

# GENERAL DATA

(Series MGA)

## ENGINE

Type .. .. .	15GB.
(From Car No. 61504)	15GD.
Number of cylinders .. .. .	4.
Bore .. .. .	2.875 in. (73.025 mm.).
Stroke .. .. .	3.5 in. (89 mm.).
Capacity .. .. .	90.88 cu. in. (1489 c.c.).
Firing order .. .. .	1, 3, 4, 2.
Compression ratio .. .. .	8.3 : 1.
Capacity of combustion chamber (valves fitted) .. .. .	2.3 to 2.4 cu. in. (38.2 to 39.2 c.c.).
Valve operation .. .. .	Overhead by push-rod.
B.M.E.P. .. .. .	130 lb./sq. in. at 3,500 r.p.m.
Torque .. .. .	77.4 lb. ft. at 3,500 r.p.m.
Cooling system .. .. .	Thermo-siphon, pump- and fan-assisted.
Oversize bore : 1st .. .. .	.010 in. (.254 mm.).
Max. .. .. .	.040 in. (1.016 mm.).

## CRANKSHAFT

Main journal diameter .. .. .	2 in. (50.8 mm.).
Minimum regrind diameter .. .. .	1.96 in. (49.78 mm.).
Crankpin journal diameter .. .. .	1.8759 to 1.8764 in. (47.65 to 47.66 mm.).
Crankpin minimum regrind diameter .. .. .	1.8359 in. (46.64 mm.).
<b>Main bearings</b>	
Number and type .. .. .	3. Shell-type.
Material: Top and bottom halves .. .. .	Steel-backed white metal.
Length .. .. .	1.375 in. (34.925 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.).
Undersizes .. .. .	-.010 in., -.020 in., -.030 in., -.040 in. (-.254 mm., -.508 mm., -.762 mm., -1.016 mm.).

## CONNECTING RODS

Length between centres .. .. .	6.5 in. (165.1 mm.).
<b>Big-end bearings</b>	
Material: Top and bottom halves .. .. .	Steel-backed lead-indium or lead-tin.
Bearing side-clearance .. .. .	.008 to .012 in. (.203 to .305 mm.).
Bearing diametrical clearance .. .. .	.0001 to .0016 in. (.002 to .04 mm.).
Undersizes .. .. .	-.010 in., -.020 in., -.030 in., -.040 in. (-.254 mm., -.508 mm., -.762 mm., -1.016 mm.).

## PISTONS

Type .. .. .	Aluminium alloy.
Clearances: Bottom of skirt .. .. .	.0017 to .0023 in. (.043 to .051 mm.).
Top of skirt .. .. .	.0035 to .0042 in. (.090 to .106 mm.).
Oversizes .. .. .	+.010 in., +.020 in., +.030 in., +.040 in. (+.254 mm., +.508 mm., +.762 mm., +1.016 mm.).

## PISTON RINGS

Compression: Plain .. .. .	Top ring.
Tapered .. .. .	2nd and 3rd rings.
Width .. .. .	.0615 to .0625 in. (1.56 to 1.58 mm.).
Thickness .. .. .	.111 to .118 in. (2.81 to 3.0 mm.) to Engine No. 40824. .119 to .126 in. (3.02 to 3.2 mm.) from Engine No. 40825.



## GENERAL DATA—continued

### TAPPETS

Type .. .. .	Barrel with flat base.
Diameter: Body .. .. .	$\frac{13}{16}$ in. (20.64 mm.).
Length .. .. .	2.293 to 2.303 in. (58.25 to 58.5 mm.).

### ROCKERS

Outside diameter before fitting .. .. .	.751 in. (19.07 mm.).
Inside diameter (reamed in position) .. .. .	.616 to .620 in. (15.65 to 15.74 mm.).
Bore of rocker arms .. .. .	.7485 to .7489 in. (19.01 to 19.02 mm.).
Rocker ratio .. .. .	1.426 : 1.

