PRELIMINARY
INSTRUCTIONS
FOR THE
MAINTENANCE
OF THE



HOW TO OBTAIN THE INSTRUCTION MANUAL AND GUARANTEE FORM



HIS Instruction Summary is for use during the period after you have taken delivery of your M.G. and before you receive the Manual.

At the back of this booklet is a post card which should be filled in and returned to the Works as soon as possible. The Manual and guarantee will then be sent.

It is important that this card of notification of ownership is sent to us. Your name and address are then recorded, and should it be desirable at any time to write to owners of M.G. cars you will be included.

Issue 2 December, 1947

ISSUED BY

Telephone 251



Telegrams : Emgee

REGISTRATION AND INSURANCE

HOW THE CONTROLS AND SWITCHES ARE PLACED

Before the car can be used it is of course necessary to arrange for its registration and insurance. If this has not already been attended to the following details will be of assistance when filling in the various forms:

The four-cylinder engine has a bore of 66.5 mm. and the stroke is 90 mm., giving a cubic capacity of 1250 c.c. R.A.C. rated horse-power is 10.97.

DON'T forget to state chassis and engine numbers if you have occasion to write about your M.G.

DON'T leave the headlamps "on" when the car is stationary at night. This drains the battery unnecessarily and it is very discourteous to other road users, and remember to top up the battery with distilled water regularly.

The accelerator on the M.G. Midget is on the extreme right with the foot brake to the left of it, and the clutch to the left of the brake pedal. The gear positions of the four-speed gearbox are plainly marked on the top of the gear lever.

The press button operating the horn is in the centre of the dash close to the steering wheel, and the "dipper" switch is immediately below it and incorporated in the same control.

The 30 m.p.h. warning light is placed between the instrument panel and revolution counter. It operates automatically between 20/30 m.p.h. A map lamp is fitted instead of the 30 m.p.h. warning light on export cars.

The complete set of instruments, etc., in the facia is as follows, reading from the left:—

(1) 5 in. speedometer, with total mileage reading at the top and "trip" reading below: the trip reading is returned to zero by a winder below the instrument behind the facia; (2) Map reading lamp, turn to switch on; (3) Ammeter; (4) Lamp and ignition switches with positions marked; (5) Horn button and dipper switch; (6) Oil pressure gauge; (7) 30 m.p.h. warning lamp; (8) Revolution counter and clock; (9) Petrol reserve indicator.

HOW THE CONTROLS AND SWITCHES ARE PLACED (contd.)

WARMING UP

The instruments, switches, etc., in the centre panel, reading from the left are as follows:—

- 1. Starter switch. (Pull outwards.)
- Mixture control or choke. Pull outwards and turn anti-clockwise to lock. Be sure to return the control to the "right-in" position as soon as possible.
- 3. Foglamp switch (turn clockwise to switch "on").
- 4. Twin plug for inspection lamp.
- 5. Ignition warning light.
- 6. Switch for panel lights (turn clockwise to switch "on").
- 7. "Slow-running" adjustment (turn anti-clockwise to speed up the engine).

When starting the engine do not pull out the starter button and let go immediately. Overcoming engine inertia is a big drain on the battery. Once the engine is spinning much less current is being consumed, so keep the starter switch in contact a reasonable time to give the engine time to fire and take hold.

We advocate warming the engine to its usual running temperature before starting out. Apart from a warm engine being far more pleasant to drive, the initial warming up gives the oil a chance to become thoroughly fluid.

Do not race the engine when it is cold; this will shorten considerably the life of pistons and bearings.

It is, however, just as important that the engine should not be allowed to idle, the best warming-up speed being between 1200 and 1500 r.p.m.

To start the motor, switch on the ignition and fuel pumps by means of the key on the centre of the instrument panel. To the right of the ignition switch is a red warning light which comes into operation when the ignition is switched on and is automatically switched off by the cut-out when the engine speed reaches approximately 2000 r.p.m.

Then richen the mixture, as described on page 4. The starter switch control pulls out to operate and should be released as soon as the engine fires. See that the mixture control is returned to normal as soon as the engine will run without its assistance; excessively rich mixture washes the oil from the cylinder bores.

