

\* TECHNICAL DATA RS1 & SS1937-40

363

ENGINE (AS RS ~~RS1~~ RS1/2 "Bitem Half")

BORE x STROKE	68 x 68	H.P. (DIN) 24	<u>NOTE</u>
CC.M.	494	@ 5500	MOST PARTS INTER- -CHANGEABLE WITH
COMP. RATIO	6.7 : 1		RS, R6, R61, R66, R71
MAX RPM	5800		& SOME PARTS WITH

ENGINE OIL CAPACITY 2 LITRES SUMMER SAE 40 WINTER SAE 20  
PISTONS 17549 SR & SL

CARBS. (AS RS ~~RS1~~ SR & SL)

WATER PUMP 5/423 (OR GING AJ1/22)

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, R6, 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 ~~RS1~~) R6, R61, R66, R71, RS1/2, RS1/3)

RATIO ~~3.89~~ : 1 SOLO-GIVES ~~5.05~~ : 1 TOP GEAR

CROWN WHEEL 35 ~~35~~ TEETH  
 PINION 9 ~~9~~ TEETH

RATIO ~~4.24~~ : 1 SIDECAR - GIVES ~~6.0~~ : 1 TOP GEAR

CROWN WHEEL 31 ~~31~~ TEETH  
 PINION 8 ~~8~~ TEETH

OIL CAPACITY 0.4 LITRES ANOTHER SOURCE GIVES MOBIL OIL EPVI  
 SUMMER SAE 40 WINTER SAE 20

BRAKES

DRUM DIAMETER 200 mm  
 LINING DIMENSIONS 180 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)

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 & COIL  
 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 - R 111

MAIN BEARINGS

HOUSING	DIAMETER	FRONT	77mm	-0 +0.03
		REAR	77mm	-0 +0.03
BEARING	DIAMETER	FRONT	77mm	+0.020 +0.039
		REAR	77mm	+0.020 +0.039
INTERFERENCE		FRONT	0.01-0.03mm	
		REAR	0.01-0.03mm	

SIDE CLEARANCE BEARING TO PLYMETER 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 FRONT 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

INTERFERENCE RUNNING CLEARANCE FRONT 0-0.01mm REAR 0-0.01mm  
 SIDE CLEARANCE 0.03-0.08mm  
 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 ~~14°~~ AFTER TDC  
 CLOSES ~~20°~~ AFTER BDC  
 EXHAUST OPENS ~~26°~~ BEFORE BDC  
 CLOSES ~~14°~~ BEFORE TDC  
 IGNITION ~~5-6~~ mm BEFORE TDC

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

CORRECT

LUBRICATION

OIL PUMP SIDE CLEAR. OR 30°  
 0.05-0.1mm

TEST PRESSURE @ 2500 RPM 1.5-2 ATACS MIN

GEARBOX REPAIR DATA

MAINSHAFT RUNNING CLEARANCE BALL RACE? IF PLAIN 0.05-0.1mm  
 MAINSHAFT SIDE CLEARANCE 0.1-0.15mm  
 LAYSHAFT RUNNING CLEARANCE FRONT & REAR 0.02-0.05mm  
 LAYSHAFT SIDE CLEARANCE 0.1-0.15mm  
 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 CREEVES 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. → ↑ ←  
OR SHAPE OVERLAP  
MANY M63 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 2<sup>ND</sup> GROOVE  
AIR SCREW OPEN 1 TURN  
IDLING JET 40  
MISCHRAHMEREINSATZ ? 3  
AIR FILTER - OIL SOAKED  
BATTERY 7 AH BOSCH 6 B 7 DIN 72 311 - USE BSA BANTAM  
~~7 AH BOSCH 6 B 7~~  
FRONT FORK ANGLE 63°  
" " TRAIL 65 mm