

# THIS CARD SHOULD BE RETAINED BY PURCHASER AND KEPT FOR REFERENCE

## ABBREVIATED RUNNING & OILING INSTRUCTIONS FOR MATCHLESS MOTOR CYCLES

### IMPORTANT.

A new machine should not be driven on full throttle up hill, or at a speed greater than 30 m.p.h. on the level, on top gear, with a corresponding low engine speed in other gears, for at least the first 500 miles. Never allow the engine to labour but change gear early.

### TAKING OVER A NEW MACHINE.

Carefully examine and memorise controls. See that tyres are correctly inflated. Check over tool kit. Fill up with petrol and oil (average tank capacity, petrol 2 to 2½ galls.; oil ½ gall.).

**For Engine.—Use Wakefield CASTROL XL.**

**For Gear Box.—Use Wakefield CASTROLEASE MEDIUM.**

**For Hubs, Brake Joints, etc.—Use Wakefield CASTROLEASE MEDIUM.**

### STARTING.

Turn on petrol by pulling out the tap plunger as far as possible without twisting (to operate the drain cock the plunger is pulled out as above, then turned a little and again pulled out as far as possible) and depress the tickler on float chamber cap until petrol actually overflows from the vent hole. Place gear in neutral position, advance ignition about  $\frac{2}{3}$ , open throttle about  $\frac{1}{2}$  and close air completely. Then turn the ignition switch if De Luxe Model to the "ON" position and also move the decompressor if fitted to the "ON" position, after which give the kickstarter pedal a vigorous push downward. Repeat if necessary.

**IMPORTANT.—When using decompressor for starting do not set the handle farther back than is necessary to partly relieve the compression. With the handle too far back starting may be difficult.**

**NOTE.—**On the "F" and "Silver Hawk" Models a warning light is provided to indicate that the ignition switch is on. As current is being drawn from the battery all the while this light is showing, it is necessary to switch off upon stopping the engine; the warning light being provided as a reminder. Omission to switch off will cause the battery to become exhausted, and may also possibly cause serious damage to the ignition coil.

### RUNNING.

Having started the engine, turn decompressor, if fitted, to "off" position, and allow engine to idle for a moment or so to warm up, then raise the clutch lever (left handlebar) and place the gear in the starting position (1st speed on 3-speed Models, and 2nd speed on 4-speed Models). Then, seated on the cycle, gently release the clutch lever, when the cycle will commence to move forward. When well under way, again raise the clutch lever and simultaneously shift the gear lever into the next higher gear, releasing the clutch lever gently but smartly when the change of gear has been made. Repeat the operation to obtain top gear and in all changes make the movements of clutch and gear levers as firmly and quickly as possible, in each case raising the clutch lever only a fractional part of a second prior to shifting the gear lever. With reasonable care, gear changes either up or down can be made without a sound. Take a pride, therefore, in a smooth, silent change.

### STOPPING.

To come to a standstill, close throttle, and when the road speed has fallen to about 10 m.p.h., release the clutch and gently apply the brake, and when at a standstill, with clutch still disengaged, shift the gear lever to neutral position.

In a traffic stop of short duration, the starting gear may be engaged in readiness for the signal to re-start, holding the clutch out of engagement until such signal is received. This practice is not recommended for a stop of more than a few seconds duration.

## LUBRICATION.

Engine lubrication is by means of the "dry sump" continuous circuit system. The integral oil pump possesses a double diameter plunger operated from a worm on the engine main shaft. The larger end of this plunger is employed for exhausting the crankcase sump and the smaller end for delivering fresh oil to the various parts of the engine from whence it drains back to the sump to be returned to the supply tank. The functioning of the oil delivery is observed on panel equipped Electric Models through a sight indicator, and on other Models the oil can be seen returning to the oil tank *via* the small spout exposed by removing the filler cap. This cap should be removed upon starting the engine prior to a run, in order not only to verify the correct functioning of the pump, but also to check the oil level.

## NOTES ON OILING SYSTEM.

Add fresh oil to tank frequently in preference to allowing the level to fall very low and then replenishing, the reason for this being, that the more oil the tank contains the cooler it will keep in circulation. Remove filters every 1,000 miles, and thoroughly clean in petrol. Remove entire oil tank and wash out with petrol once every 5,000 miles, afterwards fill with fresh clean oil. Do not allow the oil level to fall below the half-full mark, and do not fill, when engine has been standing overnight, higher than 1" below the return spout, as when left standing for a time, oil will drain back to the sump, and until the level in timing gear chamber is automatically restored by the delivery pump, more oil will be returned to the tank than is being drawn from it by the smaller delivery end of the pump plunger, which fact might cause overflowing if the tank is too full of oil.

