

**ROTAX.****TECHNICAL DATA**

Db. 536 - E

Feb. 1994

ROTAX engine type 258 ROAD RACER, model 1994

design no.: 34.258.0013 ROADRACER

DESCRIPTION:	ROTAX V-twin-cylinder, two-stroke-, rotary valve engine, water-cooled, with integrated water pump and 6-speed cartridge gearbox, with exhaust valve, digital ignition, oil-in-fuel lubrication.									
BORE:	2 x 54 mm									
STROKE:	54,5 mm									
DISPLACEMENT:	249,6 cm ³									
POWER OUTPUT:	no specification									
TORQUE:	no specification									
RECOMMENDED OPERATION R.P.M.:	12 500 r.p.m.									
MAXIMUM ALLOWED OPERATION R.P.M.:	14 000 r.p.m.									
PISTON:	Cast aluminium piston with coating and one 1 mm rectangular piston ring. Standard: <table border="0" style="margin-left: 20px;"> <tr> <td>part no.</td> <td>tolerance group</td> <td>diameter</td> </tr> <tr> <td>295 155</td> <td>(1) red</td> <td>53,97 mm</td> </tr> <tr> <td>295 155</td> <td>(2) green</td> <td>53,98 mm</td> </tr> </table>	part no.	tolerance group	diameter	295 155	(1) red	53,97 mm	295 155	(2) green	53,98 mm
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295 155	(1) red	53,97 mm								
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CYLINDER:	2 light alloy cylinders, NIKASIL plated, with pneumatic exhaust valve. Standard cylinder height = 90,2 mm Standard: <table border="0" style="margin-left: 20px;"> <tr> <td>part no.</td> <td>tolerance group</td> <td>diameter</td> </tr> <tr> <td>223 649</td> <td>(1) red</td> <td>54,000-54,012 mm</td> </tr> <tr> <td>223 649</td> <td>(2) green</td> <td>54,012-54,025 mm</td> </tr> </table>	part no.	tolerance group	diameter	223 649	(1) red	54,000-54,012 mm	223 649	(2) green	54,012-54,025 mm
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223 649	(1) red	54,000-54,012 mm								
223 649	(2) green	54,012-54,025 mm								
EXHAUST VALVE:	Standard: pneumatically operated exhaust valve, switch point of exhaust valve at dynamic engine operation at aprox. 10 500 r.p.m.									
PISTON/CYLINDER CLEARANCE:	0,030 - 0,045 mm									
PISTON CENTER PROTRUDING OVER CYLINDER TOP:	1,5 mm (has to be adjusted with different cylinder base gaskets of 0,3 to 0,6 and 0,8 mm thickness)									
COMBUSTION CHAMBER INSERT:	part no. 223 930 volume of combustion chamber insert = 9,86 cm ³ ± 0,05 cm ³ (+2 cm ³ for the spark plug threaded hole)									

BOMBARDIER - ROTAX
GESELLSCHAFT M.B.H. MOTORENFABRIKA-4623 GUNSKIRCHEN - AUSTRIA
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COMBUSTION CHAMBER VOLUME:	8,61 cm ³ ±0,1 cm ³ (+2 cm ³ for the spark plug threaded hole)
SQUITCH GAP:	0,92 mm
COMPRESSION:	theoretical: 15,5 ± 0,3
IGNITION UNIT:	NIPPONDENSO digital ignition unit with battery support, 4 different ignition timing curves can be selected.
IGNITION TIMING:	4,0 mm ±0,1 mm (= 28,2°) before T.D.C. between 5000 and 7000 r.p.m.
BATTERY:	dry-battery, "Sonnenschein" 12V 1,1Ah (Part no. 265 121, not extent of delivery of Rotax)
SPARK PLUG:	2 x NGK R 5540 F-105, thread M14 x 1,25 (Part no. 297 845)
ELECTRODE GAP:	0,4 - 0,5 mm
SPARK PLUG CONNECTOR:	NGK TRS-1409 (without resistance) (Part no. 265 192)
INTAKE TIMING SYSTEM:	Rotary valve
ROTARY VALVE:	carbon rotary valve (asymmetric), part no.: 224 592, diameter = 120 mm, thickness = 0,9 mm cut-off section = 170° at diameter 100 mm edge via centre = opening edge
ROTARY VALVE TIMING:	opens: 49,5 mm = 140° before T.D.C. closes: 29,7 mm = 88° after T.D.C.
CARBURETOR:	2 x DELL'ORTO flat slide carburetor VHSB 39 (not extent of delivery of Rotax)
FUEL:	AVGAS 100 LL
LUBRICATION (ENGINE):	oil in fuel lubrication, VALVOLINE SYN-CHAMP mixing ratio 25 : 1 (4%)
LUBRICATION (GEARBOX):	splash lubrication, 0,80 ltr. ISO VG 100 (at operation in bike) 1,00 ltr. ISO VG 100 (at operation on test bench)
LUBRICATION (PRIMARY DRIVE):	splash lubrication, 0,10 ltr. ISO VG 100 (at operation in bike and on test bench)
COOLING SYSTEM:	watercooled, integrated water pump for circulation of water through crankcase, cylinder and cylinder head, closed water circuit

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COOLANT RATE: 55 l/min. at 12 000 r.p.m.