If the engine does not fire a few moments after the starter is put into operation there is a possibility that the extra quantity of petrol drawn into the cylinders will "wet" the plugs, which may have to be taken out and dried before the engine will start.

Starting in cold weather is assisted if the clutch is pressed out to relieve the starter motor of the gearbox load. It is advisable to free the engine by hand in very cold weather. The engine is **NOT** run in at the time of delivery; in fact 1500 miles of steady running are advised at an engine speed of:

3000 r.p.m. (approximately) in all gears.

15 m.p.h. in first gear.

25 m.p.h. in second gear.

35 m.p.h. in third gear.

45 m.p.h. in top gear.

Points of importance to note during the initial running-in period are that the engine should never be allowed to labour or pull hard on a high gear. It is preferable to let the engine run at a reasonable speed. No damage will be caused provided it is "run light." Ease the foot off the accelerator at frequent intervals—this allows the oil to come up the bores.

Although it is not essential, upper cylinder lubricant is beneficial during the running-in period.

DON'T fail to run in a new engine carefully. Restraint during the first 1500 miles will be handsomely repaid. Change the oil after the first 500 miles and subsequently every 3000 miles.

Re-fuelling will probably be the next point on which information is sought, and details are as follows:

The petrol tank on the M.G. Midget model is at the rear and holds $13\frac{1}{2}$ gallons $(2\frac{1}{2}$ gallons reserve). The filler is placed on top of the tank on the near-side. To open the Quick-Lift Filler Cap press the catch below the cap; it will then fly open. To close simply shut down the Cap; it will click when closed.

Before the car leaves the Factory the carburetters are tuned for normal fuel, which is recommended for general use.

The use of low-grade fuels is deprecated. .

The automatic electric petrol reserve indicator is on the right-hand side of the facia. The light warns that the tank contains $2\frac{1}{2}$ gallons of petrol only.

DON'T subject tyres to glancing blows from the kerb when drawing up beside the pavement; this may interfere with wheel alignment and have a serious effect on tyre life.

Correct lubrication of any piece of mechanism is of paramount importance, and in no instance is it of greater importance than in the correct choice of lubricant for a motorcar engine.

The following is a list of the lubricants recommended.

Ref.	Component	Climatic Conditions	Recommended Oil			
A	Engine and Air Cleaner	Temperate and tropi-	N.O.L. "Thirty" Engine Oil			
	All Cleaner	Extreme cold from 32° F. down to 0° F.	N.O.L. "Twenty" Engine Oil			
В	Gearbox, Steering Gearbox, Rear Axle	Temperate and tropical down to 20° F.	N.O.L. "E.P." Transmission Oil 140			
С	Wheel Hubs, Fan Bearings	All conditions	Duckham's "Adcol" H.B.B. Grease			
D	Steering Connections, King Pins, Propeller Shaft, Shackles, Clevis Pins, Lever Fulcrums, Road Springs	All conditions	Duckham's Laminoid Soft or Duckham's "Adcol" H.P.G. Grease			
E	Cables and Control Points	All conditions	Duckham's "ZNOL" K.G. 16			
F	Oilcan and Carburetter Dashpot	All conditions	N.O.L. "Twenty"			

When conditions are not normal and outside the temperature ranges indicated in the tables, reference should be made to the special recommendations on page 12 dealing with extreme conditions.

If the above oils are not available we approve the use of the equivalent grades of lubricant, as shown on page 11.

The engine of your car was tested on N.O.L. Engine Oil and the sump was filled with N.O.L. Engine Oil on leaving the Factory. Its continued use is recommended.

DO NOT mix lubricants.

ENGINE "A"

The oil supply is carried in the sump of the engine. On the left-hand side of the cylinder block a dip-stick is fitted. The dip-stick is graduated at its lower end to give indication of the oil level in the sump. By drawing the dip-stick out the quantity of oil in the sump can be read off from where the oil adheres to the rod. The oil level should never be allowed to fall below the "half" mark.

