SERVICE

RALEIGH MOPED

MEMORANDA

With the compliments of -

Raleigh Industries Limited, Nottingham.

Motor Division Service Department.

SERVICE MEMORANDUM FOLDER.

When the Service Memorandum Folder was revised and brought up to date earlier this year it was intended to publish it on a limited scale only.

In response to many requests however, we have decided to give it a wider circulation, and we trust that you will find the information contained therein to be of value.

With the announcement of our new Models, we do not intend to lose sight of the interests of the many owners of our Mark 1 and Mark 2 Mopeds. You may be assured that every possible assistance and support will continue to be available in respect of Service and Spares.

Raleigh Industries Limited, Nottingham. 13th September, 1961.

Motor Division Service Department

MOPED SERVICE MEMORANDUM SERIES 2. NUMBER 1.

Confidential.

DRIVE SLIP. (RM.4 'AUTOMATIC' AND RM.5 'SUPERMATIC').

All cases of drive slip can be traced to two sources, i.e.

1. Belt slip
2. Clutch slip

As it is by far the most common cause of drive slip, the belt should be checked for wear, freedom from grease & correct tension (RM.4 only). A slipping belt will be most apparent when hill climbing, or on full throttle above 15 m.p.h. and will be aggravated by extremely wet road conditions.

If attention to the drive belt fails to effect a cure, the clutch linings may have become contaminated by grease, usually through over-zealous lubrication. The clutch drum must be removed to enable the friction linings to be washed in petrol or a similar solvent. Clutch linings which are worn or completely saturated with grease should be renewed. The main effect of overgreasing the clutch is excessive slip when moving away from rest.

NOTE:

The symptoms of slipping timing are frequently mistaken for clutch or belt slip. In this case although the engine may be able to turn the rear wheel with the Moped on its stand, it will not develop sufficient power to move the machine away from rest with the rider aboard. Correcting the timing will restore the engine's power output and remedy the fault.

Timing settings.

7/64" before top dead centre on the

RM.4 'Automatic'	Moped
NM.1 'Nippy'	Moped
PM.1 'Panda 3'	Moped

1/16" before top dead centre on the

RM.5 'Supermatic'	Moped
NM.1 'Lido 3'	Moped
PM.1 'Gadabout 4'	Moped

BELT TENSIONING SPRING (RM.5 'SUPERMATIC').

If occasion arises to remove the belt tensioning spring, it should be ascertained, when refitting, that the spring does not foul the magneto flywheel when the engine is in the high gear position, i.e. in its rearmost position. Sufficient clearance exists in the spring ends to allow it to be moved to a position where fouling does not occur.

Raleigh Industries Limited, Nottingham.

Motor Division Service Department.

September, 1961.
(re-issued July, 1965)
(re-issued July, 1967)

MOPED SERVICE MEMORANDUM SERIES 2. NUMBER 1.

Confidential.

DRIVE SLIP AND LACK OF POWER

Most cases of drive slip and lack of power can be traced to four sources, i.e.

1. Belt slip.
2. Clutch slip.
3. Timing.
4. Exhaust and silencer choked due to carbon deposits.

1. As it is by far the most common cause of drive slip, the belt on single speed machines should be checked for wear, freedom from grease and correct tension. A slipping belt will be most apparent when hill climbing, or on full throttle above 15.m.p.h. and will be aggravated by wet road conditions.

2. The clutch linings can become contaminated by grease, usually through over-zealous lubrication. The clutch drum must be removed to enable the friction linings to be washed in petrol or a similar solvent. Clutch linings which are worn or completely saturated with grease should be renewed. The main effect of overgreasing the clutch is excessive slip when moving away from rest.

3. The symptoms of slipped timing are frequently mistaken for clutch or belt slip. In this case although the engine may be able to turn the rear wheel with the Moped on its stand, it will not develop sufficient power to move the machine away from rest with the rider aboard. Correcting the timing will restore the engine's power output and remedy the fault.

4. Always dismantle the silencer and exhaust assembly for examination when power falls off.

Timing Settings.

2.8 to 3.0mm. - 7/64" - .109" - before top dead centre on the -

RM.4 'Automatic' before Frame No.4R.18102	Moped
NM.1.'Nippy' before Frame No.1N.3667	Moped
PM.1.'Panda 3' before Frame No.1P.4679	Moped
R.M.6. 'Runabout'	Moped.

Cont'd.....

2mm. - 5/64" - .076" -
before top dead centre on the - RM.4.'Automatic' Moped
after Frame No.4R.18102
NM.1.'Nippy' Moped
after Frame No.1N.3667
PM.1.'Panda3' Moped
after Frame No.1P.4679
RM.8 'Automatic Mark 11' Moped
RM.9 'Ultramatic' Moped
Wisp

1.5mm. - 1/16" - .063" -
before top dead centre on the - RM.5 'Supermatic' Moped
NM.2 'Lido 3' Moped
PM.2 'Gadabout 4' Moped
RM.11'Super Tourist' Moped
RM 12'Super 50' Moped

BELT TENSIONING SPRING (VARIABLE GEAR MODELS)

If occasion arises to remove the belt tensioning spring, make sure when refitting, that the spring does not foul the megneto flywheel when the engine is in the high gear position, i.e. in its rearmost position. Sufficient clearance exists in the spring ends to allow it to be moved to a position where fouling does not occur.

Raleigh Industries Limited., Nottingham 21st February, 1962.

Motorised Division Service Dept.,

MOPED SERVICE MEMORANDUM SERIES 2. Number 2.

Confidential

PISTON AND PISTON RING SIZES. (RM4., RM5., PM1., PM2., NM1., NM2.,)

In order to achieve the long life for which these engines are noted, very close tolerances are employed when fitting the piston to the cylinder. It would be impractical to manufacture pistons and cylinders to such fine limits as to make them all interchangeable; therefore, each piston is exactly matched to the correct cylinder at the Factory. If a replacement piston only is required, it will be necessary for the cylinder to be returned to the factory, where it will be measured and fitted with a new piston of the correct size.

There are 20 different sizes of cylinder barrel, the size being indicated by a letter stamped on the top face of the cylinder. The smallest size is signified by the letter 'A' continuing through to letter 'S' for the largest. Each size of barrel has to be matched with a piston of corresponding size as already stated.

Only two sizes of piston rings are supplied as spare parts: 39.0 mm (Part No. 4000308) and 39.1. mm. (Part No. 4000272).
The smaller ring (39.0 mm.) should be fitted to all engines marked from 'A' to 'J' and the 39.1 mm. ring should be fitted to engines marked 'K' to 'S'. Piston ring gaps must be set to .004" min. to .008" max. when assembling the engine.

PISTON FITTING. (RM4., RM5., PM1., PM2., NM1., NM2.,)

The 'Automatic' type of engine (RM4, NM1, PM1) and the 'Supermatic' type (RM5, NM2, PM2) although of different power outputs, both utilise the same piston. A small cutaway is incorporated in the skirt of this piston in order to provide correct induction port timing in the case of the 'Automatic' type engine. The piston should, therefore, be fitted to the 'Automatic' engine with the cutaway facing to the rear of the cylinder

The timing of the induction port in the 'Supermatic' type of engine occurs later than that of the 'Automatic' type, and the cutaway is not used. The piston should accordingly be fitted to the 'Supermatic' engine with the cutaway to the front.

REAR CHAIN ADJUSTMENT. (RM4., PM1., NM1.,)

Instances have occurred of the bottom bracket pulley being damaged by coming into contact with the drive chain. It is pointed out that this type of damage can only be caused through negligent maintenance, i.e., running the machine with the drive chain too slack. A guide plate is welded to the frame to prevent the chain catching on the pulley, but this will not be effective if the chain is excessively slack, or if the guide plate is sprained or misplaced in any way. Normally there should be about 1/8" clearance between the chain and the guide plate.

MOPED TOOL KIT. (RM4., PM1., NM1.,)

The ring spanner, Part No. 4000076, which is provided in the tool kit for use in conjunction with the sparking plug spanner has been modified at the small end to 16. mm. across flats. This modification will allow the apanner to be used on the wheel spindle nuts.

SPROCKET SEIZURE. (RM4., RM5., PM1., PM2., NM1., NM2.,)

There have been instances of seizure between the bottom bracket pulley and chain sprocket due to the ingress of water, dirt, etc., This seizure prevents movement of the sprocket relative to the pulley and as a result of this the drive cannot be disengaged.

If seizure should occur, the sprocket should be freed from the pulley and the hub and the interior of the sprocket cleaned and polished with fine emery cloth. The hub should then be liberally smeared with thickmolybdenum-disulphide grease before the sprocket is fitted and a coating of grease applied to the gap between the sprocket and hub after fitting the sprocket.

The assembly should be greased in the above manner during an overhaul of the parts whether seized or not.

MODIFICATIONS TO FRONT SUSPENSION RUBBERS. (RM5., PM2., NM2.,)

On early production models there were a few instances of the front suspension rubbers becoming displaced and chafing on the front tyre. As a temporary measure, retaining springs were fitted to obviate this trouble. Later models are fitted with guide plates welded to the lower bracket. The retaining springs, Part No. 4011057, are available from our Spare Parts Department if required to modify an earlier model not fitted with the guide plates. To fit the springs, take out the wheel and remove the nuts from the bolts at the rear of the suspension plates and fit the small loop of the spring over the bolts, so that the straight portion of the spring lies over the suspension rubber. Refit and tighten the nuts and refit the wheel.

REAR SUSPENSION UNITS. (RM5., PM2., NM2..)

It has been decided to supply as a spare part, the spring of the rear suspension unit. The Part No. and description is:- 6200661, Spring, rear suspension unit. The springs are easily accessible after removing the suspension unit simply by unscrewing the lower part of the unit away from the upper.

CONTROL CABLES. (RM4, RM5, PM1, PM2, NM1, NM2..)

Manufacturing economies have permitted a reduction in the prices of certain control cables fitted to the current range of Mopeds. New prices are as follows:-

		£. s. d.
6235054	Throttle cable	3. 0.
6235055	Decompressor cable	4. 6.
6235056	Choke cable	3. 0
6235057	Throttle cable	3. 0.
6235058	Decompressor cable	4. 6.
6235059	Choke cable	3. 0
6200614	Choke inner cable	10.

TORQUE RECOMMENDATIONS FOR TIGHTENING MAGNETO FLYWHEELS. (RM4., RM5., PM1., PM2., NM1., NM2..)

As a results of complaints received about 'slipping timing' on early production models, the torque figure for tightening the flywheel nut has been increased to 36.lbs. ft. It is pointed out that this figure should be be used only when fitting a new cam, to allow for the initial 'stretch' or 'creep' of the cam material. When refitting a used cam, the nut should not be tightened beyond 30.lbs ft.

RE-FUELLING. (RM5., PM2., NM2..)

It is somewhat difficult to mix the petrol and oil together in the actual tank on these machines owing to its elongated shape. Therefore to avoid a residue of unmixed oil at the bottom of the tank which will clog the carburettor we recommend either the use of fuel ready mixed from one of the special dispensers or that the petrol and oil should be mixed together in a separate container before being added to the machine.

RE-FUELLING. (RM5., PM2., NM2.,) Cont'd.

If neither of these is possible and the petrol and oil have to be mixed together in the tank on the Moped, then the following procedure should be adopted.

1). Turn off the fuel tap.

2). Add the desired amount of petrol.

3). Slowly add the appropriate quantity of oil at the same time rocking the machine as much as practical considerations will allow to prevent the oil from settling to the bottom of the tank.

4). When all the oil has been added replace the filler cap and shake the machine vigourously to complete the mixing process.

TYRE PRESSURES. (RM5., PM2., NM2.,)

To obtain satisfactory and trouble-free service from the tyres on the above models, especially when carrying a pillion passenger, it is essential that the recommended tyre pressures are always maintained. The only way to be sure of the pressure in the tyre is by the use of an accurate tyre pressure gauge. Kicking or squeezing the tyre is not satisfactory.

The recommended tyre pressures are as follows:-

Solo,	front	22.1bs,	rear	31.1bs	sq. in.
Pillion,	"	23.1bs,	"	56.1bs	" "

Raleigh Industries Limited, Nottingham. December, 1963.
(re-issued January, 1966)

Motorised Division Service Department.

MOPED SERVICE MEMORANDUM SERIES 2. NUMBER 2.

Confidential.

PISTON AND PISTON RING SIZES. (ALL MODELS).

In order to achieve the long life for which these engines are noted, very close tolerances are employed when fitting the piston to the cylinder. It would be impractical to manufacture pistons and cylinders to such fine limits as to make them all interchangeable; therefore, each piston is exactly matched to the correct cylinder at the Factory. If a replacement piston only is required, it will be necessary to quote the letter on the cylinder head face of the cylinder barrel. These run from 'AA' to 'P' giving a range of sixteen sizes. Should the cylinder be unmarked individual matching will be required and it should be returned to our Works. Please pack carefully to avoid damage in transit to the cylinder fins.

Only two sizes of piston rings are supplied as spare parts: 39.0mm. (Part No. MTA 123) and 39.1 mm. (Part No. MTA 124).

The smaller ring (39.0 mm.) should be fitted to all engines marked from 'A' to 'J' and the 39.1 mm. ring should be fitted to engines marked 'K' to 'P'. Pistong ring gaps must be set to .004" min. to.008"max. when assembling the engine.

PISTON FITTING.

A small cutaway is incorporated in the skirt of the piston in order to provide correct induction port timing in the case of the 'Automatic' type engine. The piston should, therefore, be fitted to the 'Automatic' engine with the cutaway facing to the rear of the cylinder.

The timing of the induction port in the RM.5, RM.11 and RM.12 type of engine occurs later than that of the 'Automatic' type, and the cutaway is not used. The piston should accordingly be fitted to the engine with the cutaway to the front.

REAR CHAIN ADJUSTMENT. (ALL MODELS)

Instances have occurred of the bottom bracket pulley being damaged by coming into contact with the drive chain. It is pointed out that this type of damage can only be caused through negligent maintenance, i.e., running the machine with the drive chain too slack. A guide plate is welded to the frame to prevent the chain catching on the pulley, but this will not be effective if the chain is excessively slack, or if the guide plate is sprained or misplaced in any way. Normally there should be about $\frac{1}{8}$" clearance between the chain and the guide plate.

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SPROCKET SEIZURE. (ALL MODELS).

There have been instances of seizure between the bottom bracket pulley and chain sprocket due to the ingress of water, dirt, etc. This seizure prevents movement of the sprocket relative to the pulley and as a result of this the drive cannot be disengaged.

