GENERAL DATA

ENGINE

Type	9CG.
Number of cylinders	4.
Bore	2·478 in. (62·94 mm.).
Stroke	3·00 in. (76·2 mm.).
Capacity	57·87 cu. in. (948 c.c.).
Firing order	1, 3, 4, 2.
Compression ratio	9·1 : 1.
Capacity of combustion chamber (valves fitted)	24·5 c.c.
Valve operation	Overhead, by push-rod.
Oversize bore: 1st	·010 in. (·254 mm.).
Max.	·040 in. (1·016 mm.).

CRANKSHAFT

Main journal diameter	1·7505 to 1·7510 in. (44·46 to 44·47 mm.).
Minimum regrind diameter	1·7105 in. (43·45 mm.).
Crankpin journal diameter	1·6254 to 1·6259 in. (41·28 to 41·30 mm.).
Crankpin minimum regrind diameter	1·5854 in. (40·27 mm.).
Main bearings	
Number and type	3 shell type.
Material: Bottom half	Steel-backed, lead-indium-lined.
Top half	Steel-backed, lead-indium-lined.
Length	1·312 in. (33·32 mm.).
End-clearance	·002 to ·003 in. (·051 to ·076 mm.).
End-thrust	Taken by thrust washers at centre main bearing.
Running clearance	·0005 to ·002 in. (·0127 to ·0508 mm.).

CONNECTING RODS

Length between centres	5·75 in. (14·605 cm.).
Big-end bearings	
Material: Bottom half	Steel-backed, lead-indium-lined.
Top half	Steel-backed, lead-indium-lined.
Bearing side clearance	·008 to ·012 in. (·203 to ·305 mm.).
Bearing diametrical clearance	·001 to ·0025 in. (·025 to ·063 mm.).

PISTONS

Type	Flat crown, aluminium alloy, anodized.
Clearances: Bottom of skirt	·0016 to ·0022 in. (·040 to ·559 mm.).
Top of skirt	·0036 to ·0042 in. (·0914 to ·1067 mm.).
Oversizes	+·010 in., +·020 in., +·030 in., +·040 in. (+·254 mm., +·508 mm., +·762 mm., +1·02 mm.).

PISTON RINGS

Compression: Plain	Top ring.
Tapered	Second and third rings.
Width (plain)	·069 to ·070 in. (1·75 to 1·78 mm.).
Thickness	·103 to ·109 in. (2·62 to 2·78 mm.).
Fitted gap	·007 to ·012 in. (·178 to ·30 mm.).
Clearance in groove	·0015 to ·0035 in. (·038 to ·089 mm.).
Oil control type	Slotted scraper.
Width	·124 to ·125 in. (3·15 to 3·175 mm.).

Thickness	·103 to ·109 in. (2·62 to 2·78 mm.).
Fitted gap	·007 to ·012 in. (·178 to ·30 mm.).
Clearance in groove	·0015 to ·0035 in. (·038 to ·089 mm.).

GUDGEON PIN

Type	Semi-floating.
Fit in piston	·0001 to ·00035 in. (·0025 to ·009 mm.).
Fit in connecting rod	·0001 to ·0006 in. (·0025 to ·015 mm.).
Diameter (outer)	·6244 to ·6246 in. (15·86 to 15·865 mm.).

VALVES AND VALVE GEAR

Valves

Seat angle: Inlet and exhaust	45°.
Head diameter: Inlet	1·151 to 1·56 in. (29·23 to 29·36 mm.).
Exhaust	1·000 to 1·005 in. (25·4 to 25·53 mm.).
Stem diameter: Inlet	·2793 to ·2798 in. (7·094 to 7·107 mm.).
Exhaust	·2788 to ·2793 in. (7·081 to 7·094 mm.).
Valve lift	·285 in. (7·24 mm.).
Valve stem to guide clearance: Inlet	·0015 to ·0025 in. (·038 to ·063 mm.).
Exhaust	·002 to ·003 in. (·051 to ·076 mm.).
Valve rocker clearance: Running (hot)	·012 in. (·305 mm.); ·015 in. (·381 mm.) for competition work.
Timing	·029 in. (·725 mm.).
Timing markings	Dimples on timing wheels.
Chain pitch and number of pitches	$\frac{3}{8}$ in. (9·52 mm.). 52 pitches.
Inlet valve: Opens	5° B.T.D.C. With
Closes	45° A.B.D.C. ·021 in. (·533 mm.).
Exhaust valve: Opens	51° B.B.D.C. clearance at
Closes	21° A.T.D.C. valve.
Valve rocker bush bore (reamed)	·5630 to ·5635 in. (14·30 to 14·31 mm.).

