

TECHNICAL DATA R23 (1938-41)
(SOURCE OF INFORMATION - BMW)

361

ENGINE

BORE x STROKE 68 x 68 mm
CCM 247
COMP RATIO 6:1
MAX. R.P.M. 5400
H.P. (DIN) 10 @ 4800 R.P.M. LATE? 1938 10 @ 5400 R.P.M.
ENGINE OIL CAPACITY 1.5 LITRES SUMMER SAE 40 WINTER SAE 20.

ARB.

FISCHER AMAL M 76/435/S
MAIN JET 80
SLIDE 4/5
NEEDLE 6.27 2ND GROOVE FROM TOP
AIR SCREW OPEN ~~2ND GROOVE FROM TOP~~ 1 1/2 TURNS APPROX.

GEARBOX (AS R20)

RATIOS 1ST 4.55:1
2ND 2.58:1
3RD 1.64:1

OIL CAPACITY 0.4 LITRES SUMMER SAE 40 WINTER SAE 20.

AXLE DRIVE (AS R20)

RATIO 4.18:1 GIVES 6.86:1 TOP GEAR
CROWN WHEEL 46 TEETH
PINION 11 TEETH ANOTHER SOURCE GIVES MOBIL OIL EPW1
OIL CAPACITY 0.3 LITRES SUMMER SAE 40 WINTER SAE 20

AXLES

DRUM DIAMETER FRONT 160 mm
REAR 180 mm
LINING DIMENSIONS FRONT 170 mm x 20 mm x 4 mm
REAR 200 mm x 20 mm x 4 mm

WHEELS

TYRES FRONT 300 x 19 PRESSURE 1.4 ATMOS
(RIM 2.5 x 19)
REAR 300 x 19 PRESSURE 1.9 ATMOS
(RIM 2.5 x 19)

PENSION

FRONT 2 x 0.16 LITRES OIL MOBIL OIL AF

ELECTRICAL

DYNAMO BOSCH F 1 L K 50/6/1800 R 3 50 WATT.
IGNITION BATTERY & COIL
BATTERY BOSCH 6 B 7 DIN 72311 7 AMP. HR.
PLUG. BOSCH W 175 T1 OR BERU K 175 b 1/14
PLUG GAP 0.6 mm
CONTACT BREAKER GAP 0.4 mm

MAIN DIMENSIONS

WHEEL BASE 1330 mm
 GROUND CLEAR. 100 mm
 LENGTH 2000 mm
 WIDTH 800 mm
 HEIGHT 920 mm

WEIGHT

UNLADEN DRY 135 kg
 KERFL SIDE WEIGHT
~~MAX LADEN~~ 255 kg
 MAX LADEN 290 kg.

PERFORMANCE

CONTINUOUS 75 km/hr.
 MAX. 95 km/hr. ANOTHER SOURCE GIVES 90 km/hr
 FUEL CAPACITY 9.6 LITRES TOTAL WITH 1 LITRE RESERVE. ANOTHER
 SOURCE GIVES 10 LITRES WITH 2 LITRES RESERVE APPROX.
 FUEL CONSUMPTION 3.1 LITRES / 100 km @ 60 km/hr. ANOTHER
 SOURCE GIVES 3 - 3.6 LITRES / 100 km
 RANGE 310 km.
 OIL CONSUMPTION 0.1 LITRES / 100 km
 H.P. (DIN) / LITRE 40

ENGINE REPAIR DATAPISTONS

CLEARANCE 0.05 - 0.06 mm
 GROOVE CLEARANCES TOP 0.03 - 0.05 mm
 MIDDLE 0.02 - 0.04 mm
 BOTTOM 0.02 - 0.04 mm
 RING GAP 0.2 - 0.35 (COMP. RINGS)
 0.25 - 0.4 SCRAPER RINGS?

ROCKERS

BORE IN CYLINDER HEAD 15 mm ± 0.06
 -0.035 mm
 BUSH OUTER DIAM. 15 mm ± 0
 -0.012 mm
 INTERFERENCE 0.03 - 0.06 mm
 BEFORE TAPPING CLEARANCE 0.03 - 0.05 mm
 BEFORE SIDE CLEARANCE 0.03 - 0.05 mm

DIAMETRAL CLEARANCE 0.03 - 0.06 mm
 SEAT OUTER DIAMETER 31 mm
 TAPPET CLEARANCE COLD INLET 0.1 mm - ANOTHER SOURCE
 EXHAUST 0.1 mm - GIVES 0.05 - 0.1 mm
 VALVE SPRING FREE LENGTH OUTER 32 mm
 INNER 27 mm

CRANKSHAFT

MAX JOURNAL OVALITY 0.03 mm
 OVALITY OF COLLECTOR? OR OIL PLINGER? 0.08 mm
 END FLOAT 0.1 - 0.2 mm

BIG END

DIAMETRAL CLEARANCE NONE
 SIDE CLEARANCE 0.05 - 0.1 mm
 ROLLER CAGE SIDE CLEARANCE 0.1 - 0.15 mm

SMALL END

GUDGEON PIN DIAMETRAL CLEARANCE 0.01 - 0.03 mm

MAIN BEARINGS REAR BEARING RUNS DIRECT IN HOUSING
 HOUSING DIAMETER FRONT 35mm -0.017
 -0.042 mm
 BEARING DIAMETER FRONT 35mm ± 0.018 mm
 INTERFERENCE 0.01-0.03 mm
 RUNNING CLEARANCE 0-0.04 mm