If seizure should occur, the sprocket should be freed from the pulley and the hub and the interior of the sprocket cleaned and polished with fine emery cloth. The hub should then be liberally smeared with thick molybdenum - disulphide grease before the sprocket is fitted and a coating of grease applied to the gap between the sprocket and hub after fitting the sprocket.

The assembly should be greased in the above manner during an overhaul of the parts whether seized or not.

TORQUE RECOMMENDATIONS FOR TIGHTENING MAGNETO FLYWHEELS. (ALL MODELS).

As a result of complaints received about 'slipping timing' on early production models, the torque figure for tightening the flywheel nut has been increased to 36 lbs.ft. It is pointed out that this figure should be used only when fitting a new cam, to allow for the initial 'stretch' or 'creep' of the cam material. When refitting a used cam, the nut should not be tightened beyond 30 lbs.ft.

RE-FUELLING. (RM.5.).

It is somewhat difficult to mix the petrol and oil together in the actual tank on these machines owing to its elongated shape. Therefore, to avoid a residue of unmixed oil at the bottom of the tank which will clog the carburettor, we recommend that the petrol and oil should be mixed together in a separate container before being added to the machine.

If this is not possible and the petrol and oil have to be mixed together in the tank on the Moped, then the following procedure should be adopted:-

1. Turn off the fuel tap.
2. Add the desired amount of petrol.
3. Slowly add the appropriate quantity of oil at the same time rocking the machine as much as practical considerations will allow to prevent the oil from settling to the bottom of the tank.
4. When all the oil has been added replace the filler cap and shake the machine vigorously to complete the mixing process.

Raleigh Industries Limited 16th March, 1962.

Motorised Division Service Department

MOPED SERVICE MEMORANDUM SERIES 2 NUMBER 3

Confidential

EXCHANGE REPLACEMENT SERVICE (RM4, RM5, PM1, PM2, NM1, NM2)

This service enables the exchange replacement units listed to be readily available to the owners of our machines.

Thus off-the-road time can be cut to a minimum and the owner also has the benefit of a unit overhauled to the most rigorous standards and guaranteed by the Factory.

The attention of all concerned is drawn to the following points:-

1. The fullest details should be quoted of the model and type of machine for which the replacement unit is required.

2. This service is essentially an exchange service and only provides for the supply of a standard replacement unit in exchange for the original. It does not provide for the overhaul and return of individual units.

3. We cannot undertake to return to the previous owner any component part of a displaced unit and no allowance can be made in respect of any new material which may have been fitted to the unit prior to exchange.

4. All replacement units are built to standard specifications and an extra charge will be made at the current retail price in respect of any component deficient from the displaced unit.

5. We reserve the right to make an extra charge, based on the current retail price, in respect of any major component of the displaced unit found to be damaged or broken due to accident or to be beyond repair.

6. Only units built within the limits of the standard specifications can be supplied and orders stipulating any particular or special specification cannot be accepted through the medium of this service.

7. It is helpful to remind owners of their statutory obligation to notify their local licencing authority of any change in frame or engine number which may be involved.

EXCHANGE PRICES

		RM4, PM1, NM1 £ s. d.	RM5, PM2, NM2 £ s. d.
Engine unit, less magneto, clutch, carburettor, exhaust system and sparking plug.	Price	15 17 3	16 2 5
	Part No.	6200662	6200664
Engine unit, complete with magneto, clutch and carburettor, but less sparking plug and exhaust system.	Price	33 3 3	34 17 3
	Part No.	6200663	6200665
Carburettor, complete with air cleaner, but less control cables.	Price	2 11 3	3 1 2
	Part No.	6200666	6200667
Crankshaft, complete with small end bearing and gudgeon pin.	Price	4 3 6	4 3 6
	Part No.	6200668	6200669
Stator plate, complete with coils, contact breaker and condenser, but less external ignition coil.	Price	3 11 2	3 11 2
	Part No.	6200670	6200670
Clutch, complete.	Price	6 5 7	7 5 1
	Part No.	6200671	6200672
Clutch drum.	Price	1 19 6	1 19 6
	Part No.	6200673	6200674
Clutch shoes, relined.	Price	12 8 pr.	12 8 pr.
	Part No.	6200675	6200675
Brake shoes, relined, front wheel.	Price	12 0 pr.	13 6 pr.
	Part No.	6200676	6200677
Brake shoes, relined, rear wheel.	Price	13 6 pr.	13 6 pr.
	Part No.	6200677	6200677
¥ Fuel tank.	Price	2 5 4	- - -
	Part No.	6200678	
¥ Frame, bare.	Price	10 7 6	12 10 0
	Part No.	6200679	6200680

¥ Please state colour required.

Raleigh Industries Limited

12th December, 1963.
(Re-issued May, 1965)

Motorised Division Service Department

MOPED SERVICE MEMORANDUM SERIES 2. NUMBER.3.

Confidential.

EXCHANGE REPLACEMENT SERVICE (RM4, RM5, RM6, RM8, RM9, RM12, PM1, PM2, NM1, NM2.)

This service enables the exchange replacement units listed to be readily available to the owners of our machines.

Thus off-the-road time can be cut to a minimum and the owner also has the benefit of a unit overhauled to the most rigorous standards and guaranteed by the Factory.

The attention of all concerned is drawn to the following points:-

1. The fullest details should be quoted of the model and type of machine for which the replacement unit is required.

2. This service is essentially an exchange service and only provides for the supply of a standard replacement unit in exchange for the original. It does not provide for the overhaul and return of individual units, nor for the supply of advance replacements.

3. We cannot undertake to return to the previous owner any component part of a displaced unit and no allowance can be made in respect of any new material which may have been fitted to the unit prior to exchange.

4. All replacement units are built to standard specifications and an extra charge will be made at the current retail price in respect of any component deficient from the displaced unit.

5. We reserve the right to make an extra charge, based on the current retail price, in respect of any major component of the displaced unit found to be damaged or broken due to accident or to be beyond repair.

6. Only units built within the limits of the standard specifications can be supplied and orders stipulating any particular or special specification cannot be accepted through the medium of this service.

7. It is helpful to remind owners of their statutory obligation to notify their local licencing authority of any change in frame or engine number which may be involved.

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	RM4, PM1, NM1, "Automatic"	RM5, PM2, NM2, "Supermatic"	RM6. "Runabout
Engine unit, less magneto, clutch carburettor, exhaust system and sparking plug.	MTX101 £15.17s.3d.	MTX114 £16.2s.5d.	MTX101 £15.17s.3d.
Engine unit, complete with magneto, clutch and carburettor, but less sparking plug and exhaust system.	MTX102 £33.3s.3d	MTX115 £34.17s.3d	MTX102 £33.3s.3d.
Carburettor complete with air cleaner, but less control cables.	MTX103 £2.11s.3d	MTX116 £3.1s.2d.	MTX103 £2.11s.3d.
Crankshaft, complete with small end bearing and gudgeon pin.	MTX104 £4.3s.6d.	MTX117 £4.3s.6d	MTX104 £4.3s.6d.
Stator plate, complete with coils, contact breaker and condenser, but less external ignition coil. PLEASE NOTE:- MTX105 - Without rim on backplate. MTX142 - With rim on backplate. MTX167 - With rim and violet L.T.coil.	MTX105 MTX142 MTX167 £3.11s.2d.	MTX105 MTX142 MTX167 £3.11s.2d.	MTX105 MTX142 MTX167 £3.11s.2d.
Clutch complete.	MTX106 £6.5s.7d	MTX118 £7.5s.1d.	MTX106 £6.5s.7d.
Clutch shoes, relined.	MTX108 12s.8d.pr.	MTX108 12s.8d.pr.	MTX108 12s.8d.pr.
Brake shoes, relined, front wheel.	MTX109 10s.0d.pr.	MTX110 10s.0d.pr.	
Brake shoes, relined, rear wheel.	MTX110 10s.0d.pr.	MTX110 10s.0d.pr.	MTX132 10s.0d.pr.
Frame, bare.	RM4 - MTX113 PM1 - MTX145 NM1 - MTX146 £10.7s.6d.	RM5 - MTX120 (Charcoal) MTX166 (Imp.Red) MTX171 (Telescopic Fork) PM2 - MTX147 NM2 - MTX120 £12.10s.0d.	MTX130 £10.7s.6d.

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	RM8. "Automatic 2"	RM9. "Ultramatic"	RM12. "Super 50"
Engine unit, less magneto, clutch carburettor, exhaust system and sparking plug.	MTX134 £15.17s.3d.	MTX134 £15.17s.3d.	MTX114 £16.2s.5d.
Engine unit, complete with magneto, clutch and carburettor, but less sparking plug and exhaust system.	MTX135 £33.3s.3d.	MTX148 £34.17s.3d.	MTX115 £34.17s.3d.
Carburettor complete with air cleaner, but less control cables.	MTX103 £2.11s.3d.	MTX149 £2.11s.3d. MTX168 (Later Large Type) £2.17s.0d.	MTX116 £3.1s.2d.
Crankshaft, complete with small end bearing and gudgeon pin.	MTX117 £4.3s.6d.	MTX117 £4.3s.6d.	MTX117 £4.3s.6d.
Stator plate, complete with coils, contact breaker and condenser, but less external ignition coil.	MTX142 £3.11s.2d. MTX167 £3.11s.2d.	MTX142 £3.11s.2d. MTX167 £3.11s.2d.	MTX167 £3.11s.2d.
Clutch complete.	MTX106 £6.5s.7d.	MTX150 £7.5s.0d.	MTX118 £7.5s.1d.
Clutch shoes, relined.	MTX108 12s.8d.pr.	MTX108 12s.8d.pr.	MTX108 12s.8d.pr.
Brake shoes, relined, front wheel.	MTX133 10s.0d.pr.	MTX133 10s.0d.pr.	MTX110 10s.0d.pr.
Brake shoes, relined, rear wheel.	MTX110 10s.0d.pr.	MTX110 10s.0d.pr.	MTX110 10s.0d.pr.
Frame, bare.	MTX131 £10.7s.6d.	MTX151 £10.7s.6d.	MTX169 £10.7s.6d.

Raleigh Industries Limited — Re-issued March 1966

Motorised Division Service Department

MOPED SERVICE MEMORANDUM SERIES 2. — NUMBER 3

EXCHANGE REPLACEMENT SERVICE

The following parts are available through Key Dealers on an exchange basis. Please bear in mind that the original component must be suitable for re-conditioning or a surcharge will be made.

CONDITIONS OF SERVICE EXCHANGE (POWER UNITS)

The prices of our service exchange power units are conditional upon our being able to reclaim certain parts of each unit. If these parts are damaged or deformed on the worn unit a surcharge will be imposed based on the current retail price of the defective component.

Parts to which this surcharge will apply are as follows:-

Cylinder heads with broken fins, damaged threads in the sparking plug aperture, damage to the joint face or combustion chamber.

Crankcases with threaded holes stripped, broken lugs etc.

Crankshafts which are bent, have 'mushroomed' ends, or thread damage.

Chromium plated parts which have deep score marks or are seriously corroded. Minor scratches and corrosion are acceptable.

Damage to the piston and cylinder may be disregarded since these components are automatically replaced.

Distorted or broken mounting brackets - Enlarged or elongated bolt holes generally, deformed or damaged keyways and any damage which cannot be attributed to fair wear and tear.

SERVICE EXCHANGE PRICES

Model	Part No.	Description	Price
			£. s. d.
RM.4/6	MTX 101	Basic engine, 1.39 B .H.P.	13. 2. 6.
RM.6/8/9	MTX 134	Basic engine, 1.7 B.H.P.	13. 2. 6.
RM.5/11/12	MTX 114	Basic engine, 2.66 B.H.P.	14. 1. 6.
RM.4/6	MTX 178	Engine complete (with magneto and clutch but less carburettor) 1.39 B.H.P.	20.17. 9.
RM.6/8	MTX 179	Engine complete (with magneto and clutch, but less carburettor) 1.7 B.H.P.	20.17. 9.
RM.9	MTX 180	Engine complete (with magneto, clutch and variable gear, but less carburettor)	21.18. 6.
RM.5/11/12	MTX 181	Engine complete (with magneto, clutch and variable gear, but less carburettor)	22.11.10.
RM.4/6	MTX 104	Crankshaft c/w connecting rod, small end bearing and gudgeon pin	4. 3. 6.
RM.5/6/8/ 9/11/12	MTX 117	Crankshaft c/w connecting rod, small end bearing and gudgeon pin	4. 3. 6.
RM.4/6/8	MTX 106	Clutch	5.10. 6.
RM.9	MTX 150	Clutch and variable gear unit	5.18. 6.
RM.5/11/12	MTX 118	Clutch and variable gear unit	5.18. 6.
RM.4/6/8	MTX 175	+ Clutch drum c/w lined springs	1.13. 6.
RM.5/9/11/12	MTX 176	+ Clutch drum c/w lined springs	1.13. 6.
All Models	MTX 108	Clutch shoes, re-lined	12. 8. pr.
		+ Clutch drums which are not suitable for this scheme can be fitted with new leaf springs at our Works	1. 3. 0.
RM.9	MTX 182	Basic engine (1.7 B.H.P.)	13. 2. 6.

Magneto stator plate c/w coils, contact breaker and condenser, but less external ignition coil.

All models	MTX 105	Without rim on backplate	£2. 12. 6d.
" "	MTX 142	With rim on backplate, blue, L.T. coil	2. 12. 6d
" "	MTX 167	With rim and violet L.T. coil	2. 12. 6
RM4/6/8/9	MTX 171	Carburettor, less air cleaner and control cables (B.A. series)	2. 11. 3.
RM5	MTX 173	Carburettor, less air cleaner and control cables (Early Model)	3. 10. 6d.
RM5/11/12	MTX 174	Carburettor, less air cleaner and control cables	3. 10. 6.

Magneto flywheels are not acceptable for service exchange except when returned as part of a complete engine. In this case, if returned with broken or loose magnets, a surcharge will be made.

EXCHANGE BRAKE SHOES, FRONT WHEEL. All types - 10. 0d. pair.

RM4/11/12.	MTX 109
RM5 Swinging Arm Front Fork	MTX 110
RM5 Telescopic Front Fork	MTX 109
RM8/9.	MTX 133

EXCHANGE BRAKE SHOES, REAR WHEEL. All types - 10. 0d. pair

RM6	MTX 133
RM4/5/8/9/11/12	MTX 110

EXCHANGE FRAMES (BARE)

RM4	MTX 113		£10. 7. 6d.
PM1	MTX 145		10. 7. 6.
NM1	MTX 146		10. 7. 6.
RM6	MTX 130		10. 7. 6.
RM8	MTX 131		10. 7. 6.
RM9	MTX 151		10. 7. 6.
RM11/12	MTX 169		10. 7. 6.
PM2	MTX 147		12. 10. 0.
NM2	MTX 120		12. 10. 0.
RM5	MTX 120	Charcoal with swinging arm front suspension	12 10. 0.
RM5	MTX 166	Imperial Red with swinging arm front suspension	12. 10. 0.
RM5	MTX 170	For telescopic fork model	12. 10. 0.

