Matchless

IN NAME & REPUTATION

INSTRUCTION BOOK

AND

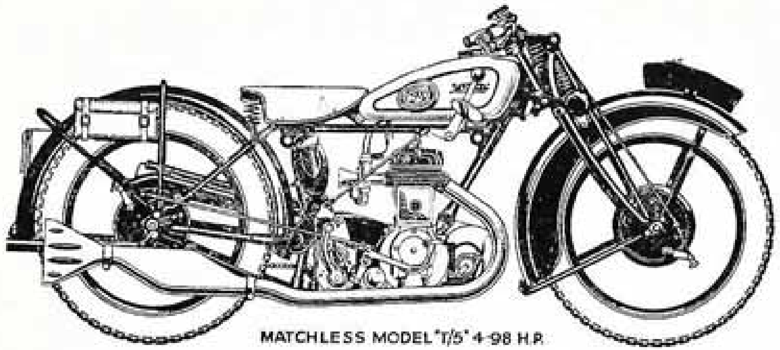
SPARE PARTS LIST

MODELS
T/5 and T/S2

Supplied free with each new cycle
Replacement Copies 1/- each

Reads 700P, 300UP -/5/30

DRIVING & ADJUSTMENT INSTRUCTIONS.



MATCHLESS MODEL "T/5" 4·98 H.P.

MATCHLESS MOTOR CYCLES

(COLLIERS) LIMITED,

Manufacturers,

Registered Offices:

44-45, Plumstead Rd., Plumstead, London, S.E.18, England.

Nearest Station:	Factories:
WOOLWICH ARSENAL, S.R.	BURRAGE GROVE & MAXEY ROAD, PLUMSTEAD, S.E. And MAST POND WHARF, WOOLWICH

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when chain is pressed up and down), should be obtained for the tightest place.

NOTE.—Before tightening rear chain, the adjustment of front chain should be inspected, and if attention to each is required, the latter should be treated first.

IMPORTANT.—Care is necessary when tightening rear chain to leave the wheel in correct alignment. When correct, a piece of thin string stretched taut across both wheels, and about four inches from and parallel to the ground, should be observed to just touch each tyre at both sides of wheel centre simultaneously. Alternatively a straight wooden batten about five feet long is a very handy article to be used for the purpose of checking wheel alignment applied as in the case of string parallel to and about four inches from the ground.

FRONT FORKS.

SPINDLE ADJUSTMENT.

Provision is made for taking up side or end wear of the various fork spindle bearings. The need for adjustment will be made apparent by a click or creaking noise when the steering head is abruptly turned. By placing the fingers partly over the spindle link end and partly upon the lug through which the spindle passes, first ascertain which spindle or spindles require adjustment. Then after slacking off both end nuts, turn the spindle bodily by means of its hexagonal end L.H. or contra-clockwise to take up slack or vice versa to slacken. Do not turn more than half a revolution before a re-trial, and care is essential to guard against over-tightening, when the fork will become stiff in action or most probably refuse to function. The fibre washers which are fitted between the lug ends and the spindle side plates are not provided for frictional purposes, but to prevent actual seizure in the event of the spindle adjustment being too tight. The necessary friction damper effect is provided independently and is adjusted as follows:—

TO ADJUST FORK ACTION DAMPER.

The fork action damper can best be adjusted while cycle is actually in motion and a badly corrugated surface such as may be found on many bus routes provides the best condition for the purpose. The ebonite damper hand nut should be screwed sufficently tight to make the fork action sluggish under such circumstances as those described and will subsequently require very little variation for other conditions of road surface to provide the maximum degree of comfort.

TO ADJUST STEERING HEAD.

The steering head should be occasionally tested for adjustment by exerting pressure upwards from the extreme tips of the handlebars, while the steering damper is completely slacked off. Should any shake be apparent, the top lock nut on steering column should be slackened off

and the lower nut screwed down until all trace of slackness has disappeared when the top lock nut should be again tightened down.

IMPORTANT.—To guard against unconsciously over-tightening the head bearings, the effect of which is extremely difficult steering, it is advisable to jack up the front of the machine (a box of suitable height under crankcase will serve) in order that all shake may be taken up satisfactorily and the steering head left perfectly free.

TO ADJUST WHEEL BEARINGS.