**Gear Box.**—About once every 1,000 miles two or three ounces of Wakefield CASTROLEASE (Medium Grade) should be added. The gear box must not be entirely filled and under normal circumstances the addition mentioned above will be found ample.

**NOTE.**—Wakefield CASTROLEASE is conveniently supplied in collapsible tubes provided with a suitable bent spout to facilitate injection into the gear box interior.

**Chains.**—Examine chains frequently and maintain correct level of oil in front case, Model F/7 excepted. This Model is fitted with a direct oil feed, the supply from which should be checked occasionally. (Wakefield CASTROL XL.) Remove rear chain about once every 2,000 miles and thoroughly wash in paraffin to remove grit. After carefully wiping, immerse in a bath of molten chain grease such as CASTROLEASE G. A soaking overnight in a bath of engine oil will serve as a poorer substitute.

**Fork Spindles.**—Inject grease every 500 miles until it is observed exuding from the joints.

**Grease Gun.**—Frequent use of the grease gun on all the nipples provided will greatly prolong the life of the parts. Little and often is the correct practice, and is in every instance preferable to stipulated maximum intervals. Fill grease gun with CASTROLEASE MEDIUM.

## MAINTENANCE.

**Engine.**—Keep tappets in correct adjustment .004" clearance for inlet and .006" for exhaust on S/V Models, and the nearest approach to nil possible when engine is warm on O.H.V. Models, except "Silver Hawk," which requires .002" and .004" respectively.

**Chains.**—Keep correctly adjusted. When adjusting find the tightest place and adjust with a little vertical play on the top run. While making adjustment to the front chain tension, the top and bottom runs of the rear chain should be tightly clinched together in order to strain the gear box backward as far as possible. Otherwise, owing to the greater pull on the rear chain on low gear the gear box may be strained back sufficiently to make the front chain tight notwithstanding its correct adjustment previously.

Above reference to front chain adjustment does not apply to "Silver Hawk," the chain of which is correctly tensioned automatically.

**Brakes.**—Adjust brakes so that the front operates slightly in advance of the rear. Any tendency for the rear wheel to stop or squeak upon a moderately strong application indicates that the front brake adjustment is not sufficiently in advance of the rear. See that both wheels revolve freely when the brake pedal is released.

**Gear Box.**—Adjusting the front chain may necessitate a readjustment of the gear control rod. To test, jack up back wheel on stand, and while moving wheel to and fro, shift the gear lever either side of the neutral notch until the dogs can be felt grating. The movement each side of the neutral notch should be identical, and any necessary correction is made by screwing the top gear rod yoke end up or down as the need may be. Secure the yoke end lock nut firmly after making adjustment. Above applies to hand gear change Models only.

## DECARBONISING.

Carbon deposit should be removed after the first 1,000 miles, and subsequently every 1,500 to 2,000 miles. During each alternate process of decarbonising the entire cylinder should be removed to permit of inspecting and cleaning the piston rings and their grooves. At the same interval the valves should be carefully ground in to remove all pit marks from the seatings, and the stems together with guides carefully cleaned of all deposit.

A special valve spring compressor is supplied for the O.H.V. Models at 6/6. This tool is not a part of the standard tool kit, but is arranged to fold up for insertion in the tool bag if desired.

A small clamp tommy wrench to facilitate valve grinding on O.H.V. Models can be supplied at a cost of sixpence.

For full details and further advice see Instruction Book supplied free upon receipt of application card provided with each cycle. (Replacement copies 1/- each.)

Sept. 1st, 1934.

Cancelling all prior recommendations as and from the above date, the following Lubricants are advised:—

ENGINE. (Summer) Castrol XXL, Mobiloil D, Aeroshell.  
(Winter) Castrol XL, Mobiloil D, Aeroshell.

GEARBOX. (Burman) Castrolase Medium, Mobilgrease No. 2.  
Shell Motor Grease Soft.  
(Sturmey-Archer) Castrol XL, Mobiloil D, Aeroshell.

EXPOSED CHAINS AND GREASE GUN POINTS.

Castrolase Medium, Mobilgrease No. 2, Shell  
Motor Grease Soft.

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**MATCHLESS MOTOR CYCLES (COLLIERS) LTD.,  
LONDON, S.E. 18**

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