Raleigh Industries Limited, Nottingham. June. 1968.

Motorised Division Service Department.

MOPED SERVICE MEMORANDUM SERIES 2.

Confidential.

SERVICE MEMORANDA NO'S 3, 4, 8, 13 AND 14 HAVE BEEN WITHDRAWN.

Raleigh Industries Limited 23rd March, 1962.

Motorised Division Service Department

MOPED SERVICE MEMORANDUM SERIES 2 NUMBER 4

Confidential

FUEL TAP SEAL (RM4, PM1, NM1)

The plastic seal for the Orlandi fuel tap is now available as a spare part, under Part Number 6200659, price 6d retail.

To change the fuel tap seal, first drain the fuel tank. Unscrew the gland nut of the tap (15 mm. spanner) and lift out the old seal, using a penknife or other sharp pointed instrument. Thoroughly clean out the fuel tap. Fit the new seal, making sure that it is correctly located on the three spigots inside the tap. Before refitting the rotor and gland nut assembly, inspect the seating face of the rotor for burrs or other damage and rectify if necessary. Replace and securely tighten the gland nut assembly.

Raleigh Industries Limited, Nottingham. June. 1968.

Motorised Division Service Department.

MOPED SERVICE MEMORANDUM SERIES 2.

Confidential.

SERVICE MEMORANDA NO'S 3, 4, 8, 13 AND 14 HAVE BEEN WITHDRAWN.

Raleigh Industries Limited 2nd May, 1962.

Motorised Division Service Department

MOPED SERVICE MEMORANDUM SERIES 2 NUMBER 5

Confidential

PEDAL CHAIN TENSIONER (RM4, RM5, PM1, PM2, NM1, NM2)

During the pre-delivery check of new mopeds of the above models the pedal chain tensioner should be checked to see that it has not been displaced or otherwise damaged in transit. The bottom run of the pedal chain must lie directly beneath the top run. If the tensioner and hence the pedal chain is materially out of line, any attempt to pedal the machine may result in the pedal chain jamming in the guide piece which surrounds the tensioner wheel. This will cause damage to the tensioner which may even be distorted sufficiently for it to be caught up in the spokes of the rear wheel.

EXTERNAL IGNITION COIL (RM4, PM1, NM1)

The external ignition coil is earthed to the frame of the machine through the medium of the two mounting bolts. When fitting a coil, or investigating a faulty ignition system, always ensure that a good clean contact exists at these points. If necessary, scrape away the enamel from around the mounting holes.

CENTRE STAND (RM4, RM5, PM1, PM2, NM1, NM2)

The centre stand on these mopeds is intended to support the weight of the machine itself and is also perfectly adequate for starting purposes if the method of starting is restricted to that specified in the instruction book.

It is not intended that the machine should be started by the rider sitting in the saddle and then exerting all his weight on the pedals. If the moped is to remain a lightweight machine it is not possible to provide a stand or an anchorage point on to the frame sufficiently strong to withstand treatment of this sort. We must therefore make it clear that almost invariably we consider bending or breakage of the stand or stand mounting bracket to be a case of misuse.

Raleigh Industries Limited, Nottingham.

Motorised Division Service Department.

May, 1962.
(re-issued July, 1965)
(re-issued Sept., 1968)

MOPED SERVICE MEMORANDUM SERIES 2. NUMBER 5.

Confidential.

PEDAL CHAIN TENSIONER (ALL MODELS)

. During the pre-delivery check of new Mopeds the pedal chain tensioner should be checked to see that it has not been displaced or otherwise damaged in transit. The bottom run of the pedal chain must lie directly beneath the top run. If the tensioner and hence the pedal chain is materially out of line, any attempt to pedal the machine may result in the pedal chain jamming in the guide piece which surrounds the tensioner wheel. This will cause damage to the tensioner which may even be distorted sufficiently for it to be caught up in the spokes of the rear wheel.

EXTERNAL IGNITION COIL (ALL MODELS)

The external ignition coil is earthed to the frame of the machine through the medium of the two mounting bolts. When fitting a coil, or investigating a faulty ignition system, always ensure that a good clean contact exists at these points. If necessary, scrape away the enamel from around the mounting holes.

CENTRE STAND (ALL MODELS)

The centre stand on these Mopeds is intended to support the weight of the machine itself and is also perfectly adequate for starting purposes if the method of starting is restricted to that specified in the instruction book.

It is not intended that the machine should be started by the rider sitting in the saddle and then exerting all his weight on the pedals. If the Moped is to remain a lightweight machine it is not possible to provide a stand or an anchorage point on to the frame sufficiently strong to withstand treatment of this sort. We must therefore make it clear that almost invariably we consider bending or breakage of the stand or stand mounting bracket to be a case of misuse.

Raleigh Industries Limited — 24th July, 1962.

Motorised Division Service Department

MOPED SERVICE MEMORANDUM — NUMBER 6

Confidential

CRANKSHAFT THREAD SIZE (RM4, RM5, PM1, PM2, NM1, NM2).

The clutch and magneto retaining threads on Moped crankshafts have been increased in diameter from 10mm. to 11mm. To ensure that the correct parts are supplied when spare parts are ordered, it is essential that the correct part numbers are quoted as set out below.

Model	Description	Part Number	
		for 10mm. threads.	for 11mm. threads.
RM4, RM5, PM1, PM2, NM1, NM2.	Nut, flywheel retaining	6200184	6200690
RM5, PM2, NM2.	Nut, clutch drum	4000170	4000362
RM4, PM1, NM1.	Nut, clutch drum	4000392	4000408
RM5, PM2, NM2.	Clutch assembly, complete	6225038	6225145
RM4, PM1, NM1.	Clutch assembly, complete	6225018	6225111

Crankshaft assemblies ordered as spare parts will be supplied complete with the appropriate retaining nuts.

BOTTOM BRACKET AXLE (RM5, PM2, NM2).

The part number quoted in the Spare Parts Lists for the bottom bracket axle is incorrect. Please delete 4020225 and insert 4020255

PEDAL CHAIN TENSIONER (RM5, PM2, NM2).

A pedal chain tensioner of slightly different design is now being fitted to these models. This chain tensioner arm is stamped with the name of the supplier "Huret". The two complete tensioners are interchangeable, but will you please note that the component parts are not.

When ordering component parts for these chain tensioners, will you please state which type the parts are for - e.g. "Huret model" or "Plain model".

Raleigh Industries Limited, Nottingham.

July, 1965.
(Re-issued September, 1968.

Motorised Division Service Department.

MOPED SERVICE MEMORANDUM. NUMBER 6.

Confidential.

CRANKSHAFT THREAD SIZE (RM.4, RM.5, PM.1, PM.2, NM.1, NM.2).

The Clutch and magneto retaining threads on Moped crankshafts have been increased in diameter from 10mm to 11mm. To ensure that the correct parts are supplied when spare parts are ordered, it is essential that the appropriate part numbers are quoted as set out below:-

Model.	Description.	Part Number. for 10 mm. threads.	Part Number. for 11 mm. threads.
RM.4, RM.5, PM.1, PM.2, NM.1, NM.2.)	Nut, flywheel retaining	MMN 228	MMN 227
RM.5, PM.2, NM.2.	Nut, clutch drum	MMN 165	MMN 249
RM.4, PM.1, NM.1.	Nut, clutch drum	MMN 163	MMN 166
RM.5, PM.2, NM.2.	Clutch Assembly, complete	MTB 131	MTB 152
RM.4, PM.1, NM.1.	Clutch Assembly, complete	MTB 115	MTB 132

All Wisp Crankshafts have 11 mm. threads.

Crankshaft assemblies ordered as spare parts will be supplied complete with the appropriate retaining nuts.

PEDAL CHAIN TENSIONER (RM.5, PM.2, NM.2, WISP)

A pedal chain tensioner of slightly different design is now being fitted to these models. This chain tensioner arm is stamped with the name of the supplier "huret". The two complete tensioners are interchangeable, but will you please note that the component parts are not.

When ordering component parts for these chain tensioners, will you please state which type the parts are for - e.g., "Huret Model" or "Plain Model".

Raleigh Industries Limited — 1st April, 1963.

Motorised Division Service Department

MOPED SERVICE MEMORANDUM — NUMBER 7

Confidential

ENGINE MODIFICATION (RM4, PM1, NM1).

The power output of the "Automatic" type engine has been increased from 1.39 BHP to 1.7 BHP.

The modified engine is fitted to Raleigh Industries Mopeds as follows:-

RM4	Raleigh "Automatic"	from Frame No. 4R 18102
NM1	Norman "Nippy MK3"	from Frame No. IN 3667
PM1	Phillips "Panda MK3"	from Frame No. IP 4679

Listed below are the modifications to the engine. Please add to your Spare Parts and Price Lists the new numbers and prices.

Original Part No.	Description.	New Part No.	New Retail Price. £ s. d.
4000328	Nut, engine mounting bolt.	4000194	2
4000329	Shakeproof washer, engine bolt.	4010808	1
4000301	Cylinder head, bare.	4000295	1 4 9
6200332	Cylinder head, c/w decompressor.	6200743	1 13 8
6200331	Cylinder, c/w matched piston.	6200744	6 6 9
6200333	Connecting rod assy; complete.	6200404	2 18 9
4533051	Ball journal bearing, crankshaft.	4533159	17 10
4000314	Shim washer, crankshaft, 0.1 mm.	4000161	2
4000271	Shim washer, crankshaft, 0.2 mm.	4000284	2
4000315	Shim washer, crankshaft, 0.3 mm.	4000162	2
4000307	Crankshaft half, magneto side.	4000361	1 8 3
4000306	Crankshaft half, clutch side.	4000360	1 9 10
6225008	Crankshaft assembly, complete.	6200745	5 14 3
4000318	Bolt, 7 x 1 x 70 mm.	DELETED	
4000317	Bolt, 7 x 1.25 x 45 mm.	NOW 2 OFF.	
6200330	Crankcase halves.	6225139	2 19 6

Raleigh Industries Limited, Nottingham. 17th January 1964.

Motor Division Service Department

MOPED SERVICE MEMORANDUM SERIES 2. NUMBER 8.

RM.5 CARBURETTOR

The above part has been modified and the new carburettor can be identified by the locating flange on the air filter. Also the float chamber cover and float needle seat are now integral. The following are the new parts numbers.

Raleigh No.	DESCRIPTION.	No. Off.
6200752 MTH.207	Body carburettor	1
6200753 MTH.208	Plastic body, air cleaner	1
6200754 MTH.209	Sleeve, air cleaner c/w filter	1
6200755 MMW.262	Spring washer, 4 m.m. mixing chamber cover screw	1
6200756 MTH.210	Float chamber cover	1
6200757 MMW.263	Spring Washer 5 m.m. float chamber cover screw	1
6200758 MTH.211	Sealing ring, float chamber cover	1
6200759 MTH.212	Clip, carburettor stub	1
6200760 MMB.190	Bolt, carb. stub clip	1
6200761 MMN.186	Nut, carb. stub. clip bolt.	1
6200762 MMW.264	Plain washer 6 m.m. carb. stub clip bolt	1
6200763 MTH.213	Air cleaner complete	1
4533286 MTH.214	Carburettor c/w air cleaner less cables	1

Raleigh Industries Limited, Nottingham. June. 1968.

Motorised Division Service Department.

MOPED SERVICE MEMORANDUM SERIES 2.

Confidential.

SERVICE MEMORANDA NO'S 3, 4, 8, 13 AND 14 HAVE BEEN WITHDRAWN.

Raleigh Industries Limited.

3rd February, 1964.

Motorised Division Service Department.

NUMBER 9

MOPED SERVICE MEMORANDUM SERIES 2.

Confidential.

RETURN OF MOPEDS FOR REPAIR.

When a machine is returned for repair all accessories must be removed before despatch.

This facilitates handling and will prevent any possibility of loss or damage in transit to expensive components. We must stress that we cannot accept liability where this procedure is not carried out.

In addition to the above, we frequently receive Mopeds when only the engine requires attention. In such cases time and expense can be saved if the engine is removed from the frame. All units are road tested before despatch, therefore, nothing is gained by sending the complete machine.

Raleigh Industries Limited, Nottingham. Revised December, 1968.

Motorised Division Service Department.

MOPED SERVICE MEMORANDUM SERIES NUMBER 9.

Confidential.

RETURN OF MOPEDS FOR REPAIR.

Recognising the importance of speedy guarantee repairs, every effort is made to return Mopeds and Wisps to customers in the shortest possible time and our own transport is used for this purpose. It should be realised however, that the forwarding of a machine to this department is the responsibility of the customer.

The company's fleet of delivery vehicles is used for the distribution of new products, but our Transport department is willing to collect customers' complete machines if they are available at the Dealer's premises when a delivery is being made.

We regret that it is not possible for us to offer this collection service with a guarantee of no delay. If some delay is unacceptable, we must ask you to arrange return of the moped carriage paid, by passenger train or by other suitable transport.

It frequently happens that complete machines are returned when only the engine requires attention. Time can be saved and the risk of damage in transit to the machine avoided by forwarding the engine only to us by rail or carrier. In such cases the engine is always fitted into a moped and road tested before being passed from our workshops after repair.

All machines and engines for repair must be clearly labelled, addressed to:- Raleigh Industries Limited,
Motor Service Department
Triumph Road, Nottingham.

and the following details attached:-

(1) Owners name. (2) Dealers name. (3) Our correspondence reference or full instructions and information.

PLEASE NOTE: Legshields, windscreens, pannier bags, mirrors and any non-standard fittings should be removed before despatch as these are particularly subject to loss or damage in transit and we are unable to accept responsibility for such accessories.

Raleigh Industries Limited. 24th February 1964.

Motorised Division Service Department.

MOPED SERVICE MEMORANDUM SERIES 2. NUMBER 10.

Confidential.

LIGHTING BULB FAILURE.

If the lighting bulbs repeatedly burn out attention to the following points should clear the fault :-

1. Examine all wiring and especially the earth connections.

2. Make certain that the bulbs are secure and on the RM.6 that the headlamp bulb contact plate is under tension.

3. Clean the switch and check the switch action.

4. Loosen the lighting coil securing screws and press the coil as far as possible from the magneto flywheel towards the crankshaft thus increasing the air gap between magnet and coil. Re-tighten the screws.