To adjust either rear or front wheel bearings, slack off the left side spindle nut, and with the smaller thin cone spanner provided, slack off the thin adjusting cone lock nut, after which with the larger spanner, turn the adjusting cone in the required direction, i.e., clockwise to tighten, after which lock the adjusting cone in position with the lock nut provided, and lastly carefully retighten the axle nut.

IMPORTANT NOTE.—It must be understood that taper roller bearings must not be adjusted tightly, and unless a trifling amount of slackness is observed it is possible quite unknowingly to impose an enormous crushing strain on the slightly tapered rollers without same being made apparent by undue friction. This slight slackness must therefore, always be maintained.

TYRES AND SERVICE.

To obtain satisfactory life and service from the tyres is largely within the user's control, and the first essential to obtain this is proper inflation. The correct amount of pressure is governed substantially by the load to be carried, and it is therefore difficult to lay down a hard and fast ruling. Assuming the weight of driver to be normal, the pressures recommended below may be regarded as satisfactory, and we urge all users to make a practice of checking the actual pressure by means of a low-pressure Schrader tyre gauge. This takes a few seconds only, and will amply repay the owner by reason of additional service and immunity from failures.

		Solo.		With Pillion Passenger.
Front wheel	...	15-16lbs.	...	15-16lbs.
Rear wheel	...	21-22lbs.	...	26-28lbs.

INCORRECT ADJUSTMENT OR MISUSE OF BRAKES.

With the highly efficient brakes fitted, harsh application is liable to result in heavy tyre wear. Particularly does this apply if the brake coupling is not correct, thereby allowing a large proportion of the braking effect to be taken by one wheel only. The instructions contained hereafter regarding brake synchronisation should be carefully followed, and under no circumstances other than emergency should the brakes be applied sufficiently harshly as to cause either of the wheels to stop revolving or to cause a squeak of protest from the tyres.

INTRODUCTION.

A PERSONAL MESSAGE TO ALL "MATCHLESS" OWNERS.

It is our sincere desire that you obtain from your "Matchless" the service, comfort, enjoyment, and innumerable miles of low cost travel that we have earnestly endeavoured to build into it.

A motor cycle, it must be remembered, is a highly specialised piece of engineering, and while it does not call for great engineering skill in driving, the exercise of a little mechanical sense, and the occasional use of a spanner, cleaning cloth, etc., is very necessary if the maximum service is to be obtained with the requisite degree of satisfaction. In the following pages we give without going into intricate technical detail, much valuable information that you should have, in order to give your cycle the careful attention which it merits. Neglect to make necessary adjustments, or only casual attention to the lubrication of important parts, will soon neutralise the best efforts of the designers who have wholeheartedly devoted their skill and knowledge to the production of this ideal machine, and may bring needless trouble and expense to its owner.

The Section dealing with Spares has been compiled to enable customers to correctly specify their requirements when renewals become necessary. On Pages 25 and 26 clear instructions will be found re ordering of spare parts, and also particulars of our Deposit Account System.

MATCHLESS MOTOR CYCLES (COLLIERS) LTD.

GENERAL DESCRIPTION.

TAKING OVER A NEW MACHINE.

Before describing the actual method of starting, it is perhaps advisable to explain the various lever positions. Neutral or free engine position of the gear lever (about one third forward from rearmost position in quadrant) is at a point where the small extension in gear quadrant engages with a slot in the gear lever. The engine must always be started with the gear lever in this neutral position.

Ignition is advanced or retarded by means of a lever on left side of handlebar. To advance the spark this lever is drawn inwards; for starting it should be about three-quarters advanced.

The throttle and air levers for carburettor both open inwards, the top lever operating the air and the lower and longer one the throttle. For starting, throttle should be about one-sixth open, and air completely closed. A small milled edge screw at the bottom of mixing chamber controls the air supply to pilot jet. This screw is accurately set at the works, but on account of variation in fuel or temperature, it may be found desirable to alter the adjustment occasionally. It should be explained, therefore, that by unscrewing, more air is admitted thereby weakening the mixture or vice versa, screwing in enriches the mixture by decreasing the air supply. This adjustment only affects carburation on very small throttle openings, and dead slow running. The taper needle attached to the throttle piston controls the petrol supply on large throttle openings. To weaken the mixture this needle must be lowered or alternatively to enrich it is necessary to raise same. These remarks are intended only to roughly convey some idea of the carburettor working and owners are advised to refrain from making any adjustments without good cause.

