<table>
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<td>TECHNICAL DATA</td>
<td>M.G.C.</td>
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In the absence of an M.G.C. Workshop Manual we have attached a list of basic technical information on this model.
TECHNICAL SERVICE DATA

M.G.C.

ENGINE

Unit Type
No. of Cylinders
Bore
Stroke
Capacity
Valve Operation
Oversize Bore: First
Max.

29G
6
3.282 in.
3.5 in.
177.7 cu. in. (2912 cc)
Overhead by push-rod
.010 in.
.040 in.

CRANKSHAFT

Main Journal Diameter
Min. Regrind Diameter
Crankpin Journal Diameter
Min. Regrind Diameter
Crankshaft End-Thrust
Crankshaft End-Float
Adjustment
Undersizes (mains and crankpins)

2.3742 to 2.3747 in.
2.3342 to 2.3347 in.
2.0000 to 2.0005 in.
1.9600 to 1.9605 in.
Taken on thrust washers at No. 3 main bearing.
.002 to .006 in.
(.051 to .152 mm)
Selective thrust washer assembly, at No. 3 main bearing.
.010, .020, .030, .040 in.
(.25, .51, .76, 1.02 mm)
MAIN BEARINGS

Number and Type 7 thin-wall
Material Steel-backed VP3 - Tin-Aluminium
Length: No. 3 and 4 1.065 in.
Nos. 1, 2, 5, 6, and 7 .947 in.
Diametrical Clearance .0009 to .0027 in.

CONNECTING RODS

Type Split big-end, bushed small end.
Length Between Centres 6.601 to 6.605 in.
End-Float on Crankpin(nominal) .008 to .012 in.
Small-End Bush(reamed in position) .8750 to .8752 in.

BIG-END BEARINGS

Type and Material Steel backed Reticular tin aluminium or VP3
Length .900 in.
Diametrical Clearance .001 to .0027 in.

PISTONS

Type Aluminium, solid skirt
Clearance in Cylinder:
  Top(below oil control groove) .0028 to .0040 in.
  Bottom .0017 to .0023 in.
PISTONS - CONTINUED

Number of Rings

4 (3 compression, 1 oil control)

Gudgeon Pin Bore

.8748 to .8750 in. (22.22 to 22.225 mm)

P. STON RINGS - COMPRESSION

Type : Top

Plain chrome)

Second and Third

Tapered )

Fitted Gap : Top

.013 to .010 in.

Second and Third

.009 to .014 in.

Ring to Groove Clearance: Top

.0025 to .0045 in.

Second

.0015 to .0035 in.

Third

.0015 to .0035 in.

PISTON RINGS - OIL CONTROL

Type

Two chromed faced rings with expander

Fitted Gap

.015 to .045 in. (.38 to 1.143 mm)

GUDGEON PIN

Type

Fully floating retained by circlips in piston

Fit in Piston

Hand push fit at 16°C. (60°F)

Diameter - Outside

.8748 to .8750 in.
CAMSHAFT

Journal Diameters: Front
   Middle Front  1.80875 to 1.80925 in.
   Middle       1.78875 to 1.78925 in.
   Middle Rear  1.76875 to 1.76925 in.
   Rear         1.74875 to 1.74925 in.
   Rear         1.72875 to 1.72925 in.

End-Thrust
   Taken on front end locating plate
   .003 to .006 in.

End-Float
   Renew locating plate

Adjustments
   Drive

Timing Chain
   Chain and sprocket from crankshaft
   3/8 in. (9.52 mm) pitch X 58 pitches.

CAMSHAFT BEARINGS

Number and Type
   5, Steel backed white metal

Inside Diameter(reamed in positon)
   Front    1.8103 to 1.8106 in.
   Middle Front  1.79025 to 1.79075 in.
   Middle       1.77025 to 1.77075 in.
   Middle Rear  1.75025 to 1.75075 in.
   Rear         1.73025 to 1.73075 in.
   Diometrical  .001 to .002 in.

CHAIN WHEEL ALIGNMENT

Crankshaft Chain Wheel Face
   .005 in. rearwards of camshaft chain wheel face

Method of Adjustment
   Add selective shims behind crankshaft chain wheel
### TAPPETS

- **Type**: Bucket with spherical base
- **Outside Diameter**: .9363 to .9370 in.
- **Length**: 1.75 in.

### ROCKER GEAR - ROCKER SHAFT

- **Diameter**: .749 to .750 in.