When filling with oil it is imperative to use only perfectly clean oil, preferably that bought in sealed tins. The M.G. Car Co. Ltd. cannot hold themselves responsible under guarantee for crankshafts or bearings that are damaged or scored as the result of the use of dirty oil. We advise the use of the appropriate grade of N.O.L. Engine Oil indicated in the table of recommended oils above.

It will be found on first starting up the engine from cold that a high-pressure reading will be obtained on the oil gauge. This will gradually drop as the engine warms up

and the oil becomes more fluid until a normal pressure of approximately 50-70 lb. per square inch will be indicated. Avoid racing the engine when first starting up while the oil is cold.

DRAINING THE SUMP

We recommend that when the car has completed 500 miles the oil in the sump and the gearbox should be drained to free them from any impurities that may have accumulated during the initial running-in process. This operation is best carried out immediately the car returns from a journey, while the oil is still warm and fluid.

After removing the drain plug we do not recommend that paraffin should be swilled through the engine or that the engine should be run without oil in the sump with the plug removed—either may lead to very serious damage. When the sump has been completely drained it requires approximately 1\frac{1}{2} gallons of oil to bring the level to the "FULL" mark.

Don't forget to change the oil filter after the first 3000 miles and then every 10,000 miles. New filters can be obtained from any dealer.

GEARBOX "B" (Capacity It pints)

It is of the utmost importance to keep this full to the correct level, or harsh running and wear of the gears will result.

The large filling plug is accessibly situated on the top of the gearbox. A dipstick on the right side of the gearbox provides indication of the correct oil level, which should reach the "normal" mark. Use N.O.L. "E.P." Transmission Oil 140.

REAR AXLE "B"

The oil capacity of the rear axle is approximately 2 pints. Remove the filler plug and oil level plug on opposite side of axle housing and fill housing until the oil overflows from the oil level plug. Use N.O.L. "E.P." Transmission Oil 140. While the car is new the rear axle and gearbox should receive special attention. It is advisable after the first 500 miles to drain the old oil out by removing the drain plug underneath the casing, then, after replacing plug, put in fresh oil. This is best accomplished upon returning from a lengthy journey, while the oil is still warm.

NOTE: —The high-pressure oils recommended, produced by different makers, differ considerably in their composition, and it is dangerous to replenish the axle with a different make of oil from that in use. If a new make of oil is introduced the axle should first be drained.

STEERING GEARBOX "B"

Every 2000 miles the steering gearbox should be replenished with N.O.L. "E.P." Transmission Oil 140. An oilgun nipple is provided for this purpose on top of the box.

PROPELLER SHAFT "D"

The Spicer propeller shaft sliding joint fitted to the Series "T.C." M.G. Midget requires regular attention with the grease gun every 500 miles. For this purpose a nipple is provided adjacent to the front universal joint. Also, both the front and rear universal joint forks are fitted with grease gun nipples which require attention every 10,000 miles. Duckham's Laminoid Soft or "Adcol" H.P.G. Grease should be used for this purpose.

DYNAMO AND DISTRIBUTOR (see lubrication instructions under Electrical Section).

CARBURETTER DASHPOT "F"

Every 1000 miles remove oil cap at top of suction chamber and add teaspoonful of N.O.L. "Twenty" Engine Oil. Never use any other oil.

CHASSIS LUBRICATION AND THE GREASE GUN "D"

At all points of the chassis that require lubrication grease nipples are fitted, and in the tool kit will be found a grease gun. This gun should be filled with Duckham's Laminoid Soft Grease or Duckham's 'Adool' 'H.P.G. Grease by unscrewing the large cap on the end of the container and pulling the nozzle outwards until the plunger is at the bottom of the oil chamber. When the gun is sufficiently full of grease, the end cap should be replaced. The nozzle extension is really a type of high-pressure pump.