### CAMSHAFT

Journal diameters: Front .. .. .	1.78875 to 1.78925 in. (45.43 to 45.44 mm.).
Centre .. .. .	1.72875 to 1.72925 in. (43.91 to 43.92 mm.).
Rear .. .. .	1.62275 to 1.62325 in. (41.22 to 41.23 mm.).
End-float .. .. .	.003 to .007 in. (.076 to .178 mm.).
Bearing: number and type .. .. .	3. Thinwall steel-backed white metal.
Outside diameter (before fitting) .. .. .	Front 1.920 in. (48.76 mm.), centre 1.860 in. (47.24 mm.), rear 1.754 in. (44.55 mm.).
Inside diameter (reamed in position) .. .. .	Front 1.790 in. (45.47 mm.), centre 1.730 in. (43.94 mm.), rear 1.624 in. (41.25 mm.).
Clearance .. .. .	.001 to .002 in. (.0254 to .0508 mm.).

### ENGINE LUBRICATION SYSTEM

#### Oil pump

Type .. .. .	Eccentric rotor.
Relief pressure valve operates .. .. .	75 to 80 lb./sq. in. (5.3 to 5.6 kg./cm. <sup>2</sup> ).
Relief valve spring: Free length .. .. .	3 in. (76.2 mm.).
Fitted length .. .. .	2 $\frac{5}{8}$ in. (54.77 mm.) at 16 lb. (7.26 kg.) load.
Identification colour .. .. .	Red spot.

#### Oil filter

Type .. .. .	Tecalemit (element Part No. 1H779) or Purolator (element Part No. 1H1054) up to Engine No. 26932. Tecalemit or Purolator (element Part No. 8G683) from Engine No. 26933.
Capacity .. .. .	$\frac{1}{2}$ pint (.28 litre).

#### Oil pressure

Normal running: Minimum .. .. .	10 to 25 lb./sq. in. (.7 to 1.7 kg./cm. <sup>2</sup> ).
Maximum .. .. .	50 to 75 lb./sq. in. (3.5 to 5.2 kg./cm. <sup>2</sup> ).

### TORQUE WRENCH SETTINGS

Cylinder head nuts .. .. .	50 lb. ft. (6.91 kg. m.).
Main bearing nuts .. .. .	70 lb. ft. (9.7 kg. m.).
Connecting rod set screws .. .. .	35 lb. ft. (4.83 kg. m.).
Clutch assembly to flywheel .. .. .	25 lb. ft. (3.46 kg. m.).
Road wheel nuts .. .. .	60 to 62.5 lb. ft. (8.3 to 8.65 kg. m.).
Gudgeon pin clamp .. .. .	25 lb. ft. (3.45 kg. m.).
Manifold stud nuts .. .. .	25 lb. ft. (3.45 kg. m.).
Water pump securing bolts .. .. .	25 lb. ft. (3.45 kg. m.).
Clutch to flywheel bolts .. .. .	35 to 40 lb. ft. (4.8 to 5.5 kg. m.).
Oil filter centre-bolt .. .. .	15 lb. ft. (2.07 kg. m.).
Brake calliper securing bolts .. .. .	45 to 50 lb. ft. (6.22 to 6.91 kg. m.).

## GENERAL DATA—continued

### FUEL SYSTEM

#### Carburetter

Make and type	.. .. .	S.U. twin H4 semi-downdraught.
Diameter	.. .. .	1½ in. (38.1 mm.).
Needle	.. .. .	GS.
Jet	.. .. .	.090 in. (2.29 mm.).
Piston spring	.. .. .	Red.

### AIR CLEANER

Make and type	.. .. .	Vokes—oil-wetted.
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### FUEL PUMP

Make and type	.. .. .	S.U. electric—high pressure.
Delivery test	.. .. .	10 gal. per hr. (45.4 litres per hr.).
Suction lift	.. .. .	33 in. (83.8 cm.).
Output lift	.. .. .	48 in. (121.9 cm.).

### COOLING SYSTEM

Type	.. .. .	Pressurized radiator. Thermo-siphon, pump- and fan-assisted.
Thermostat setting	.. .. .	70 to 75° C. (158 to 167° F.).
Quantity of anti-freeze: 15° frost	.. .. .	1 pint ( .57 litre).
25° frost	.. .. .	1½ pints (.85 litre).
35° frost	.. .. .	2 pints (1.1 litres).

### IGNITION SYSTEM

Sparking plugs	.. .. .	Champion N5, was NA8.
Size	.. .. .	14 mm.
Plug gap	.. .. .	.024 to .026 in. (.625 to .660 mm.).
Coil	.. .. .	Lucas HA12.
Distributor	.. .. .	Lucas. Type DM2. Later models DM2.P4.
Distributor contact points gap	.. .. .	.014 to .016 in. (.35 to .40 mm.).
Suppressors	.. .. .	Lucas No. 78106A fitted on each H.T. cable.
Timing	.. .. .	7° B.T.D.C.