### ROCKER GEAR - ROCKER ARM

- **Bore**: .8735 to .8745 in.
- **Bush Inside Diameter (reamed in position)**: .7505 to .7510 in.
- **Ratio**: 1.43:1

### VALVES

- **Seat Angle**: 45° (Stellite seat)
- **Stem to Guide Clearance: Inlet**: .0016 to .0026 in.
  - **Exhaust**: .0031 to .0043 in.
- **Valve Lift**: .310 in.

### VALVE GUIDES

- **Length**: 2.219 in.
- **Outside Diameter**: .5635 to .5640 in.
- **Inside Diameter**: .3443 to .3448 in.
- **Fitted Height Above Head**: .625 in.
- **Interference Fit in Head**: .0015 to .0027 in.
VALVE SPRINGS

Free Length
Fitted Length
Load at fitted length
Load at Top of Lift
Number of Working Coils
Valve Crash Speed

Double Spring

Inner
1.969 in.
1.44 in.
30 ± 2 lb.
50 lb.
6½

Outer
2.141 in.
1.56 in.
72.5 ± 2 lb.
117 lb.
4½

VALVE TIMING

Timing Marks
Rocker Clearance: Running(cold)

Timing

Inlet Valve: Opens
Closes

Exhaust Valve: Opens
Closes

.015 in.
.024 in.
16° B.T.D.C.
56° A.T.D.C.
51° B.B.D.C.
21° A.T.D.C.

LUBRICATION

System Type
System pressures: Running
Idling

Oil Pump
Capacity

Oil Filter
By-Pass Valve Opens
Oil Pressure Relief Valve

Wet sump, pressure fed.
55 lb/sq.in.
15 lb/sq.in.
Concentric(serviced as a unit)
10 gal. (12 U.S. gal.) per minute at 1,000 RPM
Tecalemit full flow, felt element.
13 to 17 lb/sq.in.
65 to 70 lb/sq.in.
CAPACITIES

Engine: Without Oil Cooler 12 pints (14.4 U.S. pints)
            With Oil Cooler 14½ pints (17.3 U.S. pints)

TORQUE WRENCH SETTINGS

Cylinder Head Nuts 75 lb.ft.
Rocker Bracket Bolts 25 to 27 lb.ft.
Big-End Bolts 50 lb.ft.
Main Bearing Nuts 75 lb.ft.
Flywheel Bolts 50 lb.ft.
Clutch to Flywheel 25 lb.ft.
Sump to Crankcase 6 lb.ft.
Oil Pump to Crankcase 20 lb.ft.
Cylinder Side Covers: Front 15 lb.ft.
          Centre, Rear 4 lb.ft.
Front Cover Screws 25 lb.ft.
Manifold Nuts 60 lb.ft.
Water Manifold to Block 30 lb.ft.
Oil Filter Centre-Bolt 15 lb.ft.
Carburetter: Stud Nuts 15 lb.ft.
       Float chamber Bolt 7.5 lb.ft.
Distributor Clamp Nut 2.5 lb.ft.
Sparking Plugs 30 lb.ft.
Rear Plate 50 lb.ft.
COOLING SYSTEM
Type

Thermostat Settings: Standard
Cold Countries

Pressure Cap
Fan Belt: Tension
Type of Pump

Pressurized spill return system with thermostat control, gump and fan - assisted.

74°C (165°F)
82°C (180°F)

15 lb/sq.in.

½ in. - deflection on long side
Centrifugal

FUEL SYSTEM
Air Cleaner

Type

Fuel Pump
Make and Type
Test Data: Delivery Rate
Suction Head
Delivery Head
Delivery Pressure

Oil impregnated paper element with air intake and silencer tube

S.U. electric AUF 301
15 gallons (18 U.S. gall./HOUR)

18 in.

4 ft.

3.8 lb/sq.in.

CLUTCH
Make and Type
Clutch Plate Diameter
Facing Material
Number of Damper Springs
Damper Spring Colour

Borg and Beck diaphragm type
9 in.

Raybestos WR9
6

Dark grey/light green
CLUTCH (continued)

Diaphragm Spring Colour
Orange/light green

Clutch Release Bearing
Graphite MY3D

Operating Slave Cylinder Diameter
15/16" dia. x .70" stroke

Master Cylinder Diameter
.625" dia.