CAMSHAFT

BORE DIAMETER IN HOUSING OR COVER FRONT 41mm -0
 $+0.025$ mm
 REAR 24mm -0
 $+0.022$ mm
 BEARING OUTER DIAMETER FRONT 41mm $+0.070$
 $+0.095$ mm
 REAR 24mm $+0.09$
 $+0.12$ mm
 INTERFERENCE FRONT 0.04-0.09 mm REAR 0.07-0.12 mm
 RUNNING CLEARANCE 0.03-0.08 mm
 SIDE CLEARANCE 0.05-0.1 mm
 TAPPET DIAMETRAL CLEARANCE 0.04-0.07 mm

TIMING WITH 2mm TAPPET CLEARANCE

INLET OPENS 11° AFTER TDC
 CLOSES 29° AFTER BDC
 EXHAUST OPENS 29° BEFORE BDC
 CLOSES 11° BEFORE TDC
 IGNITION 10mm BEFORE TDC
 OR 40° ~ ~ ~

ANOTHER SOURCE GIVES WITH
 TAPPET CLEAR.
 0.05 mm
 20° OR 2.5 mm
 60° OR 13.5 mm
 60° OR 13.5 mm
 20° OR 2.5 mm
 ANOTHER SOURCE GIVES 9.5 mm

LUBRICATION

OIL PUMP SIDE CLEARANCE 0.05-0.1 mm
 TEST PRESSURE @ 250 RPM 1.5-2 ATMOS.

GEARBOX REPAIR DATA

DRIVE SHAFT SIDE CLEARANCE 0.1-0.5 mm
 MAINSHAFT SIDE CLEARANCE 0.1-0.5 mm
 LAYSHAFT SIDE CLEARANCE 0.1-0.5 mm
 SHAFT END FLOATS MAXIMUM 0.1 mm
 GEARS 1ST RUNNING CLEARANCE 0.03-0.1 mm
 SIDE CLEARANCE 0.3-0.5 mm
 2ND RUNNING CLEARANCE 0.03-0.1 mm
 SIDE CLEARANCE 0.1-0.3 mm
 3RD RUNNING CLEARANCE 0.03-0.1 mm
 SIDE CLEARANCE 0.3-0.5 mm
 KICK STARTER SHAFT RUNNING CLEARANCE 0.02-0.07 mm
 SIDE CLEARANCE TAKEN UP BY RETURN
 SPRING - SEGMENT RUNS IN COVER
 KICK STARTER IDLER WHEEL
 RUNNING CLEARANCE 0.03-0.1 mm
 SIDE CLEARANCE TAKEN UP BY SPRING
 SELECTOR FORK RUNNING CLEARANCE 0.05-0.12 mm

SUSPENSION REPAIR DATAFRONT FORK

STEERING HEAD BEARINGS 24 OFF 5.5mm DIA.

BUSH RUNNING CLEARANCE 0.04 - 0.1mm

SPRING WIRE DIAMETER 4.25mm

REAR WHEEL DRIVE REPAIR DATA

CROWN WHEEL FLOAT UPWARDS 0.1mm MAX.

SIDEWAYS 0.05mm MAX.

TOOTH BACKLASH 0.1 - 0.3mm

PROP. SHAFT END FLOAT 0.5mm

PROP. SHAFT AXIAL CLEARANCE 1 - 3mm

PRESSURE FITTING FLANGE CARRIER OR SHOCK ABSORBER
TO PROP SHAFT 1500 kg MIN.OTHER USEFUL INFORMATION

BSA DI BANTAM SILENCER LOOKS OK.

BSA BANTAM BATTERY IS OF CORRECT DIMENSIONS

NSU CAR HEADLAMP RIM & REFLECTOR SUITABLE?

1964 VW VAN CONTACT BREAKER POINTS SUITABLE?

1964 VW VAN CONDENSER SUITABLE?

ADDITIONAL TECHNICAL DATA

AVERAGE PISTON PRESSURE 7.6 AMOS
 TIMING CHAIN 42 PITCHES $3/8" \times 7/32"$
 MAIN BEARINGS 1 PLAIN 1 BALL RACE.
 FLYWHEEL DIA. 180 mm
 SMALL END BEARING - ROLLER?
 PISTON TYPE - FLAT TOP
 MAX OVERSIZE 69.5 mm
 2 COMPRESSION RINGS A 68 x 2.5 ac DIN 73 102
 1 OIL SCRAPER RING A 68 x 4 ac DIN 73 104
 OIL PUMP GEAR TYPE
 OIL FILTER WIRE MESH
 AIR FILTER - OIL SOAKED
 FUEL FILTER - GAUZE IN PETROL TANK
 ALTERNATIVE CARB. BING AJ 1/20 (22)
 MAIN JET 90
 SLIDE? 3
 IDLING JET 40
 NEEDLE POSITION 2ND GROOVE FROM TOP
 AIR SCREW OPEN 1 TURN APPROX.
 STEERING GEOMETRY
 CAMBER (TRAIL) 62 mm
 HEAD ANGLE 61°
 SADDLE HEIGHT 700 mm
 WEIGHT ON FRONT WHEEL 62 kg
 WEIGHT ON REAR WHEEL 73 kg } UNLADEN.