### CLUTCH

Make and type	.. .. .	Borg & Beck A6-G. Single dry plate.
Diameter	.. .. .	8 in. (20.3 cm.).
Facing material	.. .. .	Wound yarn—Borglite.
Pressure springs	.. .. .	6.
Colour	.. .. .	Black and yellow. Cream and light green: commencing Engine No. 16225.
Damper springs	.. .. .	6.
Colour	.. .. .	White with light-green stripes.
Release lever ratio	.. .. .	9 : 1.

### GEARBOX

Number of forward speeds	.. .. .	4.
Synchromesh	.. .. .	Second, third, and fourth gears.
Ratios:		
Top	.. .. .	1.0 : 1.
Third	.. .. .	1.374 : 1.
Second	.. .. .	2.214 : 1.
First	.. .. .	3.64 : 1.
Reverse	.. .. .	4.76 : 1.

## GENERAL DATA—continued

Overall ratios: Top .. .. .	4.3 : 1.
Third .. .. .	5.908 : 1.
Second .. .. .	9.520 : 1.
First .. .. .	15.652 : 1.
Reverse .. .. .	20.468 : 1.
Speedometer gears ratio .. .. .	5 : 12.
<b>STEERING</b>	
Type .. .. .	Rack and pinion.
Steering-wheel turns—lock to lock .. .. .	2 $\frac{3}{8}$ .
Steering-wheel diameter .. .. .	16 $\frac{1}{2}$ in. (419.10 mm.).
Camber angle .. .. .	1° positive to $\frac{1}{2}$ ° negative on full bump.
Castor angle .. .. .	4°.
King pin inclination .. .. .	9° to 10 $\frac{1}{2}$ ° on full bump.
Toe-in .. .. .	Wheels parallel.
Track: Front .. .. .	Disc wheels 47 $\frac{1}{2}$ in. (1.203 m.). Wire wheels 47 $\frac{7}{8}$ in. (1.216 m.).
Rear .. .. .	Disc wheels 48 $\frac{1}{2}$ in. (1.238 m.). Wire wheels 48 $\frac{3}{4}$ in. (1.238 m.).
<b>FRONT SUSPENSION</b>	
Type .. .. .	Independent coil.
Spring detail:	<i>To Car No. 15151</i> <i>From Car No. 15152</i>
Coil diameter (mean) .. .. .	3.238 in. (82.24 mm.).              3.28 in. (82.25 mm.).
Diameter of wire .. .. .	.498 in. (12.66 mm.).              .54 in. (13.72 mm.).
Free height .. .. .	9.28 $\pm$ $\frac{1}{16}$ in.                      8.88 $\pm$ $\frac{1}{16}$ in. (23.49 cm. $\pm$ 1.6 mm.).              (22.55 cm. $\pm$ 1.6 mm.).
Number of free coils .. .. .	7.5.                                      7.2.
Static laden length .. .. .	6.60 $\pm$ $\frac{1}{32}$ in. (16.76 cm. $\pm$ 8 mm.).
Static laden length at load of .. .. .	1,095 $\pm$ 20 lb. (497 $\pm$ 9.1 kg.).
Maximum deflection .. .. .	4 in. (10.16 cm.).
Dampers (front) .. .. .	Piston type.
<b>REAR SUSPENSION</b>	
Type .. .. .	Semi-elliptic.
Spring detail:	
Number of leaves .. .. .	6.
Width of leaves .. .. .	1 $\frac{1}{2}$ in. (44.45 mm.).
Gauge .. .. .	$\frac{7}{16}$ in. (5.56 mm.).
Working load .. .. .	450 lb. (203.7 kg.).
Free camber .. .. .	3.60 in. (91.44 mm.).
Dampers (rear) .. .. .	Piston type.
<b>PROPELLER SHAFT</b>	
Type .. .. .	Tubular. Reverse spline.
Make and type of joints .. .. .	Hardy Spicer. Needle roller.
Propeller shaft length (between centres of joints) .. .. .	31 $\frac{3}{8}$ in. (79.69 cm.).
Overall length .. .. .	38 $\frac{13}{16}$ in. (97.44 cm.).
Diameter .. .. .	2 in. (50.8 mm.).
Type (with 15GD series power unit) .. .. .	Tubular, incorporating sliding spline joint.
Overall length (fully extended) .. .. .	32 $\frac{11}{16}$ in. (83.03 cm.).
Overall length (fully compressed) .. .. .	31 $\frac{1}{2}$ in. (80.65 cm.).
Length between centres of joints (fully extended) .. .. .	30 $\frac{5}{16}$ in. (77 cm.).
Length between centres of joints (fully compressed) .. .. .	29 $\frac{3}{8}$ in. (74.65 cm.).
Diameter (main tube) .. .. .	2 in. (50.8 mm.).