Clutch Fluid
Castrol Girling Brake Fluid Amber

PROPELLER SHAFT

Make and Type
Hardy Spicer telescopic flange type, tubular

Joints
Universal Needle Roller

SYNCHROMESH GEARBOX AND OVERDRIVE

Number of Forward Gears
4 (synchromesh)

<table>
<thead>
<tr>
<th>Gearbox Ratios:</th>
<th>Standard</th>
<th>Overdrive</th>
</tr>
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<tbody>
<tr>
<td>Top</td>
<td>1.000:1</td>
<td>1.000:1</td>
</tr>
<tr>
<td>Third</td>
<td>1.382:1</td>
<td>1.307</td>
</tr>
<tr>
<td>Second</td>
<td>2.167:1</td>
<td>2.058:1</td>
</tr>
<tr>
<td>First</td>
<td>3.44:1</td>
<td>2.98:1</td>
</tr>
<tr>
<td>Reverse</td>
<td>3.095:1</td>
<td>2.679:1</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Overall Ratios:</th>
<th>Top with Overdrive</th>
<th>Overdrive</th>
</tr>
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<tbody>
<tr>
<td>Top with Overdrive</td>
<td>2.71:1</td>
<td></td>
</tr>
<tr>
<td>Top</td>
<td>3.07:1</td>
<td>3.307:1</td>
</tr>
<tr>
<td>Third with Overdrive</td>
<td>3.54:1</td>
<td></td>
</tr>
<tr>
<td>Third</td>
<td>4.24:1</td>
<td>4.32:1</td>
</tr>
<tr>
<td>Second</td>
<td>6.65:1</td>
<td>6.81:1</td>
</tr>
<tr>
<td>First</td>
<td>10.56:1</td>
<td>9.85:1</td>
</tr>
<tr>
<td>Reverse</td>
<td>9.5:1</td>
<td>8.85:1</td>
</tr>
</tbody>
</table>
Overdrive Ratio .82:1

Road Speed at 1,000 r.p.m. in Top Gear:

 Standard 23.83
 Overdrive 26.75

Speedometer Gear Ratio:

 Standard 10:24
 Overdrive 8:21

1st and 3rd Speed Gear End-Floats .005 to .007 in.
2nd Speed Gear End-Float .005 to .008 in.
Laygear End-Float .002 to .003 in.
Synchromesh Breakaway Load 23 to 27 lb.

SUSPENSION

Front

Type Independent, torsion bar

Torsion bar

Overall Length 46.3"
Effective Diameter .860"
Max. Angle of Twist 41.2° at 250 lbs.
Load Rate 100 lb.in.
Deflection: Static 6.5"
 Maximum 8.6"
Load: Static 650 lb.
 Maximum 860 lb.

Anti Roll Bar: Diameter 11/16"
Camber Angle
Nominal 0° (+1/4° - 1/4°)  Unladen
1/2° positive,  with lower
1/2° negative  edge of
Camber Adjustment  body sill
Shims  and front
"lower
Caster Angle
Nominal 5° (+1/4° - 1/4°)  suspension
= 5¼° to 3 3/4°  levers
Kingpin Inclination  parallel
Nominal 9° (-1/4° + 1/4°)  to ground.
Wheel Bearing End Float .002 to .004"
Wheel Bearing Adjustment Shims
Dampers Telescopic
Arm Centres Compressed 10" Extended 14.56"
Rear
Type Semi-elleptic, rubber mounted
leaf springs
Spring Data
Number of Spring Leaves 6 + bottom plate; inter leaving
Width of Spring Leaves 1 3/4"
Gauge of Leaves 3 at 7/32", 3 at 3/16"
Dampers
Arm Centres 5¼"

STEERING
Type Rack and Pinion
Steering Wheel Diameter 16½"
Turns - Lock to Lock 3½
Angle of Outer Wheel
With Inner Wheel at 20° 18° 15' ±30'
Wheel Alignment Parallel
REAR AXLE

Type
Hypoid, semi-floating

Ratio:
Standard
3.07:1 (14/43)

Overdrive and Automatic
3.307:1 (13/43)

Differential Bearing Preload
.002 'nip' per bearing

Pinion Bearing Preload
7 to 9 lb. in.

Backlash Adjustment:
Crownwheel
Shims

Pinion
Head washer

BRAKES

Type
Girling hydraulic; disc front, drum rear, leading and trailing shoes.

Brake Fluid
Castrol Girling Brake Fluid Amber

Front
Disc Diameter
11"

Pad area (total)
20.80 sq. ins.

Swept Area (total)
226.2 sq. in.

Lining Material
Ferodo E2430

Minimum Pad Thickness
1/16"

Rear
Drum Diameter
9"

Lining Dimensions
2.25 x 7.12 ins.

Swept Area (total)
127.2 sq. in.

Lining Material
Ferodo AM3

Numbers of Rivets Per Shoe
8