COOLANT TEMPERATURE:
 min.: 45° C (113° F)
 nominal: 55° C (131° F)
 max.: 65° C (149° F)
 measured at water outlet of cylinder

CLUTCH: Dry multi-plate

GEAR SHIFTING: left side shifting, neutral between 1st and 2nd speed,
 1st speed down, 2nd - 6th speed up

TRANSMISSION: 6-speed cartridge gearbox, constant mesh, dog engagement,
 rotary change
 Choice of 10 x 1st speed
 9 x 2nd speed
 6 x 3rd speed
 6 x 4th speed
 10 x 5th speed
 10 x 6th speed
 see SERVICE INFORMATION 6 M 93

OPTIONAL GEAR SET: part no. 281 168
 see SERVICE INFORMATION 6 M 93

PRIMARY REDUCTION RATIO: (25 : 60) 2,4

STANDARD GEAR RATIOS:			overall reduction ratio
1 st speed	(13 : 30)	2,308	1 st speed 5,538
2 nd speed	(17 : 31)	1,824	2 nd speed 4,376
3 rd speed	(17 : 26)	1;529	3 rd speed 3,671
4 th speed	(17 : 23)	1,353	4 th speed 3,247
5 th speed	(18 : 22)	1,122	5 th speed 2,933
6 th speed	(23 : 26)	1,130	6 th speed 2,713

STANDARD SPROCKET: 18 teeth (part no.: 236 197)
 also available sprockets with 16, 17, 19 and 20 teeth

DIMENSION OF CHAIN: 5/8 x 1/4 x 10,16

EXHAUST SYSTEM: per drawing VSK 164

STARTER: no starting device, push start

DRY WEIGHT: approx. 28 kg (without mufflers and carburetors)

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Db. 547- E

Jan. 1995

ROTAX engine type 258 ROAD RACER, model 1995

design no. 35 258 0013 ROAD RAGER

DESCRIPTION:	ROTAX V-twin-cylinder, two-stroke-, rotary valve engine, water-cooled, with integrated water pump and 6-speed cartridge gearbox, with exhaust valve, digital ignition, oil-in-fuel lubrication.									
BORE:	2 x 54 mm									
STROKE:	54,5 mm									
DISPLACEMENT:	249,6 cm ³									
POWER OUTPUT:	no specification									
TORQUE:	no specification									
RECOMMENDED OPERATION R.P.M.:	12 500 r.p.m.									
MAXIMUM ALLOWED OPERATION R.P.M.:	14 000 r.p.m.									
PISTON:	Cast aluminium piston with one 1 mm rectangular piston ring. Standard: <table border="0" style="margin-left: 20px;"> <tr> <td>part no.</td> <td>tolerance group</td> <td>diameter</td> </tr> <tr> <td>295 155</td> <td>(1) red</td> <td>53,97 mm</td> </tr> <tr> <td>295 155</td> <td>(2) green</td> <td>53,98 mm</td> </tr> </table>	part no.	tolerance group	diameter	295 155	(1) red	53,97 mm	295 155	(2) green	53,98 mm
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PISTON/CYLINDER CLEARANCE:	0,030 - 0,045 mm									
PISTON CENTER PROTRUDING OVER CYLINDER TOP:	1,5 mm (has to be adjusted with different cylinder base gaskets of 0,3 to 0,6 and 0,8 mm thickness)									
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LUBRICATION (ENGINE):	oil in fuel lubrication, VALVOLINE SYN-CHAMP mixing ratio 25 : 1 (4%)
LUBRICATION (GEARBOX):	splash lubrication, 0,60 ltr. ISO VG 100 (at operation in bike) 0,80 ltr. ISO VG 100 (at operation on test bench)
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COOLING SYSTEM: watercooled, integrated water pump for circulation of water through crankcase, cylinder and cylinder head, closed water circuit

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TRANSMISSION: 6-speed cartridge gearbox, constant mesh, dog engagement, rotary change

Choice of

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- 9 x 2nd speed
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- 10 x 5th speed
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see SERVICE INFORMATION 6 M 93

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STANDARD SPROCKET: 18 teeth (part no.: 236 987)
 also available sprockets with 17, 19 and 20 teeth

DIMENSION OF CHAIN: 5/8 x 1/4 x 10,16

EXHAUST SYSTEM: APRILIA exhaust system

STARTER: no starting device, push start

DRY WEIGHT: approx. 27 kg (without mufflers and carburetors)

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 WITHOUT COMMITMENT TO ADVISE MODIFICATION