VALVE GUIDES

Length: Inlet and exhaust	1·687 in. (42·86 mm.).
Diameter—inlet and exhaust: Outside	·4695 to ·470 in. (11·92 to 11·94 mm.).
Inside	·2813 to ·2818 in. (7·145 to 7·177 mm.).
Fitted height above head	$\frac{19}{32}$ in. (15·1 mm.).

VALVE SPRINGS

Free length: Inner	1·672 in. (42·47 mm.).
Outer	1·75 in. (44·45 mm.).
Fitted length: Inner	1·179 in. (29·95 mm.).
Outer	1·291 in. (32·79 mm.).
Number or working coils: Inner	$6\frac{1}{2}$.
Outer	$4\frac{1}{2}$.
Pressure: Valve open: Inner	30 lb. (13·6 kg.).
Outer	88 lb. (39·9 kg.).
Valve closed: Inner	18 lb. (8·17 kg.).
Outer	52 lb. (23·6 kg.).

TAPPETS

Type	Bucket.
Diameter	·8120 in. (20·62 mm.).
Length	1·505 in. (38·23 mm.).

GENERAL DATA—*continued*

CAMSHAFT

Journal diameters	Front	1·6655 to 1·666 in. (42·304 to 42·316 mm.).
	Centre	1·62275 to 1·62325 in. (41·218 to 41·231 mm.).
	Rear	1·3725 to 1·3735 in. (34·862 to 34·887 mm.).
End-float		·003 to ·007 in. (·076 to ·178 mm.).
Bearing: number and type		3. Steel-backed white metal.
Inside diameter (reamed in position):	Front	1·667 to 1·6675 in. (42·342 to 42·355 mm.).
	Centre	1·6245 to 1·6255 in. (41·261 to 41·287 mm.).
	Rear	1·3748 to 1·3755 in. (34·914 to 34·937 mm.).

ENGINE LUBRICATION SYSTEM

Oil pump

Type	Eccentric rotor or vane type.
Relief pressure valve operates	50 lb./sq. in. (3·52 kg./cm.²).
Relief valve spring: Free length	2·860 in. (72·63 mm.).
Fitted length	2·156 in. (54·77 mm.).

Oil filter

Type	Tecalemit or Purolator.
Capacity	1 pint (·57 litre).

Oil pressure

Normal running	60 lb./sq. in. (4·22 kg./cm.²).
Idling (minimum)	15 lb./sq. in. (1·05 kg./cm.²).

TORQUE WRENCH SETTINGS

Cylinder head nuts	40 lb. ft. (5·5 kg. m.).
Main bearing nuts	60 lb. ft. (8·3 kg. m.).
Connecting rod set bolts	35 lb. ft. (4·8 kg. m.).
Flywheel securing bolts	40 lb. ft. (5·5 kg. m.).
Steering-wheel nut	40 lb. ft. (5·5 kg. m.).
Road wheel nuts	45 lb. ft. (6·22 kg. m.).
Rear damper bolts	25 lb. ft. (3·4 kg. m.).

FUEL SYSTEM

Carburetters

Make and type	S.U. twin HS2 semi-downdraught.
Diameter	1¼ in. (31·75 mm.).
Jet	·090 in. (2·29 mm.).
Needle	V3.
Piston spring	Light blue.

AIR CLEANER

Type	Paper element.

FUEL PUMP

Make and type	A.C. 'Y' type. Mechanical.
Delivery rate	40 pints/hr. (22·8 litres/hr.).
Delivery pressure	1·5 to 2·5 lb./sq. in. (·105 to ·175 kg./cm.²).

COOLING SYSTEM

Type	Pressurized radiator. Thermo-siphon, pump- and fan-assisted.
Thermostat setting	149 to 158° F. (65 to 70° C.).

GENERAL DATA—*continued*

IGNITION SYSTEM

Sparking plugs	Champion N5.
Size	14 mm.
Plug gap	·024 to ·026 in. (·625 to ·660 mm.).
Coil	Lucas Type LA12.
Distributor	Lucas Type DM2P4.
Distributor contact points gap	·014 to ·016 in. (·35 to ·40 mm.).
Static ignition setting	4° B.T.D.C.

CLUTCH

Make and type	Borg & Beck. Single dry plate.
Diameter	6¼ in. (16 cm.).
Facing material	Wound yarn.
Pressure springs	6.
Colour	Yellow and dark green.
Damper springs	4.
Colour	Light grey.
Release lever ratio	3·6 : 1.

GEARBOX

Number of forward speeds	4.
Synchromesh	Second, third, and top gears.
Ratios: Top	1·0 : 1.
Third	1·357 : 1.
Second	1·916 : 1.
First	3·200 : 1.
Reverse	4·114 : 1.
Overall ratios: Top	4·22 : 1.
Third	5·726 : 1.
Second	8·975 : 1.
First	13·504 : 1.
Reverse	17·361 : 1.
Speedometer gear ratio	5/13.