BRAKE SQUEAL.

As noisy brakes can be due to any one of a number of reasons we suggest the following procedure is adopted to eliminate the cause :-

1. Thoroughly clean the hub and roughen the brake linings.

2. Chamfer the leading edge of each brake lining.

3. Check the wheel bearings for adjustment if of the cup and cone type, or for wear if they are ball journal bearings.

4. Check the spoke tension.

5. When re-assembling the hub make certain that the brake back plate is firmly locked.

continued overleaf .....

ENGINES RETURNED FOR REPAIR.

A number of engines returned for repair have been received in a damaged condition due to poor packing. It is essential that units should be protected from careless handling during transit and preferably be sent in a wooden box with adequate filling.

PISTONS & FITTING.

The RM.5 and RM.8 engines now have a different piston to the early RM.4 (before Frame No. 4R.18102) and the RM.6 units. The new numbers are as follows :-

RM.4 and RM.6	6200591 MTA.122	Piston complete.
RM.5 and RM.8	6200765 MTA.270	Piston complete.

Please note that RM.4 Mopeds from Frame No. 4R.18102 have the RM.8 type engine and will, therefore, require piston number 6200765, MTA.270.

Fitting is as follows and it should be borne in mind that the piston ring pegs should always face the exhaust port.

RM.4 (To Frame 4R.18102) and RM.6 Engines.

The cutaway on the skirt of the piston should face the fuel inlet port or rear of the engine.

RM.4 (4R.18102 onwards), RM.5, and RM.8 Engines.

The cutaway should face the exhaust port or front of the engine.

The original interchangeable piston is now obsolete.

R.M.5 Automobili

R.M.8 Automobili

Raleigh Industries Limited, Nottingham.

Motorised Division Service Department.

July, 1965
(Re-issued September, 1968)

MOPED SERVICE MEMORANDUM SERIES 2. NUMBER 10.

Confidential.

LIGHTING BULB FAILURE

If the lighting bulbs repeatedly burn out attention to the following points should clear the fault:-

1. Examine all wiring and especially the earth connections.

2. Make certain that the bulbs are secure and on the RM.5 that the headlamp bulb contact plate is under tension. SEE ALSO S/MEMO 25

3. Clean the switch and check the switch action.

4. Loosen the lighting coil securing screws and press the coil as far as possible from the magneto flywheel towards the crankshaft thus increasing the air gap between magnet and coil. Re-tighten the screws.

A Clipper Diode is available to regulate the magneto output and prevent the blowing of the remaining bulb if one bulb should fail. Part No.MTP 228.

BRAKE SQUEAL

As noisy brakes can be due to any one of a number of reasons we suggest the following procedure is adopted to eliminate the cause:-

1. Thoroughly clean the hub and roughen the brake linings.

2. Chamfer the leading edge of each brake lining.

3. Check the wheel bearings for adjustment if of the cup and cone type, or for wear if they are ball journal bearings.

4. Check the spoke tension.

5. When re-assembling the hub make certain that the brake back plate is firmly locked.

ENGINES RETURNED FOR REPAIR.

A number of engines returned for repair have been received in a damaged condition due to poor packing. It is essential that units should be protected from careless handling during transit and preferably be sent in a wooden box with adequate filling.

Cont'd.....

PISTON FITTING.

Fitting is as follows and it should be borne in mind that the piston ring pegs should always face the exhaust port.

R.M.4., R.M.6., R.M.8., & R.M.9. WISP ENGINES.

The cutaway on the skirt of the piston should face the fuel inlet port or rear of the engine and the ring pegs are to be the front.

R.M.5. & R.M.12. ENGINES.

The cutaway faces the exhaust port or front of the engine as do the ring pegs.

Raleigh Industries Limited — 26th November, 1964.

Motorised Division Service Department

MOPED SERVICE MEMORANDUM SERIES 2 — Number 11.

Confidential.

MOPED REARLAMPS.

There are now four types of rearlamp fitted to Raleigh Mopeds. One of these is the Lucas type (Part Number MTP119) and all spares will continue to be available for this Model. The original Miller lamp however has twice been modified in order to comply with lighting regulations. This means in effect that we have three Miller lamps which are superficially similar but which have certain fundamental differences. The three Miller lamps are identifiable as follows:-

Type 'a' - This is the early type and has a centrally positioned lamp holder. The lens is 'domed' and the lens mounting screws are cheese headed. Screw length is $\frac{3}{4}$" overall.

Type 'b' - The backplate is identical to type 'a' with centrally mounted lamp holder, but the lens is considerably modified. The new shape is angular in appearance and the entire rear of the lens is flat. In the centre of this reflecting surface is a clear red circle which fits directly over the bulb when the lamp is assembled and permits maximum light transmission to the rear. The lens mounting screws have countersunk heads and are $1\frac{1}{4}$" long overall.

Type 'c' - The lamp holder is in a higher position on the backplate than those on the other two lamps. The distance from the centre of the lamp holder to the top of the backplate being $\frac{3}{4}$" compared to $1\frac{1}{4}$" on the earlier types. The lens is very similar in appearance to type 'b' but the clear red circle is raised to line up with the higher mounted bulb. The lens mounting screws are identical to type 'b'.

Since this lens has such a similarity to type 'b' it is easy to confuse the two, but a type 'b' lens must never be fitted to a type 'c' lamp or vice versa. This is because the reflector portion of the lens is too thick to allow satisfactory light emission to the rear unless the small 'window' in the rear of the lens is exactly in line with the bulb.

To lessen the chances of confusion, the Service Department will supply only two types of replacement lens, namely:- 'a' and 'c'. Type 'a' can be fitted to either 'a' or 'b' types of lamp, but type 'c' must only be fitted to the 'c' type lamp.

Cont'd.....

Part numbers and identifications are as follows:-

Type 'a' Lamp. (Domed lens)

Backplate	MTP156
Lens	MTP160
Screws	MTP161
Lamp, complete	MTP154

Type 'b' Lamp. (Squared lens)

Backplate	MTP156
Lens	Not supplied, use MTP160 and MTP161 screws.
Screws	MMB250
Lamp, complete	Not supplied, use MTP154

Type 'c' Lamp. (Squared lens - current production)

Backplate	MTP220
Lens	MTP221
Screws	MMB250
Lamp, complete	MTP222

'c' type lamps are fitted to all machines from the following frame numbers:-

RM.5	'Supermatic'	5R. 8409
RM.6	'Runabout'	6R.37435
RM.8	'Automatic Mark II'	8R. 7559
RM.9	'Ultramatic'	9R. 5232

Fitted concurrently with the type 'c' lamp is a modified rear number plate. This has a $1\frac{3}{8}$" slot to accommodate the lamp holder compared to a circular hole 15/16" diameter on the early type. Early type lamps will fit this new number plate but type 'c' lamps will not fit the earlier plate unless the central hole in the plate is first slotted.

NOTE:-

When replacing a type 'b' lens with the 'a' type, it will also be necessary to fit two cheese headed screws, Part Number MTP161.

Raleigh Industries Limited, Nottingham. November, 1964.
(re-issued July, 1965)
Motorised Division Service Department. (re-issued August,1968)

MOPED SERVICE MEMORANDUM SERIES 2. NUMBER 11.

Confidential.

MOPED REARLAMPS.

There have been five types of rearlamp fitted to Raleigh Mopeds. One of these is the Lucas type (Part No. MTP 119) and all spares will continue to be available for this Model. There is also the current lamp, of Wipac manufacture. The original Miller lamp however, has twice been modified in order to comply with lighting regulations. This means in effect that we have three Miller lamps which are superficially similar but which have certain fundamental differences. The three Miller lamps are identifiable as follows:-

Type 'a' - This is the early type and has a centrally positioned lamp holder. The lens is 'domed' and the lens mounting screws are cheese headed. Screw length is $\frac{3}{4}$" overall.

Type 'b' - The backplate is identical to type,'a' with centrally mounted lamp holder, but the lens is considerably modified. The new shape is angular in appearance and the entire rear of the lens is flat. In the centre of this reflecting surface is a clear red circle which fits directly over the bulb when the lamp is assembled and permits maximum light transmission to the rear. The lens mounting screws have countersunk heads and are $1\frac{1}{4}$" long overall.

Type 'c' - The lamp holder is in a higher position on the backplate than those on the other two lamps. The distance from the centre of the lamp holder to the top of the backplate being $\frac{3}{4}$" compared to $1\frac{1}{4}$" on the earlier types. The lens is very similar in appearance to type 'b' but the clear red circle is raised to line up with the higher mounted bulb. The lens mounting screws are identical to type 'b'

Since this lens has such a similarity to type 'b' it is easy to confuse the two, <u>but a type 'b' lens must never be fitted to a type 'c' lamp or vice versa.</u> This is because the reflector portion of the lens is too thick to allow satisfactory light emission to the rear unless the small 'window' in the rear of the lens is <u>exactly in line</u> with the bulb.

Cont'd.....

To lessen the chances of confusion, the Service Department will supply only two types of replacement lens, namely:- 'a' and 'c'. Type 'a' can be fitted to either 'a' or 'b' types of lamp, type 'c' must only be fitted to the 'c' type lamp.

Part Numbers and identifications are as follows:-

Type 'a' Lamp. (Domed lens)

Backplate	MTP 156
Lens	MTP 160
Screws	MMB 250
Lamp, complete	MTP 154

Type 'b' Lamp. (Squared lens)

Backplate	MTP 156
Lens	Notsupplied, use MTP 160 and MMB 250 screws.
Screws	MMB 315
Lamp, complete	Not supplied, use MTP 154

Type 'c' Lamp. (Squared lens)

Backplate	MTP 220
Lens	MTP 221
Screws	MMB 315
Lamp, complete	MTP 222

'c' type lamps are fitted to all machines from the following Frame Numbers:-

RM.5.	'Supermatic'	5R. 8409
RM.6.	'Runabout'	6R.37435
RM.8.	'Automatic Mark 11'	8R. 7559
RM.9.	'Ultramatic'	9R. 5232

Fitted concurrently with the type 'c' lamp is a modified rear number plate. This has a $1\frac{3}{8}$" slot to accommodate the lamp holder compared to a circular hole 15/16" diameter on the early type. Early type lamps will fit this new number plate but type 'c' lamps will not fit the earlier plate unless the central hole in the plate is first slotted.

When replacing a type 'b' lens with the 'a' type, it will also be necessary to fit two cheese headed screws, Part Number MMB 250.

All Wisps are fitted with the Wipac rearlamp.

Raleigh Industries Limited — 18th December, 1964.

Motorised Division Service Department

MOPED SERVICE MEMORANDUM SERIES 2 — NUMBER 12.

Confidential.

SPEEDOMETER CABLE BREAKAGE.

Breakage of Veglia type speedometer cables is directly attributable to incorrect routing. Will persons responsible for Service and Maintenance of RM.5 Mopeds please ensure that the position of the speedometer drive unit on the front axle provides the best possible run for the cable, i.e., the cable should leave the drive unit approximately parallel with the front swinging arm.

PEDAL CRANKS.

Pedal cranks with stripped threads which are returned to the Factory under a guarantee claim will not be replaced free of charge, as this fault can only have been caused by insufficient tightening of the pedal upon delivery to the customer and the continued use of the machine with the pedal in a loose condition.

Raleigh Industries Limited — 25th March, 1965.

Motorised Division Service Department

MOPED SERVICE MEMORANDUM — NUMBER 13.

Confidential.

CORRECTIONS AND ADDITIONS TO SPARE PARTS PRICE LIST.

CORRECTIONS.

Please make the following corrections to your Spare Parts Price List.

Page 4.	BYF 601	Should read	BYF 605.
	BYF 602	" "	BYF 606.
	BYG 611	" "	£6.13s.7d + 18/11d P.Tax) The total price is
	BYG 612	" "	£6.13s.7d + 18/11d P.Tax) still £7.12s.6d.
Page 12.	MTN 137	The seven figure number should read 6235293 not 6200618.	
Page 13.	MTP 154	The seven figure number should read 4533265 not 4533419.	
	MTP 222	" " " " " "	4533419 not 4533265.
	MTR 113	" " " " " "	4533274 not 4533192.
Page 14.	MTR 312	The seven figure number should read 6200911 not 6200912.	
	MTR 314	" " " " " "	6200912.
Page 21.	4533274	Should read MTR 113 £3.7s.6d.	
	4533419	" " MTP 222.	
Page 24.	6200912	Should read 6200911 MTR 312 9s.6d.	
		add 6200912 MTR 314 5s.0d.	

ADDITIONS.

Please add the following Part numbers and Prices to your Spare Parts Price List.

	£	s	d		£	s	d
MTD 254		19	6	MTF 191	4	15	0
MTF 186	18	18	3	MTH 221		3	9
MTF 187	4	2	2	MTJ 199		5	10
MTF 188	4	15	0	MTJ 200		5	10
MTF 189	4	15	0	MTL 336		14	3
MTF 190	4	15	0	MTL 337	2	17	7

continued.....

	£	s	d
MTL 338		15	2
MTL 339		11	3
MTL 340		12	10
MTL 341		7	2
MTL 342		4	Odoz.
MTL 343		3	Odoz.
MTL 344			8
MTL 345		4	Odoz.
MTL 346	1	3	9
MTL 347		1	8
MTL 348	1	2	3
MTL 349		1	8
MTL 350	3	2	6
MTL 351		5	3
MTL 352		17	5
MTL 353		1	11
MTL 354		14	3
MTL 355		4	8
MTL 356		8	4
MTM 164	8	9	0
MTM 165	5	12	6
MTM 166		15	0
MTM 167	4	6	0
MTN 249		13	0
MTP 223		13	6
MTP 224		15	0
MTP 225		5	6
MTP 226		1	9 + $3\frac{1}{2}$d P.Tax.
MTP 227		7	0
MTP 228		13	6
MTP 229		3	9
MTR 315	1	19	6
MTR 316	1	19	6
MTR 317	1	2	6
MTR 319		3	6
MTR 320	1	2	6
MTR 321	1	2	6
MTR 322	1	19	6
MTX 167	3	11	2

Raleigh Industries Limited, Nottingham. June. 1968.

Motorised Division Service Department.

MOPED SERVICE MEMORANDUM SERIES 2.

Confidential.

SERVICE MEMORANDA NO'S 3, 4, 8, 13 AND 14 HAVE BEEN WITHDRAWN.

Raleigh Industries Limited, Nottingham. June. 1968.

Motorised Division Service Department.

MOPED SERVICE MEMORANDUM SERIES 2.

Confidential.

SERVICE MEMORANDA NO'S 3, 4, 8, 13 AND 14 HAVE BEEN WITHDRAWN.

