

RALEIGH

'ROMA'

SCOOTER

RIDING AND MAINTENANCE INSTRUCTIONS

PRELIMINARY  
EDITION

IMPORTANT

Return the Guarantee Registration Card within 14 days of purchasing your 'Roma' Scooter and we will register you as the owner of the machine and forward the full illustrated edition of the Riding and Maintenance Instruction Book.

GENERAL SPECIFICATION.

Frame Number.

Location.

Stamped on frame down tube immediately above offside bracket for centre stand.

Engine Number.

Location.

On top of crankcase beneath main frame tube.

Engine.

Type.

Single cylinder, two-stroke.

Bore.

48 m.m.

Stroke.

43 m.m.

Cubic capacity.

77.8 c.c.s.

Compression ratio.

7 : 1.

Maximum B. H. P.

3.7 @ 6,250 R. P. M.

Cooling.

By air ducted through scoop above front mudguard.

Clutch.

Type.

Multi-plate running in oil bath.

Control.

By left-hand handlebar lever.

Primary Drive.

Type.

Helical gear.

Ratio.

1 : 3 (19 t. to 57 t.).

Gearbox.

Type.

3 - speed. Constant mesh gears engaged by expanding alloy-steel plungers.

Construction.

In unit with engine.

Oil capacity.

$\frac{5}{8}$  pints.

Control.

By left-hand handlebar twist-grip.

Gear Ratios:-

First.

1 : 3.

Second.

1 : 1.67.

Top.

1 : 1.052.

Final Drive.

Type.

Enclosed roller chain.

Chain size.

$\frac{1}{2}$ " pitch x  $\frac{5}{16}$ " wide x 80 pitches.

Ratio.

1 : 2.215 (14 t. to 31 t.).

Overall Gear Ratios.

First.

1 : 19.93.

Second.

1 : 11.1.

Top.

1 : 7.

Fuel System.

Fuel tank capacity.	1 $\frac{1}{2}$ gallons.
Reserve supply.	$\frac{3}{4}$ pints.
Fuel feed.	Gravity.
Carburettor:-	
Type.	Dell 'Orto. ME. 15 BS.
Cold start control.	By self-returning push-down plunger on carburettor.
Choke.	15 m.m.
Main jet.	65.
Pilot jet.	38.
Throttle slide.	50.
Needle.	G.1.
Needle position (normal).	2nd slot.
Needle jet.	258A.

Electrical System.

Type.	Flywheel Magneto - Alternator.
	C.E.V. Model 6049. With external high tension coil.
Output.	6 volts. 28 watts.
Control switch.	Combined switch on right-hand handlebar controlling lights, dipping, ignition cut-out, horn.

Lighting:-

Headlamp diameter.	4.0".
Headlamp bulb (main/dip).	6v. 25/25w. Twin filament. Bayonet fitting.
Headlamp bulb (pilot).	12v. 10w. Festoon bulb.
Rearlamp bulb.	6v. 5w. Festoon bulb.

Horn:-

Type.	Electric.
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Ignition:-

Sparking plug.	Marelli CW240A. Champion L86. K. L. G. F80. Lodge 2 HN.
Sparking plug gap.	.020".
Contact breaker points gap.	.017" - .019".
Advance.	30° Before T.D.C.

Wheels and Tyres.

Wheels.	Interchangeable, with split rims.
Tyre size.	3.50" x 8".
Tyre pressures.	Solo:-Front 19 p.s.i. Rear 22 p.s.i. Pillion:-Front 19 p.s.i. Rear 33 p.s.i.

Brakes.

Type.	Internal expansion.
Drum diameter.	125 m.m.
Lining width.	25 m.m.
Front brake control.	Right-hand handlebar lever.
Rear brake control.	Foot pedal.

Weight and Dimensions.

Weight empty.	172 lbs.
Wheelbase.	43 $\frac{3}{4}$ "
Max. length.	65"
Max. width.	23 $\frac{1}{4}$ "
Max. height.	39 $\frac{3}{4}$ "

Frame.

Welded construction with main member of large diameter heavy gauge tubing of extreme rigidity.

Body.

Constructed of all-steel pressings in five removable sections. Footboards and central panel quickly detachable for inspection of power unit.

Front Suspension.

Trailing link front forks with self-damping rubber suspension units.

Rear Suspension.

Precision pivoted rear fork member with self-damping rubber suspension units.

LUBRICATION.

(See also Periodic Maintenance Table, page 6, for frequency of attention).

Engine.