The petrol is turned on when the lever on the tap to which the petrol pipe is attached is parallel to the body of the tap. Assuming that the tank has been filled with petrol and oil of the brand recommended elsewhere, and that all levers and taps have been set as above, to start engine first flood carburettor by depressing the button on the float chamber until the petrol overflows, then raise the valve by lifting the left side handlebar lever, and at the same time, with the right foot give the kickstarter pedal a sharp and vigorous push downwards, releasing the valve lifter when the starter crank is about half-way down. This operation should not require at the most more than three or four attempts.

When the engine is started close the throttle slightly to check the engine speed, and seated on the cycle, disengage clutch by drawing

inward the lever which is situated on the left side of handlebar. Then shift gear lever forward into second gear position, at the same time engage the clutch by releasing slowly the lever which has already been drawn inward.

When fairly under way, smartly declutch and simultaneously shift gear lever porward into second gear position, at the same time releasing clutch lever gently but smartly as engine takes up the drive, after which repeat the operation to obtain top gear. In all changes of gear it is advisable to make certain that the gear lever is fairly in engagement with the notches in gear quadrant.

DRIVING.

In general driving it is always advisable to advance the ignition as far as possible without causing knocking. When ascending a steep hill, as the engine slows, care should be taken to retard the ignition just sufficiently to prevent knocking, and if a change of gear then be made the ignition should be again advanced, as the speed of the engine is increased by the use of the lower gear. For descending exceptionally steep and dangerous hills the middle gear may be engaged, enabling the frictional resistance of the engine to assist in retarding the descent. We do not, however, under any circumstances, recommend using the bottom gear for this purpose, as by so doing, an abnormal and unfair strain would be imposed upon the rear driving chain under certain circumstances.

It is advisable to ease the clutch slightly when rounding acute corners or when travelling slowly on top gear. If this practice is adopted from the first, much unnecessary gear changing will be avoided.

"DON'TS" IN DRIVING.

DO NOT race the engine unnecessarily or let the clutch in sufficiently suddenly to cause the wheel to spin. Take a pride in a silent smooth getaway.

DO NOT use the brakes with violence. Brake early and drive on the throttle instead of the brakes.

DO NOT allow engine to labour on high gear on a steep gradient and remember that an easier, faster, and better ascent can be made on the next lower gear.

DO NOT make a practice of starting on second speed.

DO NOT under any circumstances, allow the chains to run very slack or very dry. Either will soon cause trouble, and adjustments are easy. Slack chains will inevitably cause harshness of transmission.

DO NOT force engine or drive above a maximum speed of 25 m.p.h. for the first 500 miles. Mention is made of this warning on account of the natural desire of a new owner to ascertain his mount's maximum capabilities. However, until all bearings are well run in, etc., it is advisable to refrain from speed bursts and the accompanying possibility of seized bearing, piston rings, etc. The first 500 miles of an engine's existence is far more important than the next 5,000.

DO NOT race the engine in neutral gear position, violently accelerate from standstill, or drive at full speed on full throttle, etc. when in a residential district. Any motor cycle, or for that matter, any motor vehicle when so driven creates abnormal noise, and in the interests of all motorists we earnestly implore every "Matchless" owner to studiously refrain from any of the practices enumerated or any calculated to cause annoyance to the public in general. Recollect that the degree of silence of your cycle is judged not by the actual noise it is making but by comparison with other noises present. For example, in a busy street your cycle might be inaudible, while in a quiet narrow street of high buildings, it might be heard for several hundred yards, although in each case being driven in exactly the same manner.

LUBRICATION.

ENGINE.