LUBRICATION

OTHER OIL MANUFACTURERS' EQUIYALENT GRADES		Oilcan and Carburetter	All	Duckham's "Adcol " N.P.X.	" Castrolite "	"Essolube "	Zero "Filtrate " (regd.)	Mobiloil "Arctic "	Price's "Motorine "	Single "Shell "	"Sternol " W.W. 20
	ш	Cables and Control Points	All	Duckham's "ZNOL" K.G.16 Grease	"Castrolease "Brake Cable Grease	Anti-Freeze Grease	"Filtrate " (regd.) A.F. Grease	Mobilgrease No. 4	Price's "Belmoline "	"Shell" Retinax C	"Sternol " Anti-Freeze Grease
	٥	Chassis Greasing, Nipples, etc.	All	Duckham's "Adcol" H.P.G. Grease	" Castrolease " Medium	Esso- Fluid Grease	High Pressure Solidified "Filtrate" (regd.) Oil	Mobilgrease No. 4	"Belmoline "	"Shell " Retinax C	"Sternol " M.M. Grease
	C	Wheel Hubs and Fan Bearings	All	Duckham's "Adcol" H.B.B. Grease	" Castrolease " Heavy	Esso- Grease	"Filtrate " (regd.) R.B. Grease	Mobil Hub Grease	Price's "Belmoline "	"Shell" Retinax R.B.	"Sternol " R.B. Grease
	80.	Gearbox, Rear Axle and Steering Gearbox	Temperate and tropical down to 20° F.	Duckham's "Adcol" X.S Press	" Castrol " Hi-press	"Expee Compound 140	E.P. "Filtrate " (regd.)	Mobiloil "E.P."	Price's "Motorine "	"Shell" Spirax E.P.	"Sternol " Liquid Ambroleum E.P. 140
	4	Air Cleaner	Extreme cold from 32° F, down to zero Fahr,	Duckham's "Adcol" N.P.X.	" Castrolite "	"Essolube "	Zero "Filtrate" (regd.)	Mobiloil "Arctic"	Price's "Motorine"	Single Shell "	" Sternol " W.W. 20
		Engine and Air Cleaner	Temperate and tropical	Duckham's "Adcol" N.P.X.X.	" Castrol " X.L.	"Essolube "	Medium "Filtrate" (regd.)	Mobiloil A	Price's "Motorine "	Double Shell "	"Sternol " W.W. 30
	Reference (see page 9)—	Component	Climatic Conditions	" ADCOL" (Alexander Duckham & Co.)	"CASTROL" (C. C. Wakefield & Co.)	"ESSOLUBE" (Anglo-American Oil Co.)	"FILTRATE" (Edward Joy & Son, Ltd.)	"MOBILOIL" (Vacuum Oil Co. Ltd.)	"MOTORINE" (Price's Lubricants Ltd.)	(Shell Mex & B.P. Ltd.)	"STERNOL" (Sternol Ltd.)

LUBRICATION

AND TOPPING UP THE RESERVE TANK FOR THE BRAKES

and it has at its end a chuck with a hole in the centre. By applying this chuck to the projection presented by a nipple and pushing the whole of the pump towards the nipple, grease will be forced under pressure into the bearing, and as soon as pressure is removed from the grease gun the extension will be forced out again by its return spring, and the vacuum created will cause the automatic plunger to take up a new position ready for delivery of the next charge. This gun is particularly easy to handle and extremely effective in action.

STEERING JOINTS

The front axle kingpins, the track rods, and other steering ball socket joints are lubricated separately by grease gun nipples. Use Duckham's Laminoid Soft or Duckham's H.P.G. Grease.

SPRING ANCHOR PINS

With the exception of the forward suspension pins of the front springs, which are fitted with grease gun nipples, all other spring shackles are rubber bushed and require no lubrication.

CONTROL AND INSTRUMENT CABLES

When the flexible control cables (starter switch control, slow-running control, mixture control, revolution counter and speedometer cables) require lubrication, they should be removed and greased with Duckham's "ZNOL" K.G. Grease 16.

EXTREME COLD CONDITIONS

Where a car is operated in temperatures which are consistently below zero Fahrenheit the use of an oil of lower viscosity than that recommended for normal use is desirable, and under such conditions the use of N.O.L. "Ten" Engine Oil is recommended. Equivalent grades of other manufacture are:

Duckham's "Adcol" N.P.O.
Castrol Z.
"Essolube" 10.
Filtrate (regd.) Sub-Zero.

Mobiloil Arctic Special.
Motorine 10.
Silver "Shell."
"Sternol" W.W. 10.

