

TECHNICAL DATA R12-SINGLE CARB-1935-41

(SOURCE OF INFORMATION B.M.W.)

351

ENGINE (AS R11/5)

BORE X STROKE 78 x 78
CCM 746
COMP. RATIO 5.7 (5.1:1-5.2:1 for 74 OCTANE FUEL)
MAX. RPM 3500
H.P. (DIN) 18
ENGINE OIL CAPACITY 2.5 LITRES SUMMER SAE 50 WINTER SAE 30
HEPOLITE 7495 PISTONS

CARBS

SUM CK
MAIN JET 70
COMPENSATION? JET 65

GEARBOX (AS R17 & R11/4)

RATIOS 1ST 3.18
2ND 2.06
3RD 1.42
4TH 1.09

OIL CAPACITY 0.75 LITRES SUMMER SAE 50 WINTER SAE 30

REAR DRIVE (AS R17 & R11/2)

RATIO 4.07:1 SOLO - GIVES 4.44:1 TOP GEAR
CROWN WHEEL 57 TEETH
PINION 14 TEETH

RATIO 4.75:1 SIDECAR - GIVES 5.18:1 TOP GEAR

CROWN WHEEL 57 TEETH

PINION 12 TEETH ANOTHER SOURCE GIVES MOBIL OIL EPW1

OIL CAPACITY 0.4 LITRES SUMMER SAE 50 WINTER SAE 30

WHEELS

DRUM DIAMETER 200 mm

LINING DIMENSIONS 170 mm x 25 mm x 4 mm

WHEELS - INTERCHANGEABLE

TYRES FRONT 3.50 x 19 PRESSURE 1.4 ATMOS (1.75 SIDECAR)
(RIM 3 x 19)

REAR 3.50 x 19 PRESSURE 1.9 ATMOS (2.6 SIDECAR)
(RIM 3 x 19)

SUSPENSION (AS R17)

FRONT 2 x 0.125 LITRES SHOCK ABSORBER OIL
ANOTHER SOURCE GIVES MOBIL OIL AF

ELECTRICAL

45 WATT BOSCH DYNAMO DZ BRS 170

IGNITION - MAGNETO

PLUG GAP 0.4 - 0.6 mm.

SPARKING PLUGS 18 mm BOSCH M175 T1
14 mm BOSCH W175 T1

MAIN DIMENSIONS

WHEEL BASE 1380 mm
GROUND CLEAR. 120 mm
LENGTH 2100 mm
WIDTH 900 mm
HEIGHT 940 mm

WEIGHT

UNLADEN 188 kg ANOTHER SOURCE GIVES 162 kg
MAX. LADEN 300 kg.

PERFORMANCE

SOCO CONTINUOUS 85 km/hr.
SOCO MAX. 95 km/hr.
SIDE CAR CONTINUOUS 70 km/hr.
SIDE CAR MAX. 80 km/hr.
FUEL CAPACITY 14 LITRES TOTAL - 1.5 LITRES RESERVE

ENGINE REPAIR DATA

PISTONS

CLEARANCE 0.06-0.08 mm
GROOVE CLEARANCES TOP 0.05-0.07 mm
MIDDLE 0.04-0.06 mm
BOTTOM 0.03-0.05 mm
RING GAP 0.20-0.35 mm COMP. RINGS?
0.25-0.4 mm SCRAPER RINGS?

VALVES

ROCKER DIAMETRAL CLEARANCE 0.03-0.05 mm
RUNNING DIAMETRAL CLEARANCE 0.05-0.10 mm
SEAT OUTER DIAM. 38 mm
TAPPET CLEARANCE COLD ^{INLET} 0.05-0.1 mm
EXHAUST 0.05-0.1 mm
VALVE SPRING LENGTH OUTER 42 mm
INNER 38 mm

CRANK SHAFT

MAX. RUNOUT 0.1 mm
MAX JOURNAL QUALITY 0.03 mm
MAX END FLOAT 0.4-1.0 mm

BIG END

DIAMETRAL CLEARANCE NONE
SIDE CLEARANCE 0.05-0.10 mm
ROLLER CAGE SIDE CLEARANCE 0.1-0.15 mm

SMALL END

GUDGEON PIN RUNNING CLEARANCE 0.01-0.03 mm

MAIN BEARINGS

HOUSING DIAMETER	FRONT	77mm	-0.013mm -0.035mm
	REAR	77mm	-0.013mm -0.035mm
BEARING DIAMETER	FRONT	77mm	± 0.02 mm
	REAR	77mm	± 0.02 mm
INTERFERENCE	FRONT	0.01-0.03mm	
	REAR	0.01-0.03mm	
SIDE CLEARANCE	BEARING TO FLYWHEEL 1.0mm MINIMUM		
SIDE CLEARANCE	CRANKSHAFT WEB OR OIL FLINGER RING		
	FRONT	0.6-0.8mm	
	REAR	0.8-1.0mm	