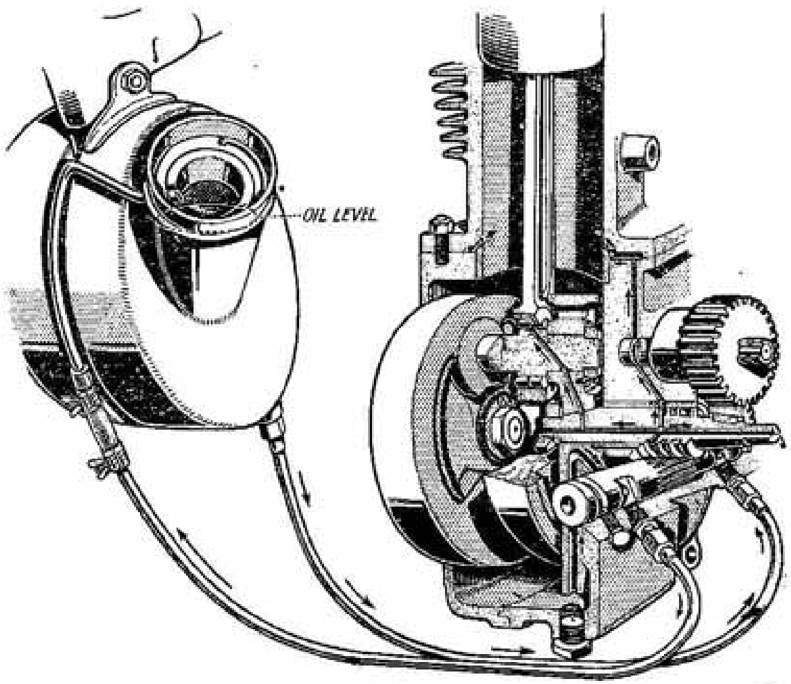
Proper lubrication is of vital importance and the use of only the best lubricant will be repaid many times over by long wear and good service. After extensive tests we have decided to recommend Wakefield Castrol X.L. as the most suitable oil, and advise all owners to use this and no other. Oil is carried in the tank underneath saddle and in use the level of oil in the tank should never be allowed to fall below the ¼ full mark. The integral oil pump is of the single plunger double diameter type, the larger diameter being used for exhausting the crankcase sump and the smaller end for delivering oil to all the essential parts of the engine interior, from whence it drains into the sump to be returned to the tank. By removing the oil tank filler cap the oil can be observed returning via the small spout immediately underneath the cap, and it is only by this that the owner can determine at a glance that the oiling system is functioning correctly. Therefore, upon starting the engine prior to each run it is desirable to raise the oil tank filler cap in order to observe the return flow of oil. No provision is made for external adjustment of

the oil supply, the correct delivery to each part of engine being arranged internally by suitably dimensioned passages. It might here be explained that oil is forced direct to the timing gear chamber, which after filling same to a predetermined level, overflows into the flywheel chamber and so drains away to the sump. Oil is also forced into the timing gear side flywheel axle bearing, and thence through a drilled passage in the flywheel to the big end bearing, the splash from which passes up into the cylinder interior. In addition to this splash the cylinder is provided with a direct oil passage ensuring an adequate supply under all conditions for this, the most vital part of the engine. No attention to this oiling system is required other than observing the return of oil to the tank prior to a run and the continual replenishment of the supply tank, the level of oil in which, as mentioned above, must be above the ¼ full mark and must not be filled when engine is cold to a level higher than 1in. below the return pipe outlet.

The identifying letters used by most Oil Firms denoting the different grades in which that oil is supplied are imitated, so that it is essential, when ordering oil, to specify the brand as well as the grade. Say "Castrol X.L." not just "X.L." As an additional precaution it is advisable to buy from the branded cabinets or from sealed packages. See from where your oil is drawn.

NOTES ON THE OILING SYSTEM.

If the engine is for any reason dismantled, the crankcase must not on any account be separated until the pump plunger has been withdrawn. To withdraw this plunger, first remove both end caps and also the guide screw, when the plunger can be pushed out large end first. When reassembling, this plunger must be inserted after crankcase sections have been bolted together, and before refitting the end caps the guide screw must be replaced with its relieved tip engaging the profile cam groove in the plunger. By moving the plunger to and fro while this screw is being introduced, the correct location of the groove can be easily felt, and the screw in question must be finally firmly screwed home. As will be seen from the illustration overleaf, the entire oiling system is simplicity itself, only one moving part being employed, viz., the double diameter plunger. This plunger is rotated by the engine shaft, and moves backward and forward while rotating under the influence of the small guide screw which engages with the profiled annular groove cut in the plunger end. As the plunger moves in its housing in one direction, the large end draws oil from the sump, while at the same time the smaller end is delivering fresh oil to the various channels provided. Upon the reverse movement of the plunger the large end returns to the tank the oil already drawn from the sump, while the smaller end draws a fresh charge of oil from the tank in readiness for delivery to the engine upon the following movement of the plunger. This action of course goes on all the while the engine is revolving, and since the exhausting plunger



Notes on the Oiling System—contd.

is the larger one, the engine sump is always kept clear of oil, hence the term " dry sump," while at the same time a large quantity of clean cool oil is being forced under pressure to all working parts. A filter for the oil is provided in the supply tank immediately under the filler cap. This filter should be removed and cleaned in petrol at least once every 500 miles, while once each season or not less frequently than once every 5,000 miles, the entire tank should be removed, thoroughly washed out with petrol, and after refitting, filled to correct level with fresh clean oil. To avoid undue waste it is quite permissable to arrange for this clean out when the oil level is at the lowest recommended above, although it must be pointed out that normally it is highly desirable to add fresh oil frequently in small quantities in preference to allowing the supply to become almost exhausted before refilling, the reason for this being that the more oil there is in the tank the cooler it will keep in circulation.