Raleigh Industries Limited, Nottingham, March, 1966.

Motorised Division Service Department.

MOPED SERVICE MEMORANDUM SERIES 2. NUMBER 15.

Confidential.

EXCESSIVE DRIVE BELT WEAR.

VARIABLE GEAR MODELS. (R.M.5, R.M.9, R.M.11, R.M.12).

Most of the allegedly faulty drive belts returned under guarantee have been found to be damaged due to one of the following causes and we suggest these points are checked whenever excessive drive belt wear occurs.

1) Examine the variable gear and bottom bracket pulley flanges for damage or distortion.

2) Check engine mounting bushes for deterioration.

3) Make certain the engine, return springs and brackets are in line and all bolts secure. The engine pulley end of the drive belt is offset approximately $\frac{3}{8}$" to the nearside when in low gear or stationary, the belt should be in line when in the high gear position.

SINGLE SPEED MODELS. (R.M.6, R.M.8).

Experience has shown that the usual cause of belt wear on these models is due to damaged flanges on the bottom bracket pulley. The flange being dented by the drive chain when it has been allowed to become too slack. The engine alignment should also be checked as the lower mounting brackets may have become bent due to the moped falling over.

MAGNETO MODIFICATIONS. (ALL MODELS).

Since the introduction of the Raleigh Moped Model R.M.4 onwards, three different magnetos have been used. The details are as follows:-

1) MTM 140. The original type with a magneto flywheel 40mm. deep and no outer waterproofing flange on the stator backplate. Used until approximately September, 1963. This flywheel is not suitable for either of the other two magnetos.

2) MTM 159. This type has a waterproofing flange on the stator backplate. The magneto flywheel is 37mm. deep. The flywheel is marked either 15 or 28 on the inside face and the lighting coil is blue.

Continued.....

MAGNETO MODIFICATIONS. (ALL MODELS). Cont'd.

3) MTM 165. This is the current magneto and is physically similar to No.2, but the lighting coils and flywheels are not interchangeable due to different electrical capacities. The flywheel is marked 15/ on the interior face and the lighting coil is coloured violet. All engines from R.109000 use this magneto.

MOPED CRANKSHAFTS.

All Mopeds now being produced are fitted with crankshafts which require main bearings of 16mm. bore, the MTA 179 crankshaft for 15mm. bearings becoming obsolete to production. When supplies of new 15mm. crankshafts MTA 179 are exhausted the later model MTA 310 will be supplied against all orders for New crankshafts. This will fit all Mopeds from R.M.4 onwards, provided the correct main bearings i.e. MTA 132 and correct clutch and magneto nuts are used. Re-conditioned 15mm. crankshafts will be available through our Service Exchange Scheme under Sales No. MTX 104 until further notice.

Raleigh Industries Limited, Nottingham. Revised December, 1968.

Motorised Division Service Department

MOPED SERVICE MEMORANDUM SERIES 2. NUMBER 15.

Confidential.

EXCESSIVE DRIVE BELT WEAR.

Variable Gear Models.

Most of the allegedly faulty drive belts returned under guarantee have been found to be damaged due to unfavourable conditions of use and we suggest the following checks whenever excessive belt wear occurs:-

1. Examine the variable gear and bottom bracket pulley flanges for damage or distortion.

2. Check the engine mounting bushes for deterioration.

3. Make certain the engine return springs and brackets are in line and all bolts secure. (The engine pulley end of the drive belt is slightly offset to the nearside when the engine is in low gear or stationary.)

Single Speed Models

Experience has shown that the usual cause of belt failure on these models is use with damaged flanges on the bottom bracket pulley. The inner flange is sometimes damaged by contact with the drive chain which has been allowed to become too slack.

Damage to the pulley flanges can also occur on occasions such as when lifting the machine on or off a vehicle or when manhandling on steep steps.

The engine alignment should also be checked as the lower mounting brackets may have become bent due to the moped falling over.

WISP HORNS.

It is not advisable to disturb the centre nut on this type of horn. The tuning can be adjusted by inserting a screwdriver blade between the edge of the diaphram and the back plate and by gently levering the diaphram, with the engine running and the horn button depressed.

It must be accepted, however, that the volume of sound will be lower when the lights are in use than when they are not, and so long as it is loud enough to comply with legal requirements it should be regarded as satisfactory.

(The horn fitted to other models can be tuned at the centre screw after removal of the domed nut, but in this case also a reduction in efficiency must be expected when the lights are in use.)

Cont'd.....

MAGNETO MODIFICATIONS (ALL MODELS)

Since the introduction of the Raleigh R.M.4.Moped, three different magnetos have been used. The details are as follows:-

1. MTM 151 (type 'a') — The original type using MTM 140 flywheel (40mm deep) and MTM 128 stator with no outer waterproofing flange on the backplate. Replaced approx September 1963 by:-

2. MTM 151 (type 'b') — Interchangeable as a complete unit only with the original type. This model uses MTM 159 flywheel (37mm deep and marked either 15 or 28 on the inside face) and MTM 158 stator which has a waterproofing flange on the back plate. The lighting coil is blue.

3. MTM 164 — Used on all models including Wisp from engine number R109000 and is interchangeable with previous magnetos as a complete unit only. This model uses MTM 165 flywheel (marked 15/ on the inside face) and MTM 167 stator with a violet coloured lighting coil. Owing to a change in electrical characteristics this flywheel and this type of lighting coil are only suitable for use in conjunction with each other and neither of them should be used on earlier type magnetos.

CRANKSHAFTS.

All mopeds now being produced are fitted with crankshafts which require bearings of 16mm bore, the MTA 179 crankshaft for 15mm bearings now being obsolete.

The later model MTA 310 is now being supplied against orders for new MTA 179 crankshafts. This will fit all engines in which the MTA 179 was originally fitted provided that the correct main bearings (MTA 132) and the correct magneto and clutch nuts are used.

Reconditioned crankshafts for 15mm bearings will remain available through our Service exchange Scheme under part number MTX 104 until further notice.

For full identification particulars and interchangeability of crankshafts, please refer to Service Memorandum number 31.

Raleigh Industries Limited, Nottingham. March, 1966.

Motorised Division Service Department.

MOPED SERVICE MEMORANDUM SERIES 2. NUMBER 16.

Confidential.

REPAIR INSTRUCTIONS.

Cases have recently occurred in which dealers have refused to pay for repairs to mopeds on the grounds that such repairs are not ordered by the dealer or customer.

Some of these cases arise from verbal instructions passed by a dealer to the depot and which are abbreviated or amended to suit the "Instructions" section of an M.R. order.

With a view to avoiding this in the future, all depot Motor Repair order sheets should, when relating to repairs forwarded to the works on behalf of dealers, be accompanied by a Dealers Order or by a completed Guarantee Claim form.

A brief note in the "Description" or the "Instructions" section of an M.R. is not sufficient authority for us to proceed with chargeable repairs and will not, in future, be accepted until confirmed by the dealer.

Supplies of Guarantee Claim forms are always available from this Department when required.

ENGINE MODIFICATION (R.M.5,11 & 12 Mopeds).

The above mopeds will have a square finned cylinder and cylinder head fitted to the engine in the near future. This is to blend the unit with the taut-line styling of the fairings etc. The power output and performance will be unaltered.

The following are the new part numbers and will you please note that individual items are not interchangeable with the round fin parts.

MTA316	Cylinder, c/w matched piston.
MTA317	Cylinder head, c/w decompressor.
MTA318	Plug, engine mounting.
MTA319	Nut, exhaust pipe.
MTA320	Gasket, cylinder head.

Raleigh Industries Limited, Nottingham.

March, 1966
(Re-issued September, 1968.)

Service Department Motorised Products.

MOPED SERVICE MEMORANDUM SERIES

NUMBER 16.

Confidential.

REPAIR INSTRUCTIONS.

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With a view to avoiding this in the future, all depot Motor Repair Order sheets should, when relating to repairs forwarded to the works on behalf of dealers, be accompanied by a Dealers Order or by a completed Guarantee Claim form.

A brief note in the "Description" or the "Instructions" section of an M.R. is not sufficient authority for us to proceed with chargeable repairs and will not, in future, be accepted until confirmed by the Dealer.

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ENGINE MODIFICATION (R.M.5,11 & 12 Mopeds.)

Later versions of the above mopeds have a square finned cylinder and cylinder head fitted to the engine. This is to blend the unit with the taut-line styling of the fairings etc. The power output and performance is unaltered.

The following are the new part numbers and will you please note that individual items are not interchangeable with the round fin parts.

MTA 316	Cylinder, c/w matched piston.
MTA 317	Cylinder head, c/w decompressor.
MTA 318	Plug, engine mounting.
MTA 319	Nut, exhaust pipe.
MTA 320	Gasket, Cylinder head.

Raleigh Industries Limited — April, 1966.

Motorised Division Service Department

MOPED SERVICE MEMORANDUM SERIES 2. — NUMBER 17.

Confidential.

FREEWHEELS.

Freewheels returned for replacement often show signs of maltreatment such as lack of lubrication, pitted ball tracks due to overtight chains, and chisel or punch marks made by attempts to remove the freewheel with a hammer. Any of these faults could affect a favourable decision when guarantee claims are made.

We would point out that the hammer method of removing freewheels invariably causes irreparable damage to the freewheel, the wheel hub and the alignment of the wheel rim. If a freewheel is inoperative and a proper removing tool is not available we recommend the following method:-

(1) Unscrew the outer ring of the freewheel (left-hand thread), remove the sprocket ring and pawls etc.

(2) Grip the freewheel centre in a vice and turn the wheel to unscrew.

Damage caused by the vice jaws to the freewheel centre will be allowed for when assessing claims, in the interests of preventing damage to hubs and wheels.

Raleigh Industries Limited — 1st June, 1966.

Motorised Division Service Department

MOPED SERVICE MEMORANDUM SERIES 2. — NUMBER 18.

Confidential.

R.M.5.

Bottom bracket axle. 4020255/07 - MTD 213.

Please note that the overall length of this axle has been increased from 8" to 8 3/16". This is to provide an increased clearance between the R.H. crank and the fairing.

This long axle is interchangeable with the old pattern but it may be necessary to slightly re-align the chain jockey wheel to obviate the chain coming off when back pedalling.

R.M.5,6,8,9,11,12.

Drive chain fitting.

When fitting a drive chain on the above models, it is important that the spring clip of the connecting link is located on the INSIDE of the chain, that is, between the sprocket and the wheel spokes. If the spring clip is fitted to the outside, a maladjusted chain may cause the connecting link to strike and damage the belt pulley. The closed end of the spring clip must point in the direction of chain travel.

Raleigh Industries Limited — 5th September 1966

Motorised Division Service Department

MOPED SERVICE MEMORANDUM SERIES 2 — NUMBER 19

Confidential.

ALL MODELS

Drive Disengagement Control

Re-engagement of this control should not require the use of force. The lock-lever engages the bottom bracket sprocket teeth and if, on turning the button, resistance is felt, the moped should be wheeled backward or forward for a short distance until the lock-lever can move easily into position.

Finger pressure is sufficient for operating the lever and on no account should pliers, hammers or any other tool be used as this will sprain or break the engagement pin mechanism.

VARIABLE GEAR MODELS (RM.5,9,11,12)

The present automatic gear is operated by four ball bearings and in future only three balls will be used. This involves the following new non-interchangeable parts:-

MTB 162	Sliding Flange	1 off
MTB 163	Nylon bearing cage	1 off

Complete clutches and gear change assemblies are interchangeable and the following are the new numbers:-

MTB 161	RM.5, 11, 12 Clutch Assembly
MTB 164	RM.9 Clutch Assembly

AUTOMATIC CLUTCH (MODELS RM.6 & 8)

The automatic clutch shoe retaining plate assembly is shortly to be modified to use two fulcrum pins only. The new parts can be recognised by the two flanged plate as opposed to the present 'Z' shaped plate using four fulcrum pins. The following are the non-interchangeable parts:-

MTB 158	Clutch hub	1 off
MTB 159	Fulcrum pin	2 off
MTB 160	Retaining plate	1 off

Complete clutch assemblies are interchangeable and this is the new part number:-

MTB 157	Clutch assembly

RALEIGH INDUSTRIES LIMITED, NOTTINGHAM. DECEMBER 1966.

MOTOR DIVISION SERVICE DEPARTMENT.

MOPED SERVICE MEMORANDUM SERIES 2. NUMBER 20.

STEERING HEAD BEARINGS:

There are two distinct types of steering head bearing sets fitted to our RM.5,8,9 and 12 Mopeds, and due to the variations of production limits on these bearings it is essential that dealers only fit matched sets.

The parts can be identified as follows:-

	TYPE 'A'	TYPE 'B'
MTJ 117 Adjustable bearing cone	The milling around the circumference is in the form of vertical slots.	The milling around the circumference is 'cross-hatched'. Also the milled portion is deeper than type 'A'.
MTJ 118 Upper bearing cup	The spigot depth is approx. $\frac{1}{4}$".	The spigot depth is greater, approx. $\frac{3}{8}$".
MTJ 119 Lower bearing cup	Interchangeable	Interchangeable
MTJ 120 Lower bearing cone	Interchangeable	Interchangeable

The Stratford Windscreen recommended as an accessory for our Mopeds, is a high quality product and normally gives excellent service.

However, the stiffness of the 'Cobex' blade is dependent upon the curvature of the supporting bar and under certain conditions of storage, or handling, it is possible for this to be distorted. If a complaint of blowing back of the windscreen blade is experienced, the problem can be solved simply by bending the supporting bar into a tighter radius at the centre.

This can easily be done by hand, using the knee as a fulcrum.

SUSPECT CARBURETTORS

In the event of dealers returning suspected faulty carburettors to Nottingham for testing and repair, we would like to point out that we cannot be expected to do a competent job without all the component parts.

We would be pleased therefore if dealers would ensure that, in the future, only complete carburettors are returned to Nottingham. These must include the throttle slide, enrichment plunger, and mixing chamber cover, etc.

We would point out that, if carburettor bodies only are returned, delay will be inevitable, whilst correspondence takes place, relating to the component parts of the carburettor.

FAIRING SCREW WASHERS

Some confusion has arisen regarding washers for the fairing fixing screws. Two types are available i.e.

1.	MMW 237	Washer, shakeproof, metal	1/- doz.
2.	MMW 289	Washer, plastic	1/- doz.

ROMA SCOOTER CONNECTING RODS

During recent months we have been supplying 'Roma' Scooter connecting rods which differ slightly from the original pattern. These connecting rods may be recognised by the word DE-MI embossed on the side, and some of them are fitted with a small end bush which is not interchangeable with those listed in the Spare Parts Catalogue.