## GENERAL DATA—continued

### REAR AXLE

Make and type .. .. .	B.M.C. 'B' type, three-quarter-floating.
Ratio: Standard .. .. .	10/43.
Optional .. .. .	9/41.
Adjustment .. .. .	Shims.

### ELECTRICAL EQUIPMENT

System .. .. .	12-volt. Positive earth.
Charging system .. .. .	Compensated voltage control.
Battery: Type .. .. .	Lucas SG9E.
Type (Export only) .. .. .	Lucas STGZ9E (dry-charged).
Voltage .. .. .	6-volt (2 off).
Capacity (20-hr. rate) .. .. .	58-amp.-hr.
Starter motor .. .. .	Lucas 4-brush M35G.
Dynamo .. .. .	Lucas C39PV2.
	Lucas C40/1 ('MGA 1600' after Engine No. 16GA6272).

### BRAKES

Type .. .. .	Lockheed hydraulic (front and rear).
Size .. .. .	10 in. × 1½ in. (25.4 cm. × 44.45 mm.).
Front .. .. .	2 leading shoes.
Rear .. .. .	Single leading shoe.
Drum size .. .. .	10 in. (254 mm.) (front and rear).
Lining dimensions .. .. .	9.6 in. × 1½ in. (24.38 cm. × 44.45 mm.).
Lining area: Front .. .. .	67.2 sq. in. (433.55 cm. <sup>2</sup> ).
Rear .. .. .	67.2 sq. in. (433.55 cm. <sup>2</sup> ).
Material .. .. .	Ferodo DM12.

### WHEELS

Type: Ventilated disc .. .. .	4J × 15.
Wire (optional) .. .. .	4J × 15, 48-spoke.

### TYRES

Size .. .. .	5.60—15.
Tyre pressures: Normal: Front .. .. .	17 lb./sq. in. (1.2 kg./cm. <sup>2</sup> ).
Rear .. .. .	20 lb./sq. in. (1.4 kg./cm. <sup>2</sup> ).
Fast motoring: Front .. .. .	21 lb./sq. in. (1.48 kg./cm. <sup>2</sup> ).
Rear .. .. .	24 lb./sq. in. (1.69 kg./cm. <sup>2</sup> ).
Competition work and sustained high-speed motoring } Front .. .. .	23 lb./sq. in. (1.62 kg./cm. <sup>2</sup> ).
} Rear .. .. .	26 lb./sq. in. (1.83 kg./cm. <sup>2</sup> ).

### CAPACITIES

	<i>Imp.</i>	<i>U.S.</i>	<i>Litres</i>
Engine sump (including filter) .. .. .	7½ pts.	9 pts.	4.25
Gearbox .. .. .	4½ pts.	5.4 pts.	2.56
Rear axle .. .. .	2¼ pts.	2.7 pts.	1.28
Cooling system .. .. .	10 pts.	12 pts.	5.67
Steering rack .. .. .	½ pt.	.6 pt.	.28
Fuel tank .. .. .	10 gal.	12 gal.	45.4
Brake system .. .. .	1 pt.	1.2 pts.	.568

## GENERAL DATA—*continued*

### GENERAL DIMENSIONS

Wheelbase	..	..	..	..	..	..	..	94 in. (238·8 cm.).
Overall length	..	..	..	..	..	..	..	156 in. (396·2 cm.).
Overall width	..	..	..	..	..	..	..	58 in. (147·3 cm.).
Overall height	..	..	..	..	..	..	..	50 in. (127·0 cm.).
Ground clearance..	..	..	..	..	..	..	..	6 in. (15·24 cm.).
Weight: fully equipped with tools, spare wheel, oil, water, and 2 gallons of fuel (2·5 U.S. gal., 9·1 litres)	..	..	..	..	..	..	..	1,988 lb. (901·81 kg.).
Turning circles	..	..	..	..	..	..	..	28 ft. (8·534 m.).