STEERING

Type	Rack and pinion.
Steering-wheel turns—lock to lock	2¼.
Steering-wheel diameter	16 in. (40·6 cm.).
Camber angle	1°.
Castor angle	3°.
King pin inclination	6½°.
Toe-in	0 to ⅛ in. (0 to 3·175 mm.).

FRONT SUSPENSION

Type	Independent. Coil springs.
Free length	9·4 in. (23·8 cm.).
Mean coil diameter	3·625 in. (9·2 cm.).
Number of effective coils	7.
Working load	750 lb. (340 kg.).
Spring rate	271 lb. in. (3·127 kg. m.).
Dampers (front)	Lever arm type.

GENERAL DATA—*continued*

REAR SUSPENSION

Type	Quarter-elliptic.
Spring details: Number of leaves	15.
Width of leaves	5 at $\frac{5}{32}$ in. (3·97 mm.), 10 at $\frac{1}{8}$ in. (3·18 mm.).
Working load	375 lb. (170 kg.).
Free camber	$3\frac{7}{32}$ in. (81·76 mm.).
Dampers (rear)	Lever arm type

PROPELLER SHAFT

Type	Tubular. Reverse spline.
Make and type of joints	Hardy Spicer. Needle-roller.
Propeller shaft length (between centres of joints)	$26\frac{1}{4}$ in. (66·6 cm.).
Diameter	$1\frac{3}{4}$ in. (44·45 mm.).

REAR AXLE

Type	Three-quarter-floating.
Ratio	9/38 (4·22 : 1).

ELECTRICAL EQUIPMENT

System	12-volt. Positive earth.
Charging system	Compensated voltage control.
Battery	Lucas BT7A (BTZ7A Export).
Battery capacity	43 amp./hr. (at 20-hour rate).
Starter motor	Lucas 4-brush M35G/1.
Dynamo	Lucas C39.
Control box	Lucas RB106/2.
Cut-out: Cut-in voltage	12·7 to 13·3.
Drop-off voltage	8·5 to 11·0.
Reverse current	5·0 amps. (max.).
Regulator RB106/2 (at 1,500 r.p.m. dynamo speed):	
Open-circuit setting at 68° F. (20° C.)	15·4 to 16·4 volts.
For ambient temperatures other than 68° F. (20° C.) the following allowances should be made to the above setting:	
For every 18° F. (10° C.) above 68° F. (20° C.) subtract ·1 volt.	
For every 18° F. (10° C.) below 68° F. (20° C.) add ·1 volt.	

BRAKES

Type	Lockheed hydraulic.
Front	Two leading shoes.
Rear	Single leading shoe.
Drum size	7 in. (17·78 cm.).
Lining dimensions: Front and rear	$6\frac{3}{4}$ in. × $1\frac{1}{4}$ in. (17·14 cm. × 3·175 cm.).
Total lining area	67·5 sq. in. (435·37 cm.²).

WHEELS

Type	Ventilated disc. 4-stud fixing.

TYRES

Size	5·20—13.
Tyre pressures—normal and fully loaded: Front	18 lb./sq. in. (1·27 kg./cm.²).
Rear	20 lb./sq. in. (1·41 kg./cm.²).

GENERAL DATA—*continued*

CAPACITIES	*Imp.*	*U.S.*	*Litres*
Engine sump (including filter)	6·5 pts.	7·8 pts.	3·7
Gearbox	2·25 pts.	2·7 pts.	1·3
Rear axle	1·5 pts.	1·8 pts.	·85
Cooling system	10 pts.	12 pts.	5·68
Fuel tank	6 gal.	7·2 gal.	27·3

GENERAL DIMENSIONS

Wheelbase	6 ft. 8 in. (2·03 m.).
Overall length	11 ft. 4¼ in. (3·46 m.).
Overall width	4 ft. 5 in. (1·35 m.).
Overall height	4 ft. 1¾ in. (1·25 m.).
Ground clearance	5 in. (12·7 cm.).
Turning circle: Left lock	32 ft. 1½ in. (9·79 m.).
Right lock	31 ft. 2½ in. (9·51 m.).
Track: Front	3 ft. 9¾ in. (1·16 m.).
Rear	3 ft. 8¾ in. (1·14 m.).
Kerbside weight	1,316 lb. (597 kg.).

WEIGHTS OF COMPONENTS

Engine	246 lb. (111·5 kg.).
Gearbox	44 lb. (19·95 kg.).
Axle	83 lb. (37·64 kg.).
Vehicle (kerbside)	1,566 lb. (710·33 kg.).