If a small end bush is required for one of these connecting rods, please quote the following number and description when ordering.

MTA 315 Small end bush (DE-MI)

Works reconditioned engines which are fitted with the DE-MI connecting rod may be identified by the letter 'D' stamped after the engine number.

Raleigh Industries Limited
Motorised Division Service Department

December 1966

MOPED SERVICE MEMORANDUM SERIES 2.

NUMBER 21.

Confidential.

ALL MODELS.

NOTES ON ELECTRICAL FAULTS

Of the moped electrical components which are returned to the Service Department as claims under Guarantee a large percentage prove, under subsequent electrical tests, to be in perfect condition.

We fully appreciate that many dealers do not possess sophisticated test equipment and that the easiest means of eliminating trouble without such equipment is to check by substitution. In these circumstances we feel that the following hints may assist in dealing with electrical faults.

CONTACT BREAKERS.

These are normally checked by visual examination, and if the contact faces look good, are assumed to be in good working order. There are, however, two faults which are worth checking:-

1. Contact resistance.

Contact sets are usually made of tungsten steel, and if these have been stored for any length of time under certain conditions a coating of oxide will form on the contact faces, thus creating complete insulation at low starting voltages. This will, of course, also happen to new magnetos which have been stored for some time before use. The best solvent for this tungsten oxide is plain water.

New R.I. Contact sets have a protective plastic coating, and this should be cleaned off with petrol before use.

2. Wear in the pivot pin and bush.

Wear in the pivot pin and bush cause the contact faces to 'slide' apart instead of breaking clean and square, as with a new contact set. This slow breaking action results in the voltage never building up to the value required to jump the spark plug electrode gap.

This fault shows up in bad starting and running and may be temporarily cured by reducing the contact breaker gap. New contacts should be fitted.

Cont'd.....

CONDENSERS.

Care should be taken to ensure that the live and earth connections of the condenser are both clean and tight. Even a very slight increase in the condenser circuit resistance will make the condenser inoperative, and a large number of condensers have been condemned and replaced because of this fault. When a new condenser is fitted, one naturally makes sure that the connections are tight, and the same result would often be obtained if the old unit had been replaced properly.

EXTERNAL H.T. COILS.

The earth and the H.T. & L.T. connections must be clean and tight. The coil earths through the fixing screws so that it is essential that a good metal-to-metal contact be made at this point. It may be necessary to scrape paint from the frame if there is any doubt about effective earthing. The possibility of the H.T.Lead connection aperture in the coil having become corroded, due to damp, should not be overlooked and this is easily cleaned out with emery or glass paper after pulling out the H. T. Lead.

TEST EQUIPMENT

There is no doubt that much time and therefore expense can be saved in the tracing and elimination of electrical faults by the use of suitable test equipment. In this connection, we believe that the 'Red Box' Testometer, supplied by Messrs Morrel & Whiteley Limited, of 400. Liverpool Road, Southport Lancs., should prove a sound investment at the net trade price of 19 guineas. Full particulars may be obtained from the suppliers.

Raleigh Industries Limited, Nottingham.

December,1966.
(Re-issued September,1968)

Motorised Division Service Department.

MOPED SERVICE MEMORANDUM SERIES 2. NUMBER 21.

Confidential.

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Cont'd.....

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EXTERNAL H.T.COILS.

The earth and the H.T. and L.T. connections must be clean and tight. The coil earths through the fixing screws so that it is essential that a good metal-to-metal contact be made at this point. It may be necessary to scrape paint from the frame if there is any doubt about effective earthing. The possibility of the H.T.lead connection aperture in the coil having become corroded, due to damp, should not be overlooked and this is easily cleaned out with emery or glass paper after pulling out the H.T. lead. If corrosion is present here, the rubber insulating cap should automatically be replaced as a precaution.

TEST EQUIPMENT.

There is no doubt that much time and therefore expense can be saved in the tracing and elimination of electrical faults by the use of suitable test equipment. In this connection, we believe that the 'Ledger Ignition Tester ' supplied by Messrs Rupert Ledger & Co.,Ltd., of Airfield Estate, White Waltham, Maidenhead, Berkshire, should prove a sound investment at the trade price of £22. 10. Od. Full particulars may be obtained from the suppliers.

Raleigh Industries Limited, Nottingham.

October,1967.
(Re-issued September,1968)

Motorised Division Service Department.

MOPED SERVICE MEMORANDUM. SERIES. 2. NUMBER 22.

Confidential.

COLOUR FINISH.

As the R.M.6. has been produced in Black and Royal Blue finish, sales numbers for the enamelled parts are given below.

GROUP	ILLUSTRATION NUMBER	SALES NUMBERS BLACK	SALES NUMBERS ROYAL BLUE	DESCRIPTION.
F	1	MTJ 236	MTJ 240	Front fork, bare.
G	5	MTF 209	MTF 220	Frame assembly.
G	14	MTL 495	MTL 415	Fuel Tank.
G	16	MTL 544	MTL 544	Filler cap, silver finish.
G	17	MTL 490	MTL 414	Tailpiece.
G	22	MTL 491	MTL 417	Splashplate.
G	25	MTL 493	MTL 416	Tank support stay.
G	27/44	MTL 492	MTL 413	Mudguard stay.
G	28	MTL 489	MTL 412	Rear mudguard.
G	31	MTL 494	MTL 537	Front mudguard.
G	33	MTF 210	MTF 199	Vee belt guard.
G	41	MTL 497	MTL 418	Fairing. L.H.
G	N.I.	MTL 498	MTL 419	Fairing. R.H.
G	N.I.	MTL 396	MTL 396	Frame transfer
G	N.I.	MTL 540	-	Fairing transfer 'Pop'
G	N.I.	-	MTL 397	Fairing transfer.
M	N.I.	MTR 375	-	Metal legshields black'Pop'.
M	N.I.	-	MTR 150	Plastic legshields,Pearl Grey.

FILLER CAPS: FUEL TANK.

For service purposes we are now supplying the MTL 544 Filler Cap in silver enamel finish. We shall no longer supply the Filler Caps listed below:-

MTL 107 Raleigh Green	MTL 503 Royal Carmine
MTL 351 Light Blue	MTL 504 Golden Sand
MTL 408 Neptune Blue	MTL 505 Royal Blue
MTL 496 Black	MTL 506 Bright Red

The MTL 102 Filler Cap sateen finish is still available at extra cost. Sales numbers covering Fuel Tank Filler caps for the R.M.5. and Roma models remain unaltered.

The MTK 192 Rear Wheel complete, shown in the R.M.6. spares list does not include either the Drive Sprocket or the Freewheel. If Dealers require a Rear Wheel complete with Drive Sprocket and Freewheel, please use sales number MTK 294.

¼pint tins of enamel previously supplied under sales no. MTR 332 should now be ordered on Sales No. MMM 196.

The MMB 278 Fairing Screw is no longer available. We now supply the MMB 336 Fairing Screw as substitute.

Raleigh Industries Limited, Nottingham.

Motorised Division Service Department.

OCTOBER.1967.
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MOPED SERVICE MEMORANDUM SERIES 2. NUMBER 23.

Confidential

R.M.9. ULTRAMATIC ' PLUS ONE'

This addition to the R.I. range of mopeds differs from the standard R.M.9. as shown below.

SALES NUMBERS.	DESCRIPTION.
MMB 275	Bolt, seat support
MMN 189	Nut, seat support bolt
MMW 101	Washer, seat support bolt
MTF 116	Seat pillar
MTF 131	Footrest rubber
MTF 219	Combined footrest and axle nut
MTK 273	Rear wheel complete,(specially strengthened)
MTK 274	Rim,rear wheel 23" x 2"(specially strengthened)
MTK 275	Spoke, rear wheel 7.21/32" 11G.
MTK 276	Spoke nipple, 11G
MTL 198	Dual seat, Pearl Grey/Red
MTL 477	Seat support stay, Chrome
MTL 483	Buffer strip, Fuel tank/seat support
MTL 536	'Plus One' transfer
MYC 578	Toolbag (Mounted on handlebars)

Enamelled parts in Golden Sand finish are already shown on Page 7 of our spare parts supplement issued in January 1966

RALEIGH INDUSTRIES LIMITED,
SERVICE DEPARTMENT, MOTORISED PRODUCTS
MOPED SERVICE MEMORANDUM, SERIES 2

FEBRUARY 1968

NUMBER 24

CONFIDENTIAL

Wisp Float Chamber Cover

The MTH 246 float chamber cover fitted to the Wisp carburettor is identical in appearance to the MTH 232 float chamber cover on the RM6, 8 and 9 mopeds. The diameter of the inlet drill way is, however, larger and great care should be taken not to get the two types of cover confused. To assist in identification the Wisp MTH 246 cover has a green mark painted on its upper surface.

Wisp 36 Tooth Rear Wheel Drive Sprocket

Current production Wisps are fitted with the above sprocket in place of the 44 tooth sprocket originally specified. The 36 tooth version is completely interchangeable with the original but it will be necessary to replace the shakeproof washers when making the change. The part numbers are MTK 295 for the sprocket and MMW 425 for the washers. It will be necessary to shorten the drive chain by 4 pitches when making the substitution.

Wisp Exhaust Silencer

If the Wisp silencer fouls the lower engine mounting plates when being fitted, a slight indentation should be made in the top of the silencer to allow a minimum of $\frac{1}{8}$" clearance at the closest point. If the silencer is allowed to touch the engine plates the resultant stresses in the exhaust pipe and silencer could lead to early failure of these components.

Tightening of Telescopic Fork Legs

Clearance between the telescopic legs and the fork tubes can be taken up by tightening the knurled end caps at the base of the fork tubes. Tighten the caps with a pipe wrench until no trace of sideways movement is detectable but there is still a free sliding fit. If there is still clearance after tightening, the bushes must be replaced.

Handlebar Grip Fitting

Bostik clear adhesive should be used for handlebar grip fitting. If the original grips have loosened in service and are to be used again, all traces of original adhesive must be removed.

Continued.....

1) Apply the adhesive to the inside of the grip.

2) Push plastic grip on to handlebar or twistgrip body and rotate it thgough 60° approximately to distribute adhesive onto the bar.

3) Withdraw grip from bar and allow to dry until adhesive appears to be just dry (2 minutes approximately)

4) Push grip onto bar. Leave overnight before attempting to use grip.

Bottom Bracket Bushes

These are a press fit in the frame tube. If replacement bushes are found to be insufficently tight in the frame we recommend the use of 'Lotite Bearing-Fit' to effect the necessary seal. 'Loctite' should normally be allowed to cure overnight before the machine isiused.

RALEIGH INDUSTRIES LIMITED
SERVICE DEPARTMENT MOTORISED PRODUCTS
MOPED SERVICE MEMORANDUM SERIES 2

FEBRUARY 1968

NUMBER 25

CONFIDENTIAL

Lighting Bulb failures.

With a simple direct lighting circuit as fitted to all our motorised products the main problem encountered is blowing of bulbs. When this problem arises, it should be dealt with as follows:-

1. Check that the correct bulbs are in use.

The headlamp bulb should be 6v 15w and the rear lamp bulb now recommended is 6v 6w. Under no circumstances should a 12 volt bulb be used in either position since this will result in a considerable voltage increase in the circuit which will blow the other bulb.

2. Check the wiring and all switch and bulb contacts.

If there is a faulty connection or contact to one bulb the whole of the alternator output will be thrown on the remaining bulb which will blow immediately. In the case of the spring blade type of headlamp contact it is essential that there is reasonable pressure against the bulb and that the point of contact is clean. Intermittent contact, due to vibration or road shocks can be avoided by bending the contact strip forward and by polishing off any burn marks.

3. Reduce the alternator output to a minimum.

This can be achieved by removing the flywheel, loosening the lighting coil and pressing the coil towards the crankshaft as far as it will go while re-tightening the screws. Even a slight re-positioning in this manner will reduce the output by widening the air gap between the pole-pieces and the rotating magnets.

(FURTHER NOTES OVERLEAF)

Matching of Equipment

The same general type of flywheel magneto has been in use on our products for a number of years and during this period minor changes have been made. In most cases parts are interchangeable but it is essential to ensure that only flywheels marked 15/ are used with the violet coloured lighting coil. A flywheel marked 28 or 15 (without the oblique stroke) should only be used with a blue lighting coil.

Clipper Diode

There may be the occasional case where a machine still blows bulbs after the above checks have been carried out. In such cases we recommend the fitting of a 'Clipper Diode' a voltage limiting device which maintains the circuit voltage below a safe level.

This Diode, (part number MTP 228, retail price £1 0. 0.) is now available from our Spare Parts Department. It is easily fitted and is supplied complete with instructions.

RALEIGH INDUSTRIES LIMITED. FEBRUARY 1968.
SERVICE DEPARTMENT. MOTORISED PRODUCTS.

MOPED SERVICE MEMORANDUM SERIES 2. NUMBER 26.

CONFIDENTIAL.

R.M.5. 'SUPERMATIC'

This model is now being produced with a 'Square Fin' engine and the new look 'Tautline' fork. Details of the components which differ from standard are given below:-

SALES NUMBER	DESCRIPTION.
MTA 316	Cylinder, c/w matched piston.
MTA 317	Cylinder head, c/w decompressor valve.
MTA 318	Plug, engine mounting.
MTA 319	Nut, Exhaust pipe,
MTA 332	Oil seal. (Magneto side of crankcase only).
MTA 333	Crankcase. (Matched pairs).
MTA 334	Crankshaft assembly less nuts.
MTA 338	Crankshaft assembly with nuts.
MTJ 242	Fork tube cover L.H. pearl grey 'Tautline'
MTJ 243	Fork tube cover R.H. pearl grey 'Tautline'
MTJ 244	Fork tube assembly with covers. Pearl grey 'Tautline'
MTJ 245	Front fork complete. Pearl grey 'Tautline'

WISP

The Wisp frame has been modified by increasing the angle of the head tube and is available under Sales Numbers MTF 229 (Spanish Gold) and MTF 230 (Fiesta Blue). The handlebars have also been modified to suit the new pattern frame, their Sales Number is MTN 276. Please note that the early pattern frame will not accept the later pattern handlebar, and vice versa.

To avoid intermittent petrol flow on the Wisp model, caused by the formation of air bubbles, or kinking of the petrol pipe, dealers should make sure that the petrol pipe is of the correct length. i.e. 12" $\pm \frac{1}{8}$".

Cont'd.....

R.M.9 and R.M.9 + 1 MODELS.