1. Any grade of petrol mixed with Castrol 2-stroke self-mixing oil or other approved 2-stroke self-mixing oil in ratio of:-  
16 : 1 (12 : 1 for running in). ++
2. Any grade of petrol mixed with an approved special 2-stroke oil (S.A.E. 30 viscosity) in ratio of:-  
20 : 1 (16 : 1 for running in).
3. If 2-stroke fuel is obtained ready mixed from one of the special dispensers, ask for a ratio of:-  
20 : 1 (16 : 1 for running in).

++NOTE. - self-mixing oils are slightly diluted by the special mixing agent used and this accounts for the somewhat greater proportion called for.

Gearbox.

Use Castrol ST.90 oil or an approved equivalent S.A.E. 90 gearbox oil.

The capacity of the gearbox and interconnected clutch housing is a little over 1/2 pint. Screw the dipstick fully home to check the oil level.

The level should be within the mark on the dipstick.

Grease for Bearings, Grease Nipples etc..

Use Castrol L.M. or an approved equivalent medium grease to lubricate the steering head and hubs etc., and in a grease gun to lubricate the grease nipples.

### RUNNING IN.

When you take delivery of your 'Roma' Scooter it will have covered only a nominal test mileage. Like all new machinery it will be stiff after initial assembly and it is most important that the process of 'freeing-off' and 'bedding-in' the working parts is carried out carefully and conscientiously.

We recommend that during the first 600 miles the following rules should be observed.

1. Never overspeed the engine and do not exceed 12 M.P.H. in 1st gear  
21 M.P.H. in 2nd gear  
30 M.P.H. in top gear
2. Avoid the use of full throttle whilst accelerating or under any other conditions.
3. Do not let the engine 'slog' on hills in too high a gear. Change down early and climb the hill gently.
4. Try to avoid long stretches of uphill gradients.
5. It is beneficial to let the engine have a little more lubrication during this initial period. See section on 'Lubrication', page 4, for details.
6. After the first 300 miles check over the machine as detailed in the 'Periodic Maintenance' table on the next page.

The ultimate life of the engine, transmission and all the working parts on the machine depends on the care you exercise during the Running-in period.

PERIODIC MAINTENANCE.

After the first 300 miles. (Half way through the 600 mile running-in period).

Check all nuts and bolts for tightness.  
Check the security of all components.  
Check the free movement in the gearchange, clutch and throttle control cables.  
Re-tighten the cylinder head nuts (with engine COLD).  
Check the chain tension and adjust if necessary.  
Drain and refill the gearbox. (Immediately after a run with the oil warm).  
Check contact breaker points gap and adjust if necessary (.017" - .019").  
Clean sparking plug and set gap (.020").  
Check tyre pressures.

At About Every 300 Miles.

Clean sparking plug and set gap (.020").  
Check tyre pressures (more frequently if necessary).

After Every 1,250 Miles.

Remove carburettor air cleaner and wash in petrol.  
Check contact breaker points gap and adjust if necessary (.017"-.019").  
+++Clean sparking plug and set gap (.020").  
Lubricate contact breaker cam felt sparingly with a little grease.  
Apply grease gun to front fork-link bushes (2 nipples) and rear fork pivot bushes (2 nipples).  
Apply grease gun to nipple on speedo drive gearbox. (ONE shot only).  
Lubricate with a few drops of oil (Castrolite), the brake control cables, all the working joints and the exposed inner portions of all the control cables.  
Check the chain tension and adjust if necessary. Clean the chain with a non-fluffy rag and lubricate it with a thick oil (Castrol 'Grand-Prix' S.A.E. 50).

After every 2,500 Miles.

Carry out 1,250 mile service.  
+++Check gearbox oil level. Top up if necessary.  
Decarbonise cylinder head and combustion chamber. Thoroughly clean exhaust port, exhaust pipe interior and remove and clean silencer baffle tube.  
Dismantle and clean the carburettor (avoid disturbing the settings of the adjustment screws in the process).

After Every 5,000 Miles.

Carry out 1,250 and 2,500 mile services with exception of items Marked thus+++  
Fit new sparking plug of recommended type.  
Drain and refill the gearbox.  
Dismantle and clean the steering head bearings. Re-assemble using recommended grease.  
Dismantle the wheel hubs (without removing the wheel bearings from the hubs) and thoroughly clean. Re-assemble using recommended grease.  
Clean and grease sparingly the brake operating cams and spindles.

OPERATING AND MAINTENANCE.

Wheel and Tyre Removal.

