec at 6100 1/min of crankshaft |

Engine lubrication

| | |
|-----------------------------------|--|
| Type | Dry-sump lubrication with separate oil reservoir |
| Oil cooling | thermostatically controlled, front oil cooler in right wheel well 2-stage electric fan |
| Oil filter | in return line and oil pressure circuit |
| Oil pressure at n = 5000 1/min | approx. 6.5 bar at 90 Grad C |
| Oil pressure warning light | 0 - 5 bar electric and oil pressure control light |
| Oil consumption | approx.. 1.0 l / 1000 km |

Exhaust system

Separate exhaust lines left/right: each 1
heat exchanger with joined cylindrical pipes
outside of
heat exchanger trays,
three way catalytic converter
with oxygen sensing
Silencer

Exhaust emission control

Oxygen sensing and three way
catalytic converter
(metal carrier) separate for both
cylinder banks

Special engine noise damping

Engine shroud world-wide

Heating

Engine dependent warm air heating with Fresh-air intake (with additional elektrical fan and automatic temperature regulation)

Fuel system

Fuel injection

DME
(Digital-Motor-Electronic)
Triggering of injection sequential

Fuel supply

1 electr. roller cell pump

Required fuel

Engine type

fuel quality (ROZ / MOZ)

M 64/23 M 60/24

98 / 88 unleaded

Elektrical equipment

Suppression range

ECE-R 10 and 72 / 245 / EWG

Specified voltage

V

12

Battery capacity

Ah

75

Generator output

W

1610 (DC generator)

Ignition

Double ignition, knock sensor, DME

Firing order

1 - 6 - 2 - 4 - 3 - 5

Timing control

via ECM

Spark plugs

| | | |
|---------|----|---------------|
| Bosch | ww | Beru |
| FR6 LDC | | 14 FR6 LDU |
| FR5 DTC | | 14 FR - 5 DTU |

Electrode gap

mm (in)

0.7 + 0.1
(0.026 + 0.004)

Load values

| | Air mass ML in kg/h | CLV in % |
|------------------------|---------------------|-----------|
| Idle | 15 - 27 | 0.7 - 1.9 |
| No load, n=2 500 1/min | 34 - 64 | 2.3 - 3.9 |

CLV = Calculated load value:

$CLV = ML/MLMAX * 100$, with $MLMAX = 1536$ kg/h

Test conditions

- Engine at operating temperature
- Engine temperature higher than 120 °C
- Ambient temperature 20 °C
- No electrical consumers switched on