

MG MIDGET

SERIES "TD"

WITH SPECIAL TUNING FOR
TYPES TB, TC AND TD ENGINES

SCIENTIFIC
MAGAZINES

Service Manual

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GENERAL DATA

Note:—All dimensions are in inches unless otherwise stated.

Engine

Engine type	XPAG/TD.
Number of cylinders	Four.
Capacity	1,250 c.c. ($76\frac{1}{4}$ cu. ins.).
B.H.P.	54.4 at 5,200 r.p.m.
Bore	66.5 mm. (2.618).
Stroke	90 mm. (3.543).
R.A.C. rating	10.97 h.p.
Compression ratio	7.25 to 1.
System of cooling	Thermo-syphon; pump and fan assisted.
Radiator hose top	Length 4.50. Diameter $2\frac{3}{16}$.
First oversize bore	+.020. Actual bore 2.6381.
Second oversize bore	+.040. Actual bore 2.6581
Firing order	1—3—4—2.
Piston clearance at pressure face below oil ring	.0021 to .0029.
Ring gap	.006 to .010.
Number of compression rings	Two.
Width of compression rings	.0885.
Number of oil rings	One.
Width of oil rings	.1575.
Oil pressure relief valve operates	60 lb. per sq. in.
Gudgeon pin type	Clamped.
Gudgeon pin diameter	.7087 $\left\{ \begin{array}{l} +.0004. \\ +.0006. \end{array} \right.$
Fit in piston	Double thumb press.
Fit in connecting rod	Clamped.
Crankpin diameter (standard)	1.772.
Crankpin minimum diameter for regrind	1.722.
Connecting rod—length between centres	7.008.
Connecting rod—type of bearing	Shimless, steel-backed, white-metal lined.
Connecting rod—side clearance	.004 to .006.
Connecting rod—diametrical clearance	.0005 to .002.
Number of crankshaft bearings	Three.
Type of main bearings	Shimless, steel-backed, white-metal lined.
Standard main journal diameter	2.047.
Main journals first regrind diameter	2.027.
Main journals second regrind diameter (mini- mum)	2.007.
Main bearings—length	Front 1.496. Centre 1.496. Rear 1.575.
Centre main bearing—end clearance	.0014 to .0037.
Main bearings—diametrical clearance	.0008 to .003.

Engine—Continued

Crankshaft—end thrust taken on	Centre bearing.
Number of camshaft bearings	Three.
Type of camshaft bearings	White metal (front). Zinc alloy (rear and centre).
Camshaft—bearing clearance	Front .0016 to .004. Rear and centre .0018 to .0037.
Camshaft—end thrust taken	Front end.
Camshaft—end float	.005 to .013.
Camshaft—drive (type)	Duplex chain, $\frac{3}{8}$ pitch, 60 pitches, endless.
Valve timing markings	Bright chain links and "T" marks on wheels.
Exhaust valve throat diameter	1.024.
Exhaust valve diameter	Head 1.221. Stem .315.
Inlet valve throat diameter	1.181.
Inlet valve diameter	Head 1.299. Stem .315.
Valve seat angle	30°.
Tappet type	Hollow.
Inlet valve clearance for timing	.037.
Valve lift—inlet	.315.
Valve lift—exhaust	.315.
Inlet valve opens	11° before T.D.C.
Inlet valve closes	57° after B.D.C.
Exhaust valve opens	52° before B.D.C.
Exhaust valve closes	24° after T.D.C.
Valve spring pressure—shut	Inner 31 lbs. at 1.735 Outer 62 lbs. at 1.847 Total 93 lbs.
Valve spring pressure—open	Inner 43 lbs. at 1.438 Outer 80 lbs. at 1.532 Total 123 lbs.
Inlet valve opens—piston traverse	.055.
Inlet valve working clearance (hot)	.019.
Exhaust valve working clearance (hot)	.019.

Fuel System

Petrol tank reserve level	Warning light on panel.
Fuel delivery	S.U. electric pump.
Carburettors	S.U. semi-down draught.
Carburettor needles	Standard-E.S. Weaker-A.P Rich-E.M.

Clutch

Type	Borg and Beck, 7 $\frac{1}{4}$ diameter. Dry plate.
Facing	Type RYZ.

