



# TECHNICAL DATA

RS1 & SS1937-40

363

ENGINE (AS RS1 & SS1 1/2 "Bitem Half")

BORE x STROKE

65 x 65

H.P. (DIN) 24

NOTE

C.C.M.

494

@ 5500

MOST PARTS INTER-  
CHANGEABLE WITH

COMP. RATIO

6.7 : 1

RS, RG, R61, R66, R71

MAX RPM

5800

& SOME PARTS WITH

ENGINE OIL CAPACITY

2 LITRES

SUMMER SAE 40

RS1/2

WINTER SAE 20

CARBS. (AS RS1 & SS1) SR & SL

WATER PUMP 5/423 (OR BING A51/22)

MAIN JET

100

AIR SCREW OPEN 1 1/2 TURNS APPROX

SLIDE

5/5

NEEDLE

2.67 - 2ND GROOVE FROM TOP

GEARBOX (AS OR SIMILAR RS, RG, R61, R66, R71, RS1/2, RS1/3)

RATIOS

1ST 3.6 : 1

2ND 2.28 : 1

3RD 1.7 : 1

4TH 1.3 : 1

OIL CAPACITY 0.75 LITRES SUMMER SAE 40 WINTER SAE 20

REAR DRIVE (AS OR SIMILAR RS, RG, R61, R66, R71, RS1/2, RS1/3)

RATIO

3.89

1.1

SOLO-GIVES

5.05

1.1

TOP GEAR

CROWN WHEEL 35 TEETH

PINION

9

TEETH

RATIO

4.44

1.1

SIDECAR - GIVES

6.0

1.1

TOP GEAR

CROWN WHEEL 37 TEETH

PINION

8

TEETH

OIL CAPACITY 0.4 LITRES

ANOTHER SOURCE GIVES MOBIL OIL EPW

SUMMER SAE 40 WINTER SAE 20

## BRAKES

DRUM DIAMETER

200 mm

LINING DIMENSIONS

150 mm x 25 mm x 4 mm

## WHEELS

TYRES

FRONT 3.50 x 19

PRESSURE 1.4 ATMOS (1.75 ATMOS SIDECAR)

(RHA 3.00 x 19)

REAR 3.50 x 19

(RHA 3.00 x 19)

1.19

(2.6 ATMOS SIDECAR)

SUSPENSION (AS R61, R66, R71, RS1/2, RS1/3)

FRONT 2 x 0.1 LITRES OIL - MOBIL OIL AF

REAR

GREASE EVERY 2000 km

## ELECTRICAL

DYNAMO

RD 45/6

2800

RS15

45 WATT

IGNITION

BATTERY 8 CELL

PLUGS

W 225 T1

BOSCH

OR

BERU

K 225 b 1/14

PLUG GAP

0.6 - 0.7 mm

CONTACT BREAKER GAP

0.4 mm



SOURCE OF INFORMATION - RIL 11

MAIN BEARINGS

|              |          |       |             |                  |
|--------------|----------|-------|-------------|------------------|
| HOUSING      | DIAMETER | FRONT | 77mm        | -0<br>+0.03      |
|              |          | REAR  | 77mm        | -0<br>+0.03      |
| BEARING      | DIAMETER | FRONT | 77mm        | +0.020<br>+0.039 |
|              |          | REAR  | 77mm        | +0.020<br>+0.039 |
| INTERFERENCE |          | FRONT | 0.01-0.03mm |                  |
|              |          | REAR  | 0.01-0.03mm |                  |

SIDE CLEARANCE BEARING TO PLYWHEEL 1mm MINIMUM  
 SIDE CLEARANCE CRANKSHAFT WEBS OR OIL FLINGER  
 RING & HOUSING FRONT 1.6-2.5mm  
 REAR 1.5-2.3mm

CAMSHAFT

BORE DIAMETER IN HOUSING OR COVER <sup>FRONT</sup> 40mm -0  
 +0.025  
 REAR 38mm -0  
 +0.025  
 BUSH OR BEARING BODY OUTER DIAMETER