# GENERAL DATA

## (MGA 1600)

### ENGINE

Type	.. .. .	16GA.
Number of cylinders	.. .. .	4.
Bore	.. .. .	2.968 in. (75.39 mm.).
Stroke	.. .. .	3.5 in. (89 mm.).
Capacity	.. .. .	96.9 cu. in. (1588 c.c.).
Firing order	.. .. .	1, 3, 4, 2.
Compression ratio	.. .. .	8.3 : 1.
Capacity of combustion chamber (valves fitted)	.. .. .	2.36 cu. in. (38.7 c.c.).
Valve operation	.. .. .	Overhead by push-rod.
B.M.E.P.	.. .. .	135 lb./sq. in. (9.5 kg./cm. <sup>2</sup> ) at 4,000 r.p.m.
Torque	.. .. .	87 lb. ft. (12.03 kg. m.) at 3,800 r.p.m.
Cooling system	.. .. .	Thermo-siphon, pump- and fan-assisted.
Oversize bore: 1st	.. .. .	.010 in. (.254 mm.).
Max.	.. .. .	.040 in. (1.016 mm.).
Maximum b.h.p. (standard)	.. .. .	79.5 at 5,600 r.p.m.

**CRANKSHAFT** ) Refer to Series MGA data on preceding pages.  
 Main bearings )

### CONNECTING RODS

Length between centres	.. .. .	6.5 in. (165.1 mm.).
<b>Big-end bearings</b>		
Material: Top and bottom halves	.. .. .	Steel and lead-indium.
Bearing side-clearance	.. .. .	.008 to .012 in. (.203 to .305 mm.).
Bearing diametrical clearance	.. .. .	.0010 to .0025 in. (.025 to .063 mm.).
Undersizes	.. .. .	-.010 in., -.020 in., -.030 in., -.040 in. (-.254 mm., -.508 mm., -.762 mm., -1.016 mm.).

### PISTONS

Refer to Series MGA data on preceding pages.

### PISTON RINGS

Compression: Plain	.. .. .	Top ring.
Tapered	.. .. .	2nd and 3rd rings.
Width	.. .. .	.0615 to .0625 in. (1.56 to 1.58 mm.).
Thickness	.. .. .	.141 to .148 in. (3.57 to 3.76 mm.).
Fitted gap	.. .. .	.009 to .014 in. (.229 to .356 mm.).
Clearance in groove	.. .. .	.0015 to .0035 in. (.038 to .089 mm.).
Oil control type	.. .. .	Slotted scraper.
Width	.. .. .	.1552 to .1562 in. (3.94 to 3.99 mm.).
Thickness	.. .. .	.135 to .142 in. (3.43 to 3.61 mm.).
Fitted gap	.. .. .	.009 to .014 in. (.23 to .36 mm.).
Clearance in groove	.. .. .	.0016 to .0036 in. (.040 to .091 mm.).

### GUDGEON PIN

Refer to Series MGA data on preceding pages.

### VALVES AND VALVE GEAR

<b>Valves</b>		
Seat angle: Inlet and exhaust	.. .. .	45°.
Head diameter: Inlet	.. .. .	1½ in. (38.1 mm.).
Exhaust	.. .. .	1⅜ in. (32.54 mm.).



## GENERAL DATA—continued

### IGNITION SYSTEM

Sparking plugs .. .. .	Champion N5.
Size .. .. .	14 mm.
Plug gap .. .. .	.024 to .026 in. (.625 to .660 mm.).
Coil .. .. .	Lucas HA12.
Distributor .. .. .	Lucas Type DM2. Later models DM2.P4.
Distributor contact points gap .. .. .	.014 to .016 in. (.35 to .40 mm.).
Suppressors .. .. .	Lucas No. 78106A fitted on each H.T. cable.
Static timing .. .. .	7° B.T.D.C.