Sales numbers for enamelled parts finished in Calypso Coffee or Royal Carmine are given below:-

SALES NUMBERS			DESCRIPTION.
CARMINE.	CALYPSO COFFEE.	PEARL GREY	
MTF 231	MTF 223		Frame R.M.9.
MTF 232	MTF 224		Frame R.M.9.+1.
MTJ 192	MTJ 247		Steering stem.
MTJ 220	MTJ 248		Fork tube assembly.
MTJ 221	MTJ 249		Fork tube cover R.H.
MTJ 222	MTJ 250		Fork tube cover L.H.
MTJ 223	MTJ 251		Front fork complete.
MTL 283		MTL 126	Mudguard stay.Rear Guard.
MTL 288		MTL 470	Support stay.Upper and lower front guard.
MTL 388		MTL 121	Tail piece.
MTL 390		MTL 155	Rear mudguard.
MTL 393		MTL 545	Petrol tank.
MTL 394		MTL 153	Splash plate.
MTL 395		MTL 156	Tank stay.R.H.
MTL 451		MTL 460	Support stay centre front guard.
MTL 554		MTL 331	Tank stay L.H.
MTL 555		MTL 327	Engine fairing.L.H.
MTL 556		MTL 326	Engine fairing.R.H.
MTL 557		MTL 330	Chainguard.
MTL 558		MTL 546	Front mudguard.
MTP 314		MTP 216	Headlamp complete.
MTP 315		MTP 214	Headlamp shell.
MTR 391		MTR 350	Metal legshields.

Clutch fairing supplied in silver finish for both models.
Sales No. MTF 182.
Petrol tank filler cap also supplied in silver. Sales No. MTL 544

Raleigh Industries Limited, Nottingham. September, 1968.

Motorised Division Service Department.

MOPED SERVICE MEMORANDUM SERIES 2. NUMBER 27.

Confidential.

R.M.9. 'ULTRAMATIC' EXHAUST/SILENCER ASSEMBLY.

The R.M.9. silencer assembly has been re-designed, and since the old and new parts are not interchangeable, it must be established for which silencer the parts are required before ordering.

The 'blunderbuss' exhaust pipe is the same in both cases but the later silencer body is shorter than the original. It may be helpful, therefore, for Dealers to quote 'long' or 'short' pattern when ordering silencer spares. On the 'short' silencer there is no centre stud and baffle assembly; instead, the baffles are an integral part of the new silencer end cap. The complete assembly is held to the exhaust pipe by a long 'through bolt'.

Part numbers of the new components are as follows:-

Description.	Part Number.	
Silencer body only, short.	MTA 321)	
Silencer end cap and baffle assy.	MTA 323)	Silencer body, complete MTA 339.
Silencer through bolt.	MTA 322)	

Until stocks are run down, either the old or new pattern body assembly may be supplied against part number MTA 339, but either of these assemblies will fit any R.M.9. exhaust pipe.

Raleigh Industries Limited, Nottingham. September, 1968.

Motorised Division Service Department.

MOPED SERVICE MEMORANDUM. NUMBER 28.

Confidential.

CLAIMS UNDER GUARANTEE.

PROPRIETARY PARTS (not manufactured by Raleigh Industries Limited) which should be forwarded direct to the individual manufacturers in case of complaint.

To prevent delay in dealing with guarantee claims, proprietary parts must be forwarded direct to the firm concerned, accompanied by details of the claim and the date of purchase. Claims cannot be accepted by us on behalf of the Manufactuers of proprietary components as they naturally wish to assess complaints made against their own products.

Only parts which are not manufactured by the companies listed below are returnable to Raleigh Industries Limited, as acceptable claims under guarantee.

PROPRIETARY PARTS.	MANUFACTURER OR CONCESSIONAIRE.
Lighting and electric horns	Messrs J. Lucas. (Sales and Service) Ltd., Great Hampton Street, Birmingham. 18. Warwicks.
	Messrs H. Miller & Co., Ltd., Aston Brook Street, Birmingham. 6. Warwicks.
	Messrs Wipac Limited, London Road, Buckingham. Bucks.
	Messrs Clear Hooters Limited, Alliance Works, Bedworth. Warwicks.
Hurst speedometers, drive units and cables.	Messrs De-Lite Accessories Limited, Wardrobe Court, 146A. Queen Victoria Street, London. E. C. 4.

01280 822800

Cont'd.....

PROPRIETARY PARTS.	MANUFACTURER OR CONCESSIONAIRE.
Champion Sparking Plugs	The Champion Sparking Plug Co.Ltd., Feltham Middlesex.
Dunlop Tyres and Tubes	The Dunlop Rubber Co.,Ltd., (NEAREST DUNLOP DEPOT) (Address usually obtainable from local telephone directory.)
Renold, Coventry and Perry chains	Messrs Renolds Limited, Renold House, Wythenshawe. Manchester, Lancs.
Windscreens and plastic legshields c/w fittings. (pressed Steel legshields should be returned to Raleigh Industries Ltd.)	Stratford Plastics Limited, Manor Works, Masons Road, Stratford-on-Avon. Warwicks.

Raleigh Industries Limited, Nottingham. September, 1968.

Motor Division Service Department.

MOPED SERVICE MEMORANDUM SERIES 2. NUMBER. 29.

Confidential.

PREPARATION OF MACHINES FOR THE ROAD.

A customer's initial impressions of a Moped are dependent in part on the preparation of the machine for the road.

These notes have been set out with a view to assisting you to prepare these machines swiftly and thoroughly. The time spent will be amply repaid by the enhanced goodwill accruing to your business from a satisfied customer.

The Moped manufacturing process includes and initial check after assembly, a running test, further adjustments as necessary and final inspection.

The vendor's legal liability in selling a motor vehicle means that a pre-delivery check is more than just desirable, and the following checks are recommended:-

1) Fit pedals and ensure that they are securely tightened.

2) Adjust handlebars and tighten expander bolt.

3) Check tyre pressures; see overleaf for recommendation.

4) Check tension of drive chains ($\frac{1}{2}$" up and down free movement at the centre of the bottom chain run, at the tightest spot.)

5) Single speed Mopeds only: Check tension of drive belt (just a trace of up and down movement midway between pulleys.)

6) Check adjustment of all cables. Make sure that the decompressor valve operates, the cable has 1/16" free play and the adjuster is properly tightened. All other cables should have 1/16" free play.

Cont'd.....

7) Check the operation of the transmission lock lever. (Do not use force to re-engage this but rotate the rear wheel if necessary.)

8) Pour a small quantity of petrol/oil mixture into the fuel tank. Turn on the fuel tap and start the engine. Check lights, horn, clutch operation and engine 'tick-over' speed.

9) A short test run will enable you to check steering.

10) Check all nuts and bolts for tightness.

TYRE PRESSURE TABLES.	FRONT TYRE.	REAR TYRE
Wisp.	23 lb/sq.in.	35 lb/sq.in.
R.M.6. Runabout	24 lb/sq.in.	38 lb/sq.in.
R.M.8. Automatic Mk.11.	24 lb/sq.in.	38 lb/sq.in.
R.M.9. Ultramatic	25 lb/sq.in.	40 lb/sq.in.
R.M.9+1 Ultramatic plus 1	25 lb/sq.in.	40 lb/sq.in.
R.M.5. Supermatic	19 lb/sq.in.	29 lb/sq.in.

The above pressures are suitable for riders of normal weight and should be increased when exceptional loads are carried.

Raleigh Industries Limited, Nottingham. October, 1968.

Motorised Division Service Department.

MOPED SERVICE MEMORANDUM SERIES 2. NUMBER 30.

Confidential.

SERVICE EXCHANGE CARBURETTORS.

We regret that carburettors are becoming increasingly difficult to reclaim under the service exchange scheme and the time has now come when we must withdraw this service. New carburettors will continue to be available but since certain models are now obsolete we reserve the right to supply the latest pattern as supplies get more difficult.

Part Numbers affected are:-

'Roma Scooter RS1/2/3.		MTX 122
Mopeds.		
RM4/6/8/9.	Old type (B.A.Series)	MTX 171
RM6/8/9	New type (A.R.Series)	MTX 172
RM9.	New type (A.R.Series)	MTX 168
RM5.	Old type.	MTX 173
RM5/11/12.	New type.	MTX 174.

Part numbers previously withdrawn and, of course, no longer available are:-

MTX 103.
MTX 116.
MTX 149.

Raleigh Industries Limited, Nottingham. October, 1968.

Motorised Division Service Department.

MOPED SERVICE MEMORANDUM SERIES 2. NUMBER 31.

Confidential.

CRANKSHAFT ASSEMBLIES.

The following is a list of crankshafts used from Model RM4 onwards and will provide a guide to identification and interchangeability.

PART NO.		SERVICE EXCHANGE PART NO:
MTA 179.	The original assembly used in RM4 and early RM6 models. Complete with nuts. Parallel mainshafts for use with MTA 271 main bearings, 15mm bore. Either 10mm or 11mm threads. Now replaced by MTA 269 used with MTA 132 bearings, 16mm bore.	MTX 104 (Specify 10mm or 11mmthread)
MTA 269	Shouldered mainshafts for MTA 132 main bearings, 16mm bore. Early assemblies had 10mm threads but 11mm threads were later standardised; complete with nuts for RM4, RM6, RM8, & Wisp.	MTX 117 (Specify 10mm or 11mm thread.)
MTA 310	Identical to MTA 269 but supplied without nuts.	MTX 117
MTA 311	As MTA 269 but complete with suitable nuts for RM5, RM9, RM11, RM12.	MTX 117
MTA 334	New Type assembly less nuts. (This assembly, which has a magneto-side mainshaft 2mm longer than earlier types, is being progessively introduced in all models in conjunction with improved crankcases having lubrication holes in the bearing housings. In the magneto side crankcase only a different oilseal is used, part number MTA 332.	MTX 188
MTA 335	As MTA 334 less nuts but supplied complete with 2 studs and 2 x 1mm gaskets, for conversion to use with earlier type crankcases.	MTX 188
MTA 337	As MTA 334, but supplied complete with suitable nuts for RM4, RM6, RM8, and Wisp.	MTX 188
MTA 338	As MTA 334, but supplied complete with suitable nuts for RM5, RM9, RM11, RM12.	MTX 188

Note: ALL S/Exch. crankshafts are supplied less nuts.

IDENTIFICATION PARTICULARS AND INTERCHANGEABILITY OVERLEAF.

INTERCHANGEABILITY.

MTA 269 is suitable for use in all models not having drilled crankcase bearing housings provided that the correct main bearings and nuts are used. Not suitable for use with latest type crankcases.
MTA 335 is suitable for all models but the longer stator plate studs and the spacing gaskets must be used if fitted to earlier type crankcases.

IDENTIFICATION.

CRANKCASES: Earlier type Part No. MTA 135 (Pairs) have no drilled lubrication holes for main bearings.
Latest type Part No. MTA 333 (Pairs) have a hole clearly visible in the top of each bearing housing.
CRANKSHAFTS: MTA 269 type has a total magneto-side mainshaft length (Measured from the web) of 71mm.
MTA 334 type is 2mm longer on the magneto-side mainshaft only.

CRANKSHAFT NUTS:

MMN 166 Nut, clutch drum, 11mm thread, fitted to RM4, RM6, RM8, & Wisp.

MMN 163 Nut, clutch drum, 10mm thread, fitted to early RM4, & RM6, models only.

The above are shallow flanged nuts, spanner size 14mm.

MMN 165 Nut, clutch drum, 10mm thread, fitted to early RM5, only.

MMN 249 Nut, clutch drum, 11mm thread fitted to RM5, RM9, RM11, RM12.

MMN 288 Listed for RM9, but identical to MMN 249.

These are deep barrel nuts, barrel length 14mm approx, spanner size 14mm.

MMN 227 Nut, magneto flywheel, 11mm thread.
Standard for all models except early RM4 & RM5.

MMN 228 Nut magneto flywheel, 10mm thread, fitted to early RM4 and RM5, models only.

NOTE: Flywheel nuts have a LEFT HAND THREAD.

Raleigh Industries Limited, Nottingham. October, 1968.

Motorised Division Service Department.

MOPED SERVICE MEMORANDUM. NUMBER 32.

Confidential.

MOPED STARTING.

Much time can be wasted in attempting to cure bad starting unless a systematic method of diagnosis is used. To cover all possible causes in the most efficient manner the following method of approach to the problem is recommended:-

1. FUEL.

Check that fuel is reaching the carburettor float chamber by removing the petrol pipe from the carburettor inlet.

2. CONTROLS

Check the three engine controls for free operation and correct adjustment as follows:-

a) Decompressor. Turn the twist grip forward while watching the operation of the decompressor valve. The valve should open and, when the grip is returned to neutral, the valve should close leaving slight slack in the cable. Adjust the cable if necessary.

b) Throttle. Check that the throttle opens and closes freely with the operation of the twist-grip and that there is slight free play in the cable when the grip is in the neutral position.

c) Cold Start Control. Check that the lever operates smoothly and springs back smartly when released, leaving slight play in the control cable. A tight or sticking cable or enrichment plunger will 'choke' the engine with excess fuel.

3. IGNITION.

a) Remove the sparking plug. Check that it is of the correct type and is neither 'whiskered' nor oiled up. (The use of an incorrect grade of plug is a common cause of both of these conditions. The recommended type is Champion L.86.) Set the gap to .016" - .018".

b) Remove the suppressor from the H.T.lead and check that when a pedal is depressed to turn the engine at starting speed a cracking blue spark will jump at least ¼" from the end of the lead to earth on the cylinder head.

c) If this is correct refit the suppressor to the lead, push the plug into the suppressor and lay the plug body on the metal of the cylinder head. Depress the pedal again and if a good spark is not obtained at the plug points, check both plug and suppressor by substitution.

d) If a good spark is available at the plug and the engine still refuses to fire, check the ignition timing.

e) If a good ¼" spark is not obtainable direct from the H.T.Lead to earth check that the contact breaker points are clean, that they close correctly and open again to a gap of .016" - .018" when opened by the cam.

Cont'd.....

If good results are still not obtained, test the H.T. coil by substitution or by checking on one of the specialised ignition test units such as the 'Ledger' or 'Crypton'.

f) The final ignition check, if necessary, consists of testing the condenser and the L.T.ignition coil on a suitable instrument or by substitution. (Burning of the contact breaker points is normally an indication that the condenser is defective.)

g) Both the external high-tension coil and the engine unit itself must be satisfactorily earthed to the frame to ensure reliable operation of the ignition system. On all models. the external high-tension coil is earthed to the frame through the two mounting bolts and a clean and an enamel-free earth is necessary here.

No additional engine earth is required on the single gear models but the RM5, RM11, & RM12 models have a separate earth wire from the upper engine mounting bolt to the frame. On the RM9,model only the earth is provided by a cupped star washer on the left-hand end of the upper engine mounting bolt and this must make a good electrical contact with both the bolt and the frame.