Filtrate (regd.) Sub-Zero. "Sternol" W.W. 10. Similar considerations apply in the case of the gearbox, rear axle and steering gearbox, where N.O.L. "E.P." Transmission Oil 80 should be used when temperatures consistently below 20° Fahrenheit are encountered.

Equivalent grades of other manufacture are :—

Duckham's "Adcol" X.S Press 80. Mobiloil "GWX."
"Castrol" Hi-press 80. "Shell" E.P. Spirax 80. Motorine E.P.80.
"Filtrate" (regd.) 80. "Sternol" Liquid Ambroleum E.P. 80.

PERIODICAL INSPECTION

As it is of great importance to have all small adjustments attended to, and to make sure that all parts requiring lubrication are not neglected, the owner of the car should make a point of periodical inspection. To ensure that no point of importance is being overlooked, a lubrication chart is provided at the end of the book, indicating all the points and the frequency of attention.

The tools are packed away in the large toolbox under the bonnet. Access is gained by opening the bonnet from either side.

DON'T neglect periodic chassis lubrication and the correct inflation of tyres. These will prevent harshness in the suspension and ensure riding comfort.

The water system holds $l_{\frac{3}{4}}$ gallons of water. It is desirable, if possible, to fill up with soft water. Water is circulated by means of a pump and the engine temperature is maintained at the best running heat by means of a thermostat which is automatic in operation.

Care should be exercised in the selection of anti-freezing mixture, as some have an immediate effect on hose connections. "Bluecol" has been approved, but in case of doubt, please write to your nearest M.G. Distributor or Dealer.

The reserve tank for the hydraulic brakes, which is situated below the floorboards forward of the driver's seat, should be inspected at regular intervals. If the level has dropped it should be topped up so that the fluid just covers the baffle plate. Use genuine "Lockheed Brake Fluid" for the hydraulic braking system.

Important.—If an appreciable amount of fluid is lost within a short time a leak may have occurred, when it is imperative that the system be inspected by an authorised M.G. Dealer.

DON'T forget to empty the water system in very cold weather (unless you are using antifreeze mixture). A cracked block or head is costly to repair. Both the tap at the bottom of the radiator and the tap on the outside of the cylinder block behind the exhaust manifold must be opened.

It is not recommended that the owner should attempt to synchronise or otherwise adjust the carburetters unless he is fully conversant with the S.U. They have been carefully adjusted before the car left the Works, and should not need further attention until the 500 miles free service is carried out.

After this mileage has been covered it is advisable, owing to the freeing off of the engine, to have the carburetters weakened slightly, and it is recommended that this job should be given to a recognised M.G. Distributor or Dealer, as a good deal of harm can be done by inexperience.

The Instruction Manual describes carburetter tuning and adjustments in detail, and it is unlikely that attention, other than that which has been mentioned, will be necessary before the book arrives.

Sparking plugs seldom need attention, and it is advisable to leave well alone. If, however, it is felt desirable for any reason to have them cleaned, this is best done at a garage equipped with a plug cleaning apparatus. The correct gap at the points should not exceed .020 in. to .022 in. and the contact breaker points should have a clearance of .010 in./.012 in. when fully open.

Should it become necessary to adjust the valves, the clearances measured between the rocker and the valve stem, when the engine is hot, should be adjusted to the clearance stated on the plate on the valve cover.

Tyre pressures should be checked once a week and, if necessary, corrected: the front tyres to 24 lb. per square inch, and the rear tyres to 26 lb. per square inch. Do not neglect occasionally to check the tyre on the spare wheel. The **Dunlop** centre-lock wheel provides

the most rapid method of changing road wheels. Like all mechanical devices, it must be properly treated in order to give 100 per cent. service. Observation of the following quite simple hints will ensure complete satisfaction:—

(a) When the car is new. After the first long run, or after fifty miles of short runs, jack up each wheel and hammer nuts to ensure that they are tight.

(b) When wheels are replaced cover both conical surfaces and the serrations in the hub, also the coned surface and threads in the lock nut, with a light coating of grease. Hammer tight and repeat as when car is new.