IMPORTANT NOTE. The nuts on the RED studs which secure the two wheel halves together should not be touched until the tyre has been fully deflated by removing the Schrader valve.

Front Wheel Removal.

Place the Scooter on its central stand and undo the front wheel spindle locknut on the nearside (22 m.m. spanner). Withdraw the spindle from the offside. The complete wheel and front hub can now be removed clear of the forks when the brake assembly and speedometer drive may be lifted from the hub and left attached to their cables.

Undo the 4 nuts from the plain studs (14 m.m. spanner) securing the wheel to the hub and the wheel may then be removed from the hub. To re-assemble, reverse the above sequence.

Rear Wheel Removal.

Place the Scooter on its central stand and put the rear prop stand into position immediately under the point of attachment of the suspension unit to the offside arm of the rear fork to keep the rear wheel clear of the ground. Undo the rear wheel spindle locknut on the offside (27 m.m. spanner) and unscrew and withdraw the spindle.

DO NOT ALTER THE SETTINGS OF THE CHAIN ADJUSTERS.

Slide out the spacer between the forks and the brake plate and lift out the brake assembly attached to its cable. Lift the wheel and hub to the offside and withdraw from the forks.

Undo the 4 nuts from the plain studs (14 m.m. spanner) securing the wheel to the hub and the wheel may then be removed from the hub.

To re-assemble, reverse the above sequence taking care when replacing the hub to engage correctly the transmission shock-absorbing rubber drive. DO NOT USE FORCE.

Tyre Removal.

Fully deflate the tyre by removing the valve.

Remove the 4 nuts (14 m.m. spanner) and spring washers from the RED studs securing the two wheel halves. Separate the two halves and remove tyre and tube.

Note on re-assembly that both wheels must be replaced with the valves located on the OFFSIDE of the machine. That is to say the front wheel with its valve on the side opposite to the brake lever, and the rear wheel with its valve on the same side as the brake lever.

### Adjustment of Contact Breaker Points.

The points are accessible through a gap in the flywheel after the cover on the nearside of the engine has been removed.

To adjust the contacts, rotate the flywheel until the moving contact is fully opened by the cam.

Loosen the locking screw of the fixed contact and adjust as necessary by turning the eccentric adjustment with a small screwdriver. Check the gap, (.017" - .019"), after retightening the locking screw.

Also, clean the contacts using a non-fluffy rag and some pure petrol or methylated spirits.

### Starting from Cold.

In cold weather, after the engine has been standing for any period long enough for it to cool off completely, it will be necessary to use the cold start control. This is operated by pushing down the rod protruding from the top of the carburettor. Access to this rod is gained through an aperture in the nearside footboard panel. This rod operates a strangler-type of enrichment device in the carburettor and will automatically spring back to the 'off' position when the throttle is opened more than about halfway. The point at which this occurs can be felt by increased resistance to the movement of the throttle twist-grip. Do not open the throttle beyond this point whilst warming up. Warm up by running the engine at a brisk tick-over and do not allow it to race.

Once working temperature has been attained, momentarily turn the twist-grip to fully-open in order to return the strangler to 'off'.

The use of the cold-start control should be kept to a minimum.

### Clutch Adjustment.

To ensure proper engagement of the clutch, it is essential that there is at all times some free movement at the clutch lever on the handlebar. Adjustment is carried out at the lower end of the cable adjacent to the clutch operating arm on the crankcase.

There must also be free movement in this arm which is set initially so that it is parallel with the main frame tube i.e. pointing fore and aft, just as it is about to start disengaging the clutch.

When more than half the available movement on the cable adjuster has been taken up, the operating arm on the crankcase should be restored to its initial setting by means of the adjusting screw on the pushrod through the gearbox. This is accessible through the plug in the primary drive cover.

### Gear Change Control Adjustment.

In cases of stretching or replacement of the cables, adjustment is by means of the two cable adjusters screwed into the cable stops on the top of the gearbox.

Engage NEUTRAL in the gearbox and slacken one adjuster and tighten the other until the appropriate marks on the handlebar and twist-grip line up. Check that the marks are also in correct alignment when each of the three gears is engaged.

No free movement should be present in the cables.

### Gearbox Oil Level.

Gearbox oil consumption should be virtually negligible. If the level drops rapidly, this may be due to a badly made joint which will be evidenced by external oil leaks. If no external oil leaks are apparent, the trouble may be due to wear on the crank-shaft oil seal, which would probably produce excessive exhaust smoke. In either case, consult your Raleigh Dealer.