CHAINS.

The primary and magneto chains are normally lubricated by oil mist from the crankcase release valve, which mist settles out in the chain cover and is led by means of suitably situated ducts into the chain paths. For all ordinary purposes this method of lubrication is entirely satisfactory. It is desirable, however, to inspect the primary chain occasionally, and to remove it once every 3,000 miles and thoroughly wash in paraffin to remove all grit. It should then be carefully wiped and afterwards be immersed in a bath of oil and allowed to thoroughly soak. The rear chain must be similarly treated, but at more frequent intervals, say every 1,500 to 2,000 miles in summer and every 1,000 miles during the winter months. If carefully treated in this manner, and kept constantly in correct adjustment, at least 10,000 miles and 15,000 miles of satisfactory service should be obtained from the primary and rear chains respectively.

GEAR BOX.

Once every 500 miles a grease gun full of Wakefield Castrolease (Light) should be injected into the gear box via the small grease nipple provided on the filling plug. Occasionally this filling plug should be removed in order to verify the level of lubricant in the box. The correct level is just above the top of the boss into which the filling plug screws. Therefore, when this plug is removed the grease should overflow, and if the above mentioned injections do not maintain this correct level, the interval between each should be reduced accordingly.

FORK SPINDLES.

Every 500 miles the fork spindle bearings should be flooded with a good quality grease, preferably Tecalemit Grease or Wakefield Castrolease. This flooding process is one of a few seconds only by means of the special grease gun provided. This requires merely holding the nozzle end against the rounded nipples on fork spindles and given a few sharp strokes.

HUBS.

Every 500 miles (or more frequently in continuous bad weather) the lubricators in the centre of both front and rear hubs should have a small quantity of grease forced through them. (Wakefield Castrolease suitable).

Note, Castrolease can be obtained in special push down lid canisters for easily filling the grease gun in ½lb., 1lb. and 2lb. sizes.

GEAR ROD JOINTS, ETC.

In addition to the foregoing, all parts such as brake and gear rod joints, etc., should receive a few drops of oil occasionally, particularly in bad weather. Bicycle lubricating oil or engine oil.

ADJUSTMENTS & MAINTENANCE.

DECARBONISATION.

The period for which an engine will run satisfactorily without being decarbonised depends to a great extent upon driving conditions. Generally, however, this process should be carried out every 1,500 to 2,000 miles. The need for decarbonising will be indicated by a tendency to pink or knock when ascending hills, or upon accelerating after rounding a corner, and particularly so when the engine is hot. Although to remove carbon deposit it is only necessary to take off the cylinder head, it is advisable to remove the cylinder each 5,000 miles in order to also inspect the piston rings and remove any deposit from the grooves in which they operate.

TO DECARBONISE.

First remove sparking plug to avoid damage, and unscrew all the cylinder head fixing bolts, when the head may be lifted clear. The carbon deposit should then be scraped off the piston top and also from the interior of the head, after which all traces of the deposit should be carefully wiped off with a clean calico rag, and the head replaced. When fixing cylinder head care must be taken to see that the gasket is quite clean, and after introducing all the bolts they should each be tightened down in turn finger tight only. Then going round each in turn, slightly increase the pressure to each until all are firmly and evenly tightened right home. Lastly, before leaving the job, start up engine and when warm, go over each bolt again, when it will be found that a slight extra turn will be possible.

TO GRIND IN VALVES.