4. FUEL STARVATION.

Failure of the engine to start with the cold start control in operation should result in neat fuel being evident on the sparking plug. If the plug remains dry this indicates a blockage of jets or fuel passages in the carburettor. Refer to the attached Service Memo No.33. for cleaning instructions.

5. DRIVE SLIP.

Degrease, adjust or replace the drive belt as necessary. Degrease clutch shoes if oil or grease is present. (An engine will be reluctant to start if drive slip is present or if the decompressor is not correctly used, as in these conditions it is not possible for the engine to be turned over at a high enough speed to ensure satisfactory ignition and carburation.)

6. STARTING EFFORT.

The possibility should not be overlooked that the engine unit is being blamed for poor starting when the fault actually lies elsewhere. It is essential that stiffness in the transmission should not be allowed to absorb a great part of the users starting effort. Tightness in the transmission due to tightly adjusted or unlubricated chains or bottom bracket, tight rear wheel bearings, or to a binding rear brake will prevent the engine being turned over at a high enough speed for correct starting conditions to be achieved.

7. STARTING PROCEDURE.

Even when a machine is in perfect tune there are some users who have starting trouble due to their own incorrect starting technique. Consideration should always be given to this possibility and in such cases it will be well worth while for the dealer to spend a few minutes demonstrating the correct procedure and especially the use of the decompressor.

Raleigh Industries Limited, Nottingham. October, 1968.

Motor Division Service Department.

MOPED SERVICE MEMORANDUM SERIES 2. NUMBER 33.

Confidential.

CLEANING THE GURTNER CARBURETTOR.

Poor tick-over is mainly due to partially blocked channels in the carburettor body and the following cleaning procedure is recommended:-

1. B.A. SERIES (Old Type)

DISMANTLING.

Remove the carburettor from machine, leaving the mixing chamber cover, throttle slide and choke plunger attached to the control cables. Using a 10mm spanner remove the nut securing the float chamber cover. Remove float and filter. Remove main jet.

CLEANING.

Thoroughly clean the main body in clean petrol. The use of an adaptor for "Blowing-out" purposes will now be required and this can be made from a spare main jet by drilling out the jet and blocking off the two side holes. Screw this adaptor into position and blow through it with a high pressure air line, using an old ball-point pen with the point placed in the top of the spray tube/slow-running jet, (in the centre of the throttle slide chamber) in order to block the outlet and divert the pressure through the other passages. (Please note that the spray tube/slow-running jet is not removable from this model of carburettor.) Hold the point of the pen firmly on the slow-running jet to ensure that no air will escape. If this method fails to correct the fault, the carburettor must be considered unserviceable. Remove the adaptor, which will now be available for further use on any other carburettor of this type.

ASSEMBLY

Replace the original jet, clean the fuel filter, assemble the fuel filter and float chamber cover.
Refit to machine and refit choke plunger and throttle slide, making sure that the projection on the slide engages in the vertical groove in the mixing chamber wall and that there is no distortion or damage to prevent the mixing chamber cover seating correctly.
Clean the carburettor air filter and re-fit.
Adjust the slow-running screw(clockwise for faster running and anti-clockwise for slower running.

Cont'd.....

2. A.R.SERIES (New Type)

Remove carburettor from machine leaving mixing chamber cover, throttle slide and choke plunger attached to the control cables.
Remove float chamber cover, float and filter. Remove main jet. Wash body in clean petrol. Remove the brass spray tube/slow-running jet by the following method:-

Obtain a rod of soft metal, about 4 inches long and not exceeding 3/16" diameter. Invert the carburettor body and insert the tool into the main jet aperture. Lightly tap until spray tube is removed.

CLEANING.

After removal proceed to clean out the spray tube, ensuring that the two small pilot jet holes in the side of the tube are free from any obstruction. Use an air line to make sure that the passages in the main carburettor body are clear.

ASSEMBLY

Hold the carburettor horizontal and replace the spray tube. It is important to make certain that the flat on the top face of the jet is squarely facing towards the cylinder. (A spoke with one end ground to fit into the hole in the top of the spray tube will help in lining this up for refitting.) Tap the jet into position using a soft metal drift to ensure that the tube is not damaged when being driven home. (An old Choke plunger is useful for this purpose.)
Re-assemble and fit to machine, checking that the projection on the throttle slide engages with the vertical groove in the mixing chamber wall and that there is no distortion or damage preventing the mixing chamber cover seating correctly.
Clean the carburettor air filter and refit.
Adjust the slow running screw (clockwise for faster running and anti-clockwise for slower running.)

3. H.14. SERIES (Old type and new type R.M.5.carburettors.

These are dealt with in the same manner as the A.R.series except that the 14 mm cap nut above the fuel feed banjo must be removed to gain access to the fuel filter and that the float chamber cover is fitted by means of two slotted screws.

IDENTIFICATION.

The letters A.R., B.A., or H.14 (followed in each case by a series number) will be found stamped on the side of the float-chamber bowl.

Raleigh Industries Limited, Nottingham. December, 1968.

Motor Division Service Department.

MOPED SERVICE MEMORANDUM SERIES 2. NUMBER 34.

Confidential.

NOISY CLUTCHES

Reports have occasionally been received of Moped or Wisp clutches which emit a screeching sound when taking up the drive from a standstill.

Although disconcerting to the rider, this noise does not indicate any serious defect or the likelihood of breakdown or unreliability of any kind.

It is caused by one of the three lined springs on the clutch drum rising into engagement before the other two. The offending spring can be identified by the greater glazed area of contact on the lining and the cure lies in filing a little off the whole surface area of this lining. All three linings should be given a generous chamfer on the leading edges.

A screeching clutch will eventually cure itself as wear take place but this is a slow process and the action indicated can save the customer a lot of unnecessary worry.

SERVICE EXCHANGE ENGINES.

In order to enable both basic and complete service-exchange engines to be fitted by the Dealer in the condition in which they were assembled and tested at our works, these units are supplied already fitted with lower engine mounting brackets, inlet adaptor and (where applicable) upper engine mounting brackets and I.T.cable retainer. These parts should therefore be included with the units returned to us for exchange, but the carburettor insulating sleeve should be removed from the inlet adaptor and the belt guard, when fitted, should be detached and retained.

R.M.5, R.M.11 & R.M.12 units are supplied less shouldered plugs in the cylinder head and less belt tension springs and bush, so that these should be removed from the original unit before despatch. On these models only, the upper and lower clutch fairing brackets are supplied fitted to the replacement unit and should not be removed from the original.

Lower engine mounting brackets are not supplied with a Bottom Half (crankcase/crankshaft assembly) only, so that in this case the originals should be retained.

MOTOR SERVICE DEPARTMENT WORKSHOP.

A fully equipped workshop is maintained at Nottingham for the purpose of dealing with claims under guarantee, of rebuilding service exchange units and of investigating any special problems.

It is not intended for the purpose of carrying out general repairs, routine maintenance or road accident rebuilds and these should be dealt with

Cont'd....

in the dealers' own workshops. In the event of a dealer being unable to undertake a particular repair, arrangements should be made with the nearest Key Service Dealer for the machine or engine to be transferred to him for attention.

DRIVE SPROCKETS. (Bottom bracket pulley)

When ordering a sprocket separately from the pulley, the bore of the sprocket should be checked to enable the correct part number to be quoted. The numbers are as follows:-

MTD 183	(earlier models)	12T.	29mm bore.
MTD 254	(later models & Wisp)	12T.	26mm bore.
MTD 245	(all R.M.9. models)	11T.	26mm bore.

Bottom bracket pulleys are always supplied complete with sprocket, so that the listed part number for each model remains correct.

SERVICE PUBLICATIONS (HOME MARKET)

MODEL	WORKSHOP MANUAL	SPARE PARTS LIST	RIDING & MAINTENANCE INSTRUCTION BOOK.
R.M.4.	MTR 261	MTR 269	MTR 257
R.M.5.	MTR 262	MTR 270	MTR 328
R.M.6.	MTR 261	MTR 271	MTR 248
R.M.8.	MTR 312	MTR 283	MTR 278
R.M.9.	MTR 312	MTR 308	MTR 306
R.M.11.	MTR 325	MTR 348	MTR 319
R.M.12.	MTR 325	MTR 326	MTR 319
R.S.1.	MTR 267	MTR 310	MTR 309
R.S.2.	MTR 268	MTR 310	MTR 309
R.S.3.	MTR 311	MTR 310	MTR 309
P.M.1.	MTR 263	MTR 272	MTR 259
P.M.2.	MTR 264	MTR 273	MTR 259
N.M.1.	MTR 265	MTR 274	MTR 258
N.M.2.	MTR 266	MTR 275	MTR 258
WISP.	MTR 380 (including spare parts list)		MTR 372.

Raleigh Industries Limited, Nottingham.
Motorised Division Service Department.

January, 1969.

MOPED SERVICE MEMORANDUM

NUMBER 35.

EXCHANGE REPLACEMENT SERVICE

This service provides only for the supply of a unit of the same type as that returned to us for exchange and the unit returned should be suitable for reconditioning. A surcharge is made in cases where parts are damaged by misuse or accident as in the case of a crankshaft with 'mushroomed' ends.

In particularly urgent cases, we are prepared to co-operate with dealers by supplying advance replacements, but the normal procedure is for the original to be forwarded with the order. This ensures a correct replacement and also avoids surcharges being made later, when the dealer has already concluded the transaction with his customer.

EXCHANGE REPLACEMENT UNITS		Listed Part Number	S/Exchange Equivalent Part Number
Engine, complete. (with mag, & clutch less carb, exh.system & sparking plug)	R.M.4/6 (1.39 B.H.P.)	Not listed	MTX 178
	R.M.5/11/12 original type	MTA 314	MTX 181
	Square fin type	Not listed	MTX 187
	R.M.6/8 (1.76 B.H.P.)	MTA 312	MTX 179
	R.M.9.	MTA 313	MTX 180
	Wisp.	MTA 336	MTX 186
Engine, basic. (less carb, mag, clutch, exh.system & sparking plug)	R.M.4/6 (1.39 B.H.P.)	Not listed	MTX 101
	R.M.5/11/12 original type	N/L.	MTX 114
	Square fin type	N/L	MTX 177
	R.M.6/8 (1.76 B.H.P.)	N/L	MTX 134
	R.M.9.	N/L	MTX 182
	Wisp.	N/L	MTX 185
Bottom half. (crankcase/crankshaft assembly complete)	(All) original type	Not listed	MTX 183
	(Models) long timing shaft type	N/L	MTX 189

Service exchange engines are supplied fitted with lower engine mounting brackets, inlet adaptor and (where applicable) upper engine mounting brackets and L.T.cable retainer. These parts should therefore be included with the units returned to us for exchange, but the carburettor insulating sleeve and the belt guard should be removed.

On R.M.5/11/12 units the shouldered plugs in the head and the belt tension springs and bush should be removed from the original before despatch. The upper and lower clutch fairing brackets should not be removed.

Lower engine mounting brackets are not supplied with Bottom half (crankcase/crankshaft assembly) and the originals should be retained.

Cont'd.....

			Listed Part Number	S/Exchange Equivalent Part Number
Crankshaft	for 15mm bearings		MTA 179	MTX 104
	for 16mm bearings		MTA 310	MTX 117
	long timing shaft type		MTA 334	MTX 188
Stator complete	Plain backplate, blue lighting coil		MTM 128	MTX 105
	Flanged " " " " "		MTM 158	MTX 142
	Flanged " " violet " "		MTM 167	MTX 167
Clutch complete	R.M.4/6/8/Wisp.	4 pin type	MTB 132	MTX 106
		2 pin type	MTX 157	MTX 184
	R.M.5/11/12	4 ball type	MTB 131)	
		3 ball type	MTB 161)	MTX 118
	R.M.9.	4 ball type	MTB 155)	
		3 ball type	MTB 164)	MTX 150
Clutch Drum	R.M.4/6/8/Wisp		MTB 116	MTX 175
	R.M.5/11/12		MTB 129	MTX 176
	R.M.9.		MTB 154	MTX 176
Clutch Shoes			MTB 110	MTX 108
Brake Shoes	R.M.4.	Front	MTK 117	MTX 109
		Rear	MTK 144	MTX 110
	R.M.5.	Front (s/arm)	MTK 144	MTX 110
		Front (tele)	MTK 117	MTX 109
		Rear	MTK 144	MTX 110
	R.M.6.	Front	MTK 246	No S/Exch.
		Rear	MTK 200	MTX 132
	R.M.8.	Front	MTK 200	MTX 132
		Rear	MTK 144	MTX 110
	R.M.9.	Front	MTK 200	MTX 132
		Rear	MTK 144	MTX 110
	R.M.11/12	Front	MTK 117	MTX 109
		Rear	MTK 144	MTX 110
	Wisp	Front	MSB 210	No S/Exch.
		Rear	MTK 200	MTX 132

Frames & Carburettors are not included in the exchange replacement service.

The current recommended retail prices of service exchange units are quoted in the Spare Parts Price list.

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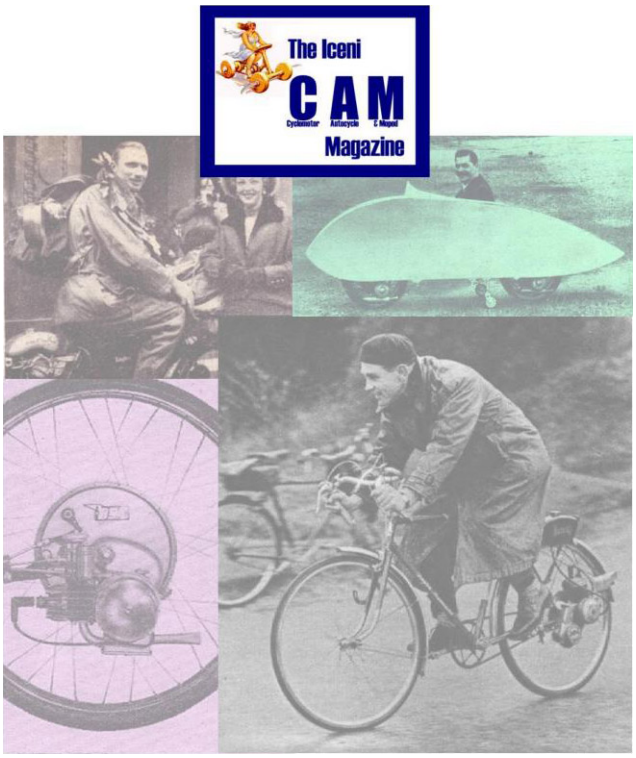

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