### Headlamp Beam Adjustment.

This is adjusted by loosening the locking nut underneath the head-lamp cowling and tilting the light unit. With the scooter normally loaded, the top edge of the dipped beam must not exceed a height of 34" above road level, when projected on a vertical surface 16 $\frac{1}{2}$  feet in front of the headlamp.

### Chain Adjustment.

Chain adjustment should be carried out with the chain at its tightest spot, with no rider on the machine, and the wheels resting normally on the ground. When correctly adjusted, an up-and-down movement of approximately  $\frac{3}{4}$ " should be possible at the centre of the run. Before finally tightening the wheel spindle, check for correct alignment of the rear wheel.

### Brake Adjustment.

The brakes are correctly adjusted when there is a minimum amount of free movement at the brake-operating levers, without any rubbing or binding of the linings on the drums. When all the adjustment has been taken up, it indicates that the brake linings are at the end of their useful life.

### Decarbonising.

An engine working on the two-stroke cycle cannot function properly unless the exhaust gases have a clear and unobstructed passage to the atmosphere when they are expelled from the cylinder.

Any kind of blockage at any point in the exhaust system will not only cause a deterioration in performance but also the fact that the hot gases cannot escape freely will produce engine overheating and the accumulation within the crankcase of corrosive by-products of combustion which will seriously reduce the life of the working parts.

We have suggested as a guide that Decarbonisation should be undertaken at 2,500 miles, but the precise figure will depend upon conditions of use. Much local stop-and-start riding will cause heavier carbon deposits.

Points to note when Decarbonising:-

1. Remove all carbon deposits from the cylinder head, piston crown and the ports in the cylinder barrel.
2. Make sure that the exhaust pipe is perfectly clean, particularly at the bends.
3. Clean the inside of the silencer thoroughly having first removed the spring clip and pulled out the internal baffle tube with the aid of a tommy bar through the holes provided in the tail pipe.
4. Ensure that the piston rings are free in their grooves and that there is no build up of carbon in the grooves or at the back of the rings.
5. Re-assemble the engine using new gaskets and joints.
6. Tighten down the cylinder head evenly, tightening each nut a little at a time. Work in the sequence - top nut - bottom nut diagonally opposite - other top nut - other bottom nut and so on.

SOME IMPORTANT POINTS TO NOTE.

Before taking your new machine on the road check the tyre pressures and if necessary adjust to the recommended figures.

Operate the gear-change twist-grip firmly and positively and only when the clutch is disengaged and the engine is running.

Only use the kick-starter when neutral is selected. Give the pedal a firm swinging push. Let it return gently, following your foot, and not spring back violently on to its stop.

Use only good quality lubricants of the approved brands. Never depart from our recommendations about the grades, quantities or proportions to be used.

Open the throttle occasionally when descending a long hill to ensure that the engine is adequately lubricated. The oil supply is carried into the engine along with the fuel and with the throttle completely closed very little fuel, and consequently very little oil is being drawn in.

When hill climbing it is preferable to change down early before the engine speed and hence the power, falls off too far.