During each alternate decarbonisation, it is desirable to remove the valves and grind in to restore the seatings, clean the stems and guides, etc. This must, of course, be done while the head is removed. Having removed the head and valve inspection cover, gently force the bottom valve spring cap up with a stout lever, at the same time holding the valve head down on its seating until it is possible to

withdraw the valve cotter. Then smear a little grinding paste on the seating and with a screwdriver in the slot in valve head gently move the valve to and fro (never rotate completely) raising the valve off its seating between each few movements. When the grinding paste ceases to bite remove the valve and wipe the seating clean, and if necessary apply another coating of paste and repeat the process. Generally, one application only is sufficient to restore the seating of either inlet or exhaust valve, but it may happen that the latter will require a second application to remove all traces of pit marks. Having restored the valve faces, carefully clean off all traces of the grinding paste and thoroughly wipe both valve stems and valve guides, when the valves may be replaced, care being taken not to mix their respective positions. Before refitting the valve inspection cover, check the tappet clearances, which should be .004 for the inlet and .006 for the exhaust. These clearances should be constantly and accurately maintained to obtain the best results as regards silence of valve gear, and a cheap set of engineers' feeler gauges will be found very useful for checking purposes.

TO ADJUST INLET OR EXHAUST TAPPETS.

Hold tappet head (bottom large hexagon) with spanner provided, and slack off lock nut securing tappet head. Then screw head down or up, as required, until correct clearance is obtained, after which securely lock in position with lock nut. Always check for correct adjustment after lock nut has been secured.

TO REMOVE AND REPLACE TIMING GEAR CAM WHEEL.

First detach valve lifter cable from the lever which it operates, and after removing the screws and special bolt securing the timing gear cover, gently force same off. Next turn the engine round until the marked teeth on the cam wheel and small pinion coincide, when the former is free to be withdrawn. When replacing first see that the marked tooth on the small pinion is vertical, then holding the cam levers up with the fingers, gently insert the cam wheel, with its marked tooth gap coinciding with the marked tooth of the small pinion. Then gently slide the cover and valve lifting cam into position, when the fixing screws may be firmly screwed home.

NOTE—(1) It is advisable to smear the edge of the cover with seccotine or quick drying gold size just before fitting.

(2) Owing to the fact that normally about one half-pint of oil is maintained in the timing gear chamber, a pan or some receptacle should be provided to catch the oil as the cover is being removed. This oil need not necessarily be replaced upon refitting the cover, as immediately the engine is restarted the oiling system will commence to build up the required level. It is, however, desirable to apply oil generously to any part removed upon its replacement to provide adequate lubrication until such time as the oil level is automatically restored.

TO REMOVE MAGNETO.

First withdraw footrest rubber on left side footrest. This rubber is merely a push-on fit. Next remove the two nuts and washers securing outer half of chain cover and remove cover. Then remove the bolt fixing magneto sprocket to magneto armature shaft, after which gently force the sprocket off by means of a lever behind same. Then remove the carbon brush holder complete with cable. Next remove the contact breaker cap and withdraw the breaker cam ring, after which by removing the screw securing the Bowden cable stop attached to magneto, the cable, complete with the block which engages with a slot in the cam ring, can be gently pulled clear. Then after removing the nuts and capped washers on the underneath side of magneto platform only, the magneto may be lifted clear. When re-fitting, these parts must be attached in reverse order.

NOTE.—On electrically equipped machines the magdyno is secured to the platform by means of three bolts, all of which must be removed in order to permit of the removal of this unit.

TO RE-TIME MAGNETO.

With sprocket on magneto armature shaft loose, revolve engine carefully until the piston has just passed the top dead centre of firing stroke (this is the top-most position of piston at which both valves are closed). Now fully retard the magneto, and taking care not to move the engine from slightly past top centre position (about 1-16th in. down is the correct position of piston), gently turn the magneto armature in the normal direction of rotation until the contact points are just about to part, in which position the sprocket fixing bolt should be carefully and firmly tightened. It is advisable to check the setting after fixing sprocket by again placing the piston in the position of 1-16th in. down firing stroke or past top dead centre and removing the ignition lever backward and forward from fully retard to about one third advanced. During this small movement the contact points should be observed to definitely part.

CARBURETTOR ADJUSTMENT.