Gear box

Synchromesh	.....	.....	.....	.....	.....	Second, third and top.
	Gearbox	Overall 8/41	Overall 8/39	Overall 9/41		
Ratios:	Top 1.00	Top 5.125	Top 4.875	Top 4.555		
	Third 1.385	Third 7.098	Third 6.752	Third 6.309		
	Second 2.07	Second 10.609	Second 10.09	Second 9.429		
	Bottom 3.5	Bottom 17.938	Bottom 17.06	Bottom 15.942		
	Reverse 3.5	Reverse 17.938	Reverse 17.06	Reverse 15.942		

Front Suspension and Steering

Camber	.....	.....	.....	.....	.....	1° positive to $\frac{1}{2}$ ° on full bump.
Castor angle	.....	.....	.....	.....	.....	2° $\pm \frac{1}{2}$ ° with side members parallel to road.
Toe-in	.....	.....	.....	.....	.....	Nil.
King-pin inclination	.....	.....	.....	.....	.....	9° to 10 $\frac{1}{2}$ ° full bump.
Track	.....	.....	.....	.....	.....	Front 3' 11 $\frac{3}{8}$ ", Rear 4' 2".
Turning circle	.....	.....	.....	.....	.....	31' 3".
Wheelbase	.....	.....	.....	.....	.....	7' 10".
Tyre size	.....	.....	.....	.....	.....	5.50-15.
Tyre pressures	.....	.....	.....	.....	.....	18 lb.

Rear Axle

Type of axle	.....	.....	.....	.....	.....	Semi-floating.
Type of drive	.....	.....	.....	.....	.....	Hypoid.
Ratio	.....	.....	.....	.....	.....	8/41, 8/39 or 9/41.
Adjustment	.....	.....	.....	.....	.....	By spacers and special fixtures.

Brakes

Type	.....	.....	.....	.....	.....	Lockheed hydraulic two leading shoe (front).
Drum diameter	.....	.....	.....	.....	.....	9.50.
Type of linings	.....	.....	.....	.....	.....	Ferodo MR 19.
Lining size—front	.....	.....	.....	.....	.....	8.75 x 1 $\frac{1}{2}$ x .187.
Lining size—rear	.....	.....	.....	.....	.....	8.75 x 1 $\frac{1}{2}$ x .187.

Springs (Front)

Type	.....	.....	.....	.....	.....	Coil.
Free length	.....	.....	.....	.....	.....	9.59 $\pm \frac{1}{16}$.
Mean coil diameter	.....	.....	.....	.....	.....	3.238.
Number of effective coils	.....	.....	.....	.....	.....	7 $\frac{1}{2}$.
Diameter of wire (ground)	.....	.....	.....	.....	.....	.498.
Maximum deflection	.....	.....	.....	.....	.....	4.24.

Springs (Rear)

Type	.....	.....	.....	.....	.....	Half-elliptic.
Length	.....	.....	.....	.....	.....	42.00.
Width	.....	.....	.....	.....	.....	1 $\frac{1}{2}$.
Number of leaves	.....	.....	.....	.....	.....	7.
Thickness of leaves	.....	.....	.....	.....	.....	$\frac{7}{32}$.
Camber (free)	.....	.....	.....	.....	.....	4.1.
Working load	.....	.....	.....	.....	.....	500 lbs. at $\frac{1}{2}$ positive camber.

Hydraulic Dampers

Type Girling Luvax.

Electrical

Distributor rotation	.....	Counter-clockwise.
Automatic advance	.....	32° on crankshaft.
Contact breaker gap	.....	.010 to .012.
Sparking plug	.....	Champion L.10S (standard equipment). K.L.G. E.80. Lodge HN or HNP.
Sparking plug gap	.....	.020 to .022.
Ignition timing	.....	T.D.C. (full retard).
Battery	.....	Lucas G.T.W.9A, 51-amp. at 10 hours. 12-volt. Positive earth.

Capacities

Sump	.....	9 pints.
Gearbox	.....	1 $\frac{1}{4}$ pints.
Rear axle	.....	2 $\frac{1}{4}$ pints.
Cooling system	.....	12 pints.
Brake fluid	.....	1 pint.
Fuel tank	.....	12 $\frac{1}{2}$ gallons.

General Dimensions

Length	.....	12' 1".
Width	.....	4' 10 $\frac{5}{8}$ ".
Height	.....	4' 5".
Ground clearance	.....	6.00.
Weight (unladen)	.....	17 cwt. 1 qr.

Torque Spanner Data

Cylinder head stud nuts	.....	600 lb./in.
Connecting rod big-end bolts (to next split pin hole)	.....	320 lb./in.
Main bearing cap nuts (to next split pin hole)	.....	750 lb./in.