### CLUTCH

Make and type .. .. .	Borg & Beck A6-G. Single dry plate.
Diameter .. .. .	8 in. (20.3 cm.).
Facing material .. .. .	Wound yarn—Borglite.
Pressure springs .. .. .	6.
Colour .. .. .	Black and yellow. Cream and light green: from Engine No. 16225.
Damper springs .. .. .	6.
Colour .. .. .	White with light-green stripes.
Release lever ratio .. .. .	9 : 1.

### GEARBOX

Refer to Series MGA data on preceding pages.

### STEERING

Type .. .. .	Rack and pinion.
Steering-wheel turns—lock to lock .. .. .	2 $\frac{3}{4}$ .
Steering-wheel diameter .. .. .	16 $\frac{1}{2}$ in. (419.10 mm.).
Camber angle .. .. .	1° positive to $\frac{1}{2}$ ° negative on full bump.
Castor angle .. .. .	4°.
King pin inclination .. .. .	9° to 10 $\frac{1}{2}$ ° on full bump.
Toe-in .. .. .	Wheels parallel.
Track (MGA 1600):	
Front .. .. .	Disc wheels 47 $\frac{1}{2}$ in. (1.203 m.). Wire wheels 47 $\frac{7}{8}$ in. (1.216 m.).
Rear .. .. .	Disc wheels 48 $\frac{3}{4}$ in. (1.238 m.). Wire wheels 48 $\frac{3}{4}$ in. (1.238 m.).
Track (MGA 1600 with Dunlop disc brakes):	
Front .. .. .	47 $\frac{33}{64}$ in. (1.217 m.).
Rear .. .. .	48 $\frac{7}{8}$ in. (1.242 m.).

### FRONT SUSPENSION

Type .. .. .	Independent coil.
Spring detail:	
Coil diameter (mean) .. .. .	3.28 in. (82.25 mm.).
Diameter of wire .. .. .	.54 in. (13.72 mm.).
Free height .. .. .	8.88 $\pm$ $\frac{1}{16}$ in. (22.55 cm. $\pm$ 1.6 mm.).
Number of free coils .. .. .	7.2.
Static laden length .. .. .	6.60 $\pm$ $\frac{1}{32}$ in. (16.76 cm. $\pm$ .8 mm.).
Static laden length at load of .. .. .	1,095 $\pm$ 20 lb. (497 $\pm$ 9.1 kg.).
Maximum deflection .. .. .	4 in. (10.16 cm.).
Dampers (front) .. .. .	Piston type.



## GENERAL DATA—continued

### CAPACITIES

	<i>Imp.</i>	<i>U.S.</i>	<i>Litres</i>
Engine sump (including filter) .. .. .	7½ pts.	9 pts.	4.25
Gearbox .. .. .	4½ pts.	5.6 pts.	2.56
Rear axle .. .. .	2¼ pts.	2.7 pts.	1.28
Cooling system .. .. .	10 pts.	12 pts.	5.67
Steering rack .. .. .	½ pt.	.6 pt.	.28
Fuel tank .. .. .	10 gal.	12 gal.	45.4
Brake system .. .. .	1 pt.	1.2 pts.	.568
Oil cooler .. .. .	¾ pt.	.9 pt.	.426

### GENERAL DIMENSIONS

Wheelbase .. .. .	94 in. (238.8 cm.).
Overall length .. .. .	156 in. (396.2 cm.).
Overall width .. .. .	58 in. (147.3 cm.).
Overall height .. .. .	50 in. (127.0 cm.).
Ground clearance .. .. .	6 in. (15.24 cm.).
Turning circles (MGA 1600) .. .. .	30 ft. 6 in. (9.296 m.).
Turning circles (MGA 1600 with Dunlop disc brakes) .. .. .	Right-hand 32 ft. 1 in. (9.78 m.). Left-hand 32 ft. 6 in. (9.91 m.).

### WEIGHTS

Fully equipped with tools, spare wheel, oil, water, and 2 gallons (2.5 U.S. gal., 9.1 litres) of fuel .. .. .	2,016 lb. (914 kg.).
Engine (dry) .. .. .	359 lb. (162.84 kg.).
Gearbox (dry) .. .. .	67¼ lb. (30.50 kg.).
Rear axle (dry) .. .. .	117½ lb. (53.32 kg.).

