TECHNICAL DATA OF ENGINE AND AUXILIARY EQUIPMENT

Engine: 2 cylinders in line, fan-cooled, 4 stroke with toothbelt driven single overhead camshaft (SOHC)

Reduction gear: flanged to engine, spur gear, standard gear ratio \(i = 3\), integrated torsional shock absorber.

Bore: 71 mm (2.80 in)
Stroke: 64 mm (2.521 in)
Displacement: 507 c.c. (31 cu.in)
Performance: 32 kW / 43 hp at 7800 r.p.m.

Torque: 41 Nm (30 ft.lb.) at 7000 r.p.m.
Permissible max. speed: 8000 r.p.m.
Cylinder: 2 light-alloy cylinders with cast iron sleeve
Piston: cast, light-alloy, with 3 piston rings

Cyl. wall to piston clearance: 0.04 mm (0.0016 in)

Cylinder head: mono-block-design, camshaft on roller bearings, roller rocker arms

Compression ratio: 10.5 : 1
Inlet valve: 36 mm (1.42 in)
Outlet valve: 30 mm (1.18 in)
Valve clearance, cold: 0.05 mm (0.002 in) on both valves

Camshaft: Case hardened, opening angle 243 degrees

Valve timing with 1 mm valve clearance:
inlet valve opens 12 BTDC
exhaust valve opens 50 BBDC
inlet valve closes 51 ABDC
exhaust valve closes 13 ATDC

Crankshaft support: 4 ball-bearings

Cooling: axial fan cooled

Lubrication: dry sump, forced flow

Oil pump: trochoid pump driven by camshaft

ROTAX
Oil tank capacity: 2.5 litres (0.66 gal.us)
Oil grade: SAE 20 W 40
Oil pressure: 1 - 1.5 bar (14.5 - 21.8 psi) at 6000 r.p.m. and 140 deg. C (284 deg. F) oil temperature
Lighting output: 12 V 110W + 30W AC
Regulator-rectifier optional
a) rectifier 866 080
   for circuits with or without battery as long as a minimum load of 12 W is provided
b) rectifier 264 870
   for circuits with or without battery but no necessity of any load.
Ignition timing: timing at start: 14 deg. BTDC
   at full load: 30 deg. BTDC
Breaker gap: 0.3 - 0.4 mm (0.012 - 0.016 in)
Pole shoe gap: 9 mm +/- 0.2 mm (.35 in +/- .08 in.)
   24 mm (.95 in.) at start timing.
Spark plug: 12 mm, D7 EA
Electrode gap: 0.6 mm (0.024 in)
Carburetor: 2 x BING type 64, 32 mm (1.26 in.) constant depression
Air intake filter: 2 x K&N micronic filter
Fuel pump: Pneumatic type DF 52
Fuel: PREMIUM (knock-rating not below RON 95)
Starter: Rewind starter, optional: Electric starter
Reduction gear: i = 3, optional i = 2.58 other gear ratios on request
Gear lubrication: gear oil SAE 140, API GL 5 or GL 6
Sense of rotation on reduction gear: clockwise, looking towards propeller flange
Weight of engine with reduction gear and exhaust manifold but without carbs, air filters, muffler, oil container, without oil: ........................................ 38.0 kg (83.8 lbs)

Weight of auxiliary equipment: carbs, air filters, fuel pump, muffler, oil container, and oil: ................................................................. approx. 10.5 kg (23.2 lbs)

Weight of electric starter assy.: ......................................................... 3.5 kg (7.7 lbs)

ROTAX
**TECHNICAL DATA**

**Engine Type:** 508 UL MOD. 88

**Design:** 37.508.0601

**Description:**
Four-stroke engine, two-cylinders in line, 180 deg.
single overhead camshaft, with tooth belt drive
and integrated reduction gear

**Bore:**
71.0 mm (2.795 in.)

**Stroke:**
64.0 mm (2.519 in.)

**Displacement:**
507 c.c. (30,939 cu.in.)

**Power Output:**
32 KW (43 hp) at 7800 rpm, performance sheet Lb. 337

**Max. Torque:**
41 Nm (30 ft.lb.) at 7800 rpm, performance sheet Lb. 337

**Cylinder:**
2 light alloy cylinders with cast-iron sleeves

**Piston:**
Aluminium cast piston with 3 piston rings

**Piston/Cylinder Clearance:**
0.04 mm (0.00157 in.)

**Cylinder Head:**
Monoblock design, camshaft on ball bearings,
rocker arms with rollers

**Compression Ratio:**
10.5 : 1

**Intake Valve:**
36 mm (1.417 in.)

**Exhaust Valve:**
30 mm (1.181 in.)

**Valve Gap:**
0.05 mm (0.00197 in.) both valves, with cold engine

**Camshaft:**
Steel, case hardened, 243 degrees

**Valve Timing:**
Intake: opens 12 degr. BTDC
Exhaust: opens 50 degr. BBDC
Intake: closes 51 degr. ABDC
Exhaust: closes 13 degr. ATDC

**Crankshaft:**
Four-bearing crankshaft

**Cooling:**
Fan cooled

**Lubrication:**
Dry sump lubrication

**Oil Pump:**
Trocloid pump, camshaft driven

**Oil Quantity:**
2.5 l (0.660 US gal.)

**Oil Quality:**
20 W 40

**Oil Pressure:**
1 - 1.5 bar (14.5 - 21.75 p.s.i.) at 6000 r.p.m.
and oil temperature 140 degr. C

---

**BOMBARDIER.ROTAX**
A-4623 GUNSKIRCHEN – AUSTRIA
Delivery rate: 1 litre/min. (0.264 US gal./min.) at 6000 r.p.m.

Ignition system: flywheel magneto generator SCP 2

Generator output: AC-12V 110W + 30W

Rectifier-regulator: a) 866 080 requires minimum load 12 W (1 Amp) to regulate
    b) 264 870 - no minimum load required

Ignition timing: idling: 14 degr. BTDC
                 full load: 30 degr. BTDC

Contact breaker point gap: 0.3 - 0.4 mm (0.0118 - 0.0157 in.)

Break-away gap: 9 mm (0.3543 in.), 24 mm (0.945 in.) starting

Spark plug: 12 mm (0.4724 in.), D7EA

Electrode gap: 0.6 mm (0.0236 in.)

Carburetor: 2 x BING-CD-carburetor, 32 mm (1.26 in.) dia, type 64

Airfilter: 2 x dry airfilters K & N

Fuel Pump: pneumatic fuel pump, DF 52

Fuel: Premium gasoline, octane number not below RON 95

Fuel consumption: see performance sheet Lb. 337

Starter: Rewind starter, (pinion type electric starter optional)

Reduction gear: 1:3.0
    optional 2.58
    other ratios on inquiry

Lubrication of gear-box: gear oil SAE 140, API-GL5 or GL6

Direction of prop. shaft rotation: clockwise, viewed towards propeller flange

Weight: 38 kg (83.77 lb.) with exhaust manifold, yet without carburetor, fuel pump, airfilters, exhaust system, oil, oil tank

Additional weight: 10.5 kg (23.148 lb.) (carburetors, fuel pump, airfilters, exhaust system, oil tank with oil)

Weight electric starter assy.: 3.5 Kg (7.716 lb.).

Subject to change without notice
HISTORICAL DOCUMENTS: FOR EDUCATIONAL PURPOSES ONLY (Engine no longer in production, information may be outdated!)
Auspuffanlage 508 UL 360 Grad