CAM SHAFT

BORE DIAMETER IN HOUSING OR COVER			
FRONT	28mm	-0.04mm -0.075mm	
	REAR	22mm	-0.04mm -0.075mm
BUSH OR BEARING BODY OUTER DIAMETER			
FRONT	28mm	± 0.15 mm	
	REAR	22mm	± 0.15 mm
INTERFERENCE	FRONT	0.02-0.07mm	
	REAR	0.02-0.07mm	
ROLLING CLEARANCE	0.03-0.08mm		
SIDE CLEARANCE	0.05-0.1mm		
TAPPET DIAMETRAL CLEARANCE	0.04-0.07mm		

<u>TIMING</u>	WITH 2mm VALVE (TAPPET) CLEARANCE	ANOTHER SOURCE GIVES WITH 0.1mm TAPPET CLEAR.
INLET OPENS	17° AFTER TDC	20° OR 3mm
CLOSES	23° AFTER BDC	60° OR 16mm
EXHAUST OPENS	23° BEFORE BDC	60° OR 16mm
CLOSES	17° BEFORE TDC	20° OR 3mm
IGNITION	12mm OR 42° BEFORE TDC	

LUBRICATION

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

CARBOX REPAIR DATA

MAINSHAFT SIDE CLEARANCE 0.1-0.5mm
LAYSHAFT SIDE CLEARANCE 0-0.3mm
SHAFTS END FLOAT MAXIMUM 0.1mm

GEARS

1ST	RUNNING CLEARANCE	0.3-0.1mm	} RUN WITH SAME CLEARANCES
	SIDE CLEARANCE	0.1-0.3mm	
2ND	RUNNING CLEARANCE	0.03-0.01mm	
	SIDE CLEARANCE	0.1-0.3mm	
3RD	RUNNING CLEARANCE	0.03-0.01mm	}
	SIDE CLEARANCE	0.1-0.3mm	
4TH	RUNNING CLEARANCE	0.03-0.01mm	}
	SIDE CLEARANCE	0.1-0.3mm	

KICK STARTER SHAFT RUNNING CLEARANCE 0.02-0.07mm
SIDE CLEARANCE 0.1-0.5mm

KICK STARTER IDLER WHEEL RUNNING CLEARANCE 0.03-0.1mm
SIDE CLEARANCE 0.1-0.3mm

SELECTOR FORK RUNNING CLEARANCE 0.05-0.12mm

SUSPENSION REPAIR DATAFRONT FORK

STEERING HEAD BEARINGS 20 OFF 6.5mm DIA.

BUSH RUNNING CLEARANCE TOP 0.025-0.1mm
BOTTOM 0.025-0.075mm

SPRING WIRE DIAMETER SOLO 6.5mm
SIDE CAR 6.5mm

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

AXIAL CLEARANCE OF PROP SHAFT 1-3mm?

OTHER USEFUL INFORMATION

BSA DI BANTAM SILENCERS LOOK OK.

BSA BANTAM BATTERY IS OF CORRECT DIMENSIONS

NSU CAR HEADLAMP RIM & REFLECTOR SUITABLE?

GREEVES BRAKE LININGS SUITABLE?

1947-53 490 SV STD. NORTON PISTONS ARE +0.040" &
ONLY NEED GUDGEON PIN BOSSES TO BE BUSHED
FROM 7/8" DIA TO 18mm DIA.

1954-58 1200 VW BEETLE PISTONS SUIT BUT STD. IS
-1mm ~~FOR~~ THEREFORE USE +1mm (+0.040") UPWARDS.

HONDA CX PISTONS FIT

KNECHT DRGM OIL FILTER ~~MAKES~~ FITS

BSA B40 PISTONS CAN BE USED (79mm STD)

LISTER H8 DIESEL VALVES ARE NEAR ENOUGH

AUDI 100 GL INLET VALVES ARE SUITABLE

TIMING CHAIN IS A CAR SIZE

R80 CENTRE STAND SPRING FITS