# GENERAL DATA

## (Series MGA 1600—Mk. II)

### ENGINE

Type .. .. .	16GC.
Number of cylinders .. .. .	4.
Bore .. .. .	3.0 in. (76.2 mm.).
Stroke .. .. .	3.5 in. (89 mm.).
Capacity .. .. .	99.5 cu. in. (1622 c.c.).
Firing order .. .. .	1, 3, 4, 2.
Compression ratio: High .. .. .	8.9 : 1.
Low .. .. .	8.3 : 1.
Capacity of combustion chamber (valves fitted) .. .. .	2.624 cu. in. (43.0 c.c.).
Valve operation .. .. .	Overhead by push-rod.
Maximum horse-power (standard): High compression .. .. .	90 at 5,500 r.p.m.
Low compression .. .. .	85 at 5,500 r.p.m.
B.M.E.P.: High compression .. .. .	148 lb./sq. in. (10.4 kg./cm. <sup>2</sup> ) at 4,000 r.p.m.
Low compression .. .. .	140 lb./sq. in. (9.84 kg./cm. <sup>2</sup> ) at 3,000 r.p.m.
Torque: High compression .. .. .	97 lb. ft. (13.1 kg. m.) at 4,000 r.p.m.
Low compression .. .. .	92 lb. ft. (12.72 kg. m.) at 3,000 r.p.m.
Cooling system .. .. .	Thermo-siphon, pump- and fan-assisted.
Oversize bore: 1st .. .. .	.010 in. (-254 mm.).
Max. .. .. .	.040 in. (1.016 mm.).

### CRANKSHAFT

Refer also to Series MGA data on preceding pages.

#### Main bearings

Journal length: Front .. .. .	1.528 to 1.544 in. (38.817 to 39.224 mm.).
Intermediate .. .. .	1.471 to 1.473 in. (37.363 to 37.414 mm.).
Rear .. .. .	1.494 to 1.498 in. (37.940 to 38.049 mm.).
Bearing length .. .. .	1.25 in. (31.75 mm.).
Diametrical clearance .. .. .	.001 to .0027 in. (-0254 to .0685 mm.).

### CONNECTING RODS

Refer also to Series MGA data on preceding pages.

Small-end bore .. .. .	.750 to .7512 in. (19.05 to 19.08 mm.).
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#### Big-end bearings

Diametrical clearance .. .. .	.001 to .0025 in. (-0254 to .063 mm.).
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### PISTON RINGS

Compression: Top ring .. .. .	Plain.
Second and third rings .. .. .	Tapered.
Width .. .. .	.0615 to .0625 in. (1.56 to 1.58 mm.).
Thickness .. .. .	.125 to .132 in. (3.175 to 3.35 mm.).
Fitted gap .. .. .	.009 to .014 in. (.229 to .356 mm.).
Clearance in groove .. .. .	.0015 to .0035 in. (.038 to .089 mm.).
Oil control type .. .. .	Slotted scraper.
Width .. .. .	.1552 to .1562 in. (3.94 to 3.99 mm.).
Thickness .. .. .	.125 to .132 in. (3.175 to 3.35 mm.).
Fitted gap .. .. .	.009 to .014 in. (.23 to .36 mm.).
Clearance in groove .. .. .	.0016 to .0036 in. (.040 to .091 mm.).

## GENERAL DATA—continued

### GUDGEON PIN

Type .. .. .	Clamped.
Fit .. .. .	.0001 to .0006 in. (.0025 to .0152 mm.). Hand push fit at 68° F. (20° C.).
Diameter: Outer .. .. .	.7499 to .7501 in. (19.047 to 19.050 mm.).
Inner .. .. .	.3215 in. (7.94 mm.).
Length .. .. .	2.693 to 2.703 in. (68.402 to 68.656 mm.).

### VALVES AND VALVE GEAR

#### Valves

Seat angle: Inlet .. .. .	45°.
Exhaust .. .. .	45°.
Head diameter: Inlet .. .. .	1.562 to 1.567 in. (39.6 to 39.8 mm.).
Exhaust .. .. .	1.343 to 1.348 in. (34.11 to 34.23 mm.).
Stem diameter: Inlet .. .. .	.342 in. (8.68 mm.).
Exhaust .. .. .	.342 in. (8.68 mm.).
Valve lift .. .. .	.350 in. (8.89 mm.).
Valve stem to guide clearance: Inlet .. .. .	.00155 to .00255 in. (.0394 to .0635 mm.).
Exhaust .. .. .	.002 to .003 in. (.051 to .076 mm.).
Valve rocker clearance: Running .. .. .	.015 in. (.38 mm.) (cold)
Timing .. .. .	.021 in. (.53 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 .. .. .	16° B.T.D.C.
Closes .. .. .	56° A.B.D.C.
Exhaust valve: Opens .. .. .	51° B.B.D.C.
Closes .. .. .	21° A.T.D.C.