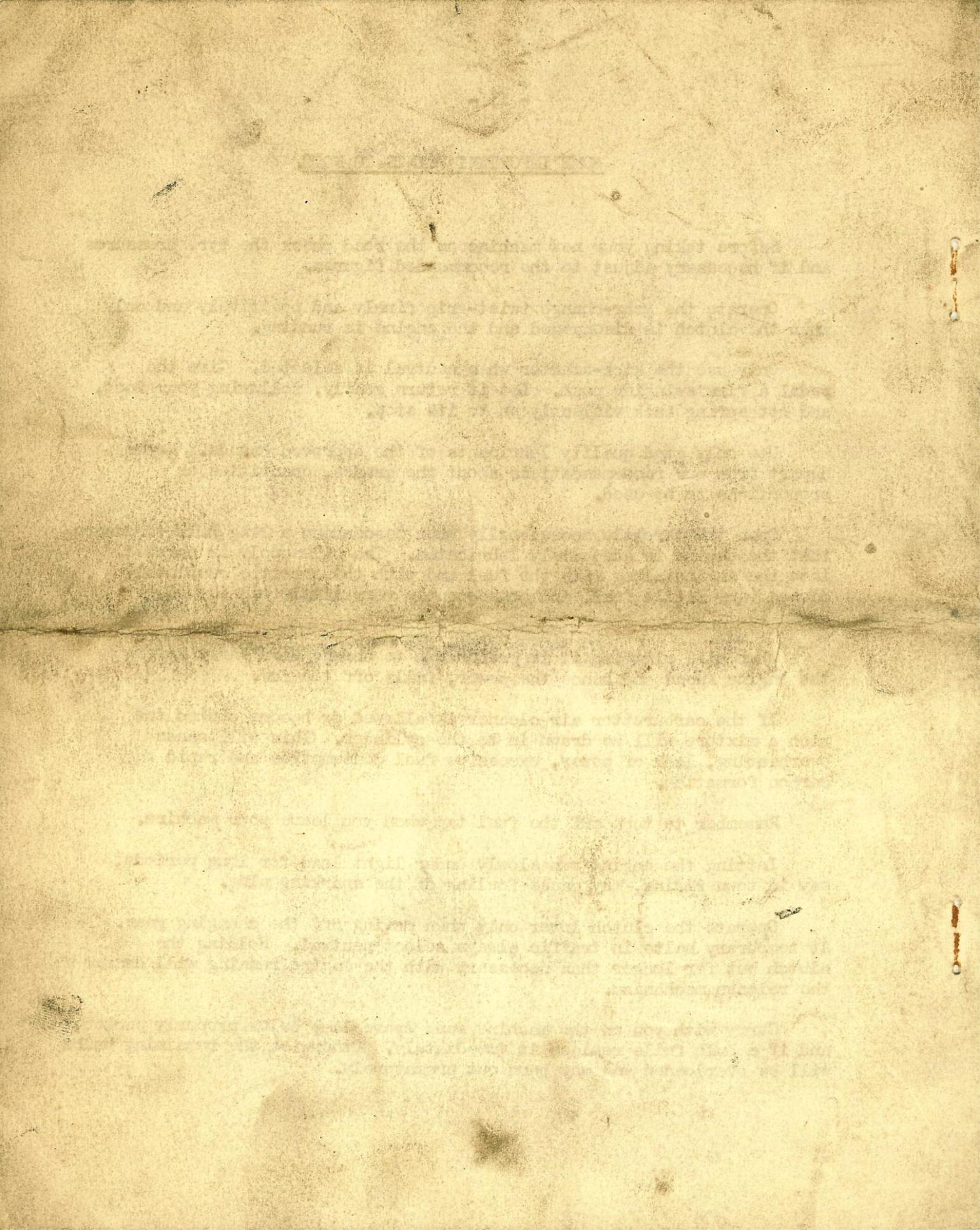
If the carburettor air cleaner is allowed to become choked too rich a mixture will be drawn in to the cylinder. This will cause overheating, lack of power, excessive fuel consumption and rapid carbon formation.

Remember to turn off the fuel tap when you leave your machine.

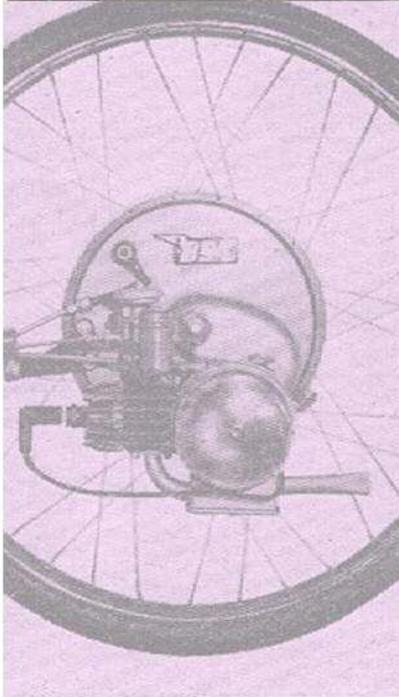
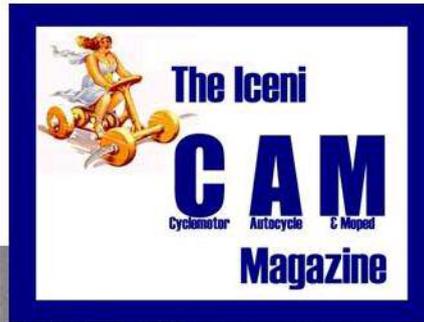
Letting the engine run slowly under light load for long periods, say in town riding, may cause fouling of the sparking plug.

Operate the clutch lever only when moving off the changing gear. At temporary halts in traffic always select neutral. Holding the clutch out for longer than necessary with the engine running will damage the release mechanism.

Carry with you on the machine some spare lamp bulbs properly packed, and if a bulb fails replace it immediately. Otherwise the remaining bulbs will be overloaded and may burn out prematurely.



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