FRONT 40mm +0.018  
 +0.035  
 REAR 38mm +0.018  
 +0.035  
 INTERFERENCE FRONT 0-0.01mm REAR 0-0.01mm  
 RUNNING CLEARANCE 0.03-0.08mm  
 SIDE CLEARANCE 0.05-0.1mm  
 TIMING WHEEL TOOTH BACKLASH 0.03-0.05mm  
 TAPPET <sup>DIAMETRIC</sup> RUNNING CLEARANCE 0.04-0.07mm

TIMING WITH 2mm VALVE CLEARANCE

INLET OPENS ~~140~~ AFTER TDC  
 CLOSSES ~~200~~ AFTER BDC  
 EXHAUST OPENS ~~260~~ BEFORE BDC  
 CLOSSES ~~140~~ BEFORE TDC

IGNITION ~~5-6~~ mm BEFORE TDC

FROM ANOTHER  
 SOURCE  
 30  
 37  
 37  
 3  
 ALSO 2mm CLEAR  
 ANOTHER SOURCE  
 GIVES 12mm

CORRECT

OR 300

LUBRICATION OIL PUMP SIDE CLEAR. 0.05-0.1mm TEST PRESSURE (250 RPM 1.5-2 ATACS  
 MIN)

GEARBOX REPAIR DATA

MAINSHAFT RUNNING CLEARANCE BALL RACE? IF PLAIN 0.05-0.1mm  
 MAINSHAFT SIDE CLEARANCE 0.1-0.5mm  
 LAYSHAFT RUNNING CLEARANCE FRONT & REAR 0.02-0.05mm  
 LAYSHAFT SIDE CLEARANCE 0.1-0.5mm  
 SHAFT END FLOATS MAXIMUM 0.1mm

## OTHER USEFUL INFORMATION R51

CONTACT BREAKER POINTS AS 1964 VW VAN  
CONDENSER AS 1964 VW VAN  
SILENCERS DI BANTAM LOOK OK  
BATTERY AS BSA BANTAM  
HEADLAMP RIM & REFLECTOR NSU CAR MAY SUIT?  
BRAKE LININGS GREEVES MAY SUIT?  
R51/2 ENGINE LESS BARRELS HEADS & PISTONS INTERCHANGEABLE  
ALSO R61 R66 & R71, PROBABLY R5 & R6 ALSO  
VALVE TIMING SET CRANKSHAFT & CAMSHAFT SPROCKET  
SO THAT ARROWS POINT TO CENTRE I.E.  $\rightarrow \uparrow \leftarrow$   
OR SHARE OVERLAP  
MANY MG3 URAL PARTS MAY BE INTERCHANGEABLE

## ADDITIONAL TECHNICAL DATA R51

POWER OUTPUT 24 B.H.P. (DIN) @ 5500 RPM  
AVERAGE PISTON PRESSURE 8.0 ATMOSPHERES  
FLYWHEEL DIAMETER 180 mm  
CRANKSHAFT BEARINGS 1 BALL BEARING? 1 ROLLER BEARING?  
PISTON TYPE FLAT TOP  
2 COMPRESSION RINGS A 68x3~~4~~ DIN 73 102  
1 OIL SCRAPER RING A 68x4 DIN 73 104  
OR 3 COMPRESSION RINGS A 65x2 DIN 73 102  
OIL FILTER WIRE MESH  
LUBRICATION FORCE FEED GEAR PUMP  
SETTINGS FOR BING AJ 1/22 CARB  
MAIN JET 90  
NEEDLE POSITION FROM TOP 2ND GROOVE  
AIR SCREW OPEN 1 TURN  
IDLE JET 40  
MISCHMANGEREINSATZ ? 3  
AIR FILTER - OIL SOAKED  
BATTERY 7 AH BOSCH 6 B 7 DIN 72 311 - USE BSA BANTAM  
~~DELTA BOSCH BATTERY~~  
FRONT FORK ANGLE 63°  
" " TRAIL 65 mm