(c) When a forced wheel change is made on the road remove and grease the hub splines as soon as convenient.

(d) When changing wheels wipe the serrations and cones on hub, wheel and lock nut to remove any foreign matter which would prevent the wheel from seating properly. Rust and dirt are the enemies of all mechanical devices.

(e) Always hammer the lock nuts tight. Lift car on jack before using the hammer. The lock nuts are designed to be self-locking, but should not on that account be permitted to run untightened, because there is, in such case, a possibility of damaging the splines. A 12-volt electrical equipment is provided, which is wired on the earth return system.

The battery is charged by a dynamo operating in conjunction with a voltage control unit. The battery is automatically charged at the correct rate according to its state of charge and the load. No charging switch is, therefore, provided. In the event of it being necessary to replace any of the lamp bulbs, the following should be

specified:

O/S, 12 volt 36 watt Lucas No. 54 N/S, 12 volt 36 watt/36 watt Lucas No. 171 Foglamp Type FT.27 12 volt 36 watt Lucas No. 2 Foglamp Type SFT.462 12 volt 36 watt Lucas No. 162 Side, Tail and Stop Lamps; Dash and 30 m.p.h. Lamps 12 volt 6 watt Lucas No. 207

Ignition warning lamp 2.5 volt .5 watt Lucas No. 970
Panel illumination bulb 12 volt 2.2 watt Lucas No. 986

Fuses

Two fuses are provided in the regulator and fuse box. One fuse is connected in the circuit of those accessories which can be operated only when the ignition is switched on, while the other protects the accessories which can be operated irrespective of whether the ignition is on or off. In the event of the failure of any of these accessories, locate and remedy cause of trouble and fit replacement fuse.

Battery

About once a fortnight remove the filler plugs from the top of the battery and inspect the level of the acid solution (electrolyte) in each of the cells. If necessary, add distilled water to bring the solution level with the tops of the separators fitted between the plates.

Distributor

After about the first 500 miles' running, remove the distributor moulding, lift off the rotor arm and add a few drops of thin machine oil through the hole provided in the top of the spindle. When replacing the rotor, fit it correctly and push it on to the shaft as far as it will go, otherwise there is a risk of damaging the moulding. Lubricate the cam by applying a light smear of clean engine oil.

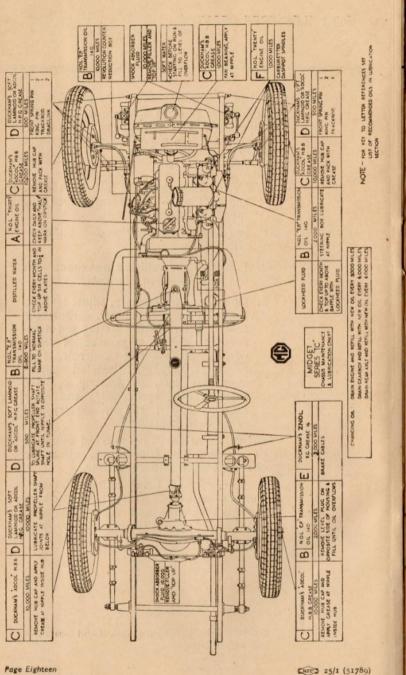
When 500 miles have been covered, or as soon as possible afterwards, the M.G. Midget should be taken to the Dealer from whom it was purchased, and he will carry out, free of charge, the following service.

- Drain sump, gearbox and back axle, and refill with the recommended oils specified for the purpose.
 See Lubrication Section for oil capacities.
- 2. Lubricate the vehicle throughout with the recommended lubricants.
- 3. Check, and if necessary, adjust ignition timing, tappet clearances, carburetter control gear, mixture setting and slow-running, clutch, alignment of front wheels, all steering controls, tyre pressures, brakes, electrical equipment, all nuts, particularly cylinder head, wheels, spring clips and body securing bolts; top up battery and brake fluid container.

All this work will be carried out free of charge, but lubricants, etc., are chargeable to the customer.

In the event of it being desirable to communicate with the Factory, please be sure and quote chassis and engine numbers, and body numbers where the body is concerned.

DON'T delay posting the *Manual* and Guarantee application card.



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