### VALVE GUIDES

Length: Inlet .. .. .	1 $\frac{5}{8}$ in. (41.275 mm.).
Exhaust .. .. .	2 $\frac{13}{32}$ in. (55.95 mm.).
Diameter: Inlet and exhaust: Outside .. .. .	.5635 to .5640 in. (14.31 to 14.32 mm.).
Inside .. .. .	.34425 to .34475 in. (8.744 to 8.757 mm.).
Fitted height above head .. .. .	.625 in. (15.87 mm.).

### VALVE SPRINGS

Free length: Inner .. .. .	1 $\frac{3}{4}$ in. (50 mm.).
Outer .. .. .	1 $\frac{5}{8}$ in. (48.8 mm.).
Fitted length: Inner .. .. .	1.449 in. (36.8 mm.).
Outer .. .. .	1.575 in. (40 mm.).
Number of working coils: Inner .. .. .	6 $\frac{1}{2}$ .
Outer .. .. .	4 $\frac{1}{2}$ .
Load: Full lift: Inlet and exhaust .. .. .	Inner 50 lb. (22.7 kg.). Outer 113 lb. (51.2 kg.).
No lift: Inlet .. .. .	Inner 28 to 32 lb. (12.7 to 14.51 kg.).
Exhaust .. .. .	Outer 53 to 57 lb. (24 to 25.8 kg.).
	Inner and outer 53 to 57 lb. (24 to 25.8 kg.).

**TAPPETS  
ROCKERS  
CAMSHAFT**

Refer to Series MGA data on preceding pages.

## GENERAL DATA—*continued*

### LUBRICATION

Refer also to Series MGA data on preceding pages.

Normal pressure: Running .. .. .	70 lb./sq. in. (4.9 kg./cm. <sup>2</sup> ) at 30 m.p.h.
Idling .. .. .	15 lb./sq. in. (1.05 kg./cm. <sup>2</sup> ) at 500 r.p.m.

### TORQUE WRENCH SETTINGS

### FUEL SYSTEM

### AIR CLEANER AND FUEL PUMP

} Refer to Series MGA data on preceding pages.

### COOLING SYSTEM

Thermostat opening temperature .. .. .	150.8° F. (66° C.).
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### IGNITION SYSTEM

Static ignition timing: High compression .. .. .	10° B.T.D.C. (up to Engine No. 4003). 5° B.T.D.C. (from Engine No. 4004).
Low compression .. .. .	10° B.T.D.C.

### CLUTCH

Make and type .. .. .	Borg & Beck 8A6-G single dry plate.
Facing material .. .. .	Wound yarn.
Friction plate damper springs .. .. .	6. Maroon and light green.
Pressure springs .. .. .	6. Light grey.
Minimum free length .. .. .	2.27 in. (57.658 mm.).
Rate .. .. .	282 lb. in. (3.24 kg. mm.).
Total spring load (mean) .. .. .	1,200 lb. (544.3 kg.).
Test length .. .. .	1.56 in. (39.624 mm.).
Load .. .. .	195 to 205 lb. (88.45 to 92.98 kg.).

### GEARBOX

Number of forward speeds .. .. .	4.
Synchromesh .. .. .	Second, third, and fourth gears.
Ratios: Top .. .. .	1.0 : 1.
Third .. .. .	1.374 : 1.
Second .. .. .	2.214 : 1.
First .. .. .	3.64 : 1.
Reverse .. .. .	4.76 : 1.
Overall ratios: Top .. .. .	4.1 : 1.
Third .. .. .	5.633 : 1.
Second .. .. .	9.077 : 1.
First .. .. .	14.924 : 1.
Reverse .. .. .	19.516 : 1.
Speedometer gears ratio .. .. .	5: 12.

### STEERING

### FRONT SUSPENSION

### REAR SUSPENSION

### PROPELLER SHAFT

} Refer to Series MGA data on preceding pages.