Although owners are advised to refrain from tampering with the setting of the carburettor without good cause, a rough idea how this unit functions and how adjustments may be effected is given below. The correct level of petrol is maintained by means of a float and needle valve operating in much the same manner as the ball float and valve of an ordinary domestic water cistern. The correct level is obtained by the carburettor manufacturers, and no alteration under any circumstances should be made here. In the event of a leaky float or worn needle valve, the part in question should be replaced. Control over the main petrol supply to the engine is obtained firstly by the jet or orifice, and secondly by a taper needle passing through the jet

and attached to the throttle valve. As the throttle valve is opened a smaller part of the taper needle comes into operation, thereby increasing the passage for the petrol. This needle being adjustable in length provides a fairly wide range of control without actual alteration to the jet size. A pilot or slow running jet is provided to take care of slow running or idling, and a throttle stop controls the actual speed at which the engine runs and the throttle is closed to the maximum extent possible in which position the engine should run or " tick over," to use an expression favoured by motor cyclists, slowly but positively. The correct setting of the main jet should permit of full air being used when running fast on full throttle. To test for correct setting, start up engine, and after allowing a few seconds to warm up, fully retard the ignition and fully open throttle. If it is now possible to open the air beyond the ⅓ or ½ open position it would indicate a too large jet, and the needle attached to throttle valve must be lowered or lengthened. This needle, it should be explained, is secured by a flat strip cotter engaging with a small notch in the needle. Several of these notches are provided to permit adjustment. When correct, the engine should commence to splutter immediately the air lever is opened more than about ⅓, but should run satisfactorily on the fully closed air position. Under no circumstances should the engine be run for more than a few seconds in this fully retarded fully opened throttle position. The only other adjustments are the air supply to the pilot jet and the throttle stop. The adjusting screw for the pilot jet air supply will be observed at the base of the mixing chamber. Screwing in enriches the mixture and, vice versa, unscrewing weakens. It must be clearly understood that adjustment to this screw affects the mixture only on extremely small throttle openings. Having set the throttle stop screw to give the desired idling engine speed, the pilot jet air screw is turned in the required direction to give even firing. The adjustment is not particularly sensitive, and no difficulty should be experienced in finding the correct position, when the locking nut should be tightened down to prevent any movement by vibration. Adjustment, if any, should be made to this air screw while the engine is warm and the ignition fully or nearly fully advanced. We mention this in order to remove the possible impression that the pilot jet setting is not correct should the engine stall when started up from cold. Once correctly set the pilot jet should not require attention except perhaps in extremes of temperature.

GEAR BOX.

The construction of the gear box is roughly as follows. The body or shell consists of an aluminium casting secured by means of two bolts operated in slotted holes, to a block firmly fixed to the rear engine cradle plates, the object of the slotted holes being to provide for front chain adjustment. This shell carries a main and also a secondary shaft, upon each of which are mounted three gear wheels providing three speeds. Two pairs of these wheels remain constantly in mesh. The remaining two gears are arranged to slide upon their respective shafts, to which they are fixed rotationally by means of keys or splines. Engagement with the constant mesh gears is arranged by means of dogs machined on the side of the various gear wheels and the position taken up by these sliding gears is governed by a gear lever operating in a suitably shaped gate or quadrant, to which lever is attached a rod connected to a lever on the gear box shell, which latter imparts the movement to the two sliding gears referred to above. The clutch consists of a number of cork and fibre faced plates kept in contact with smooth metal plates by means of a central spring, the pressure of which spring is released by means of a hand lever operating through the medium of a quick-thread worm and a long push rod passing through the main shaft. In driving it must always be remembered that the engine gives best results when running smoothly. It should not be driven at low speeds on full throttle as this causes snatch and harshness in the transmission, leading to excessive tyre wear, unevenly worn chains, etc. The gears should be freely used, and at the least sign of jerkiness when hill climbing or running slowly on the level, a change to a lower gear should be made. It is of course not possible to lay down any hard and fast rules on this matter, as conditions vary to such a large extent by load carried, wind velocity, etc., but generally it is desirable to change down to second speed on the level when the road speed falls below 18 to 20m.p.h., and on a steep hill when the speed falls below 24 to 25m.p.h. Similarly a change should be made to bottom gear if the speed on second falls below 12 to 15m.p.h. In all circumstances recollect that the gear box is provided for use.

TO REMOVE GEAR BOX END PLATE FOR EXAMINATION OF GEARS.

First detach silencer and exhaust pipe, also detach front end of rear brake rod. Then disconnect the clutch control wire. This can best be done by turning the clutch worm in a clockwise direction (by means of a spanner applied to the flattened end of the worm spindle), whereupon the cable nipple can be readily detached from the worm lever via the slot provided. Upon removing the two gear rod yoke end pins and the seven nuts securing the gear box and plate, same can be gently drawn off.

NOTE.—While the end plate is being removed, a pan or some receptacle must be placed underneath to catch the oil, the bulk of which will run out. When re-assembling, the faces of the end plate and gear box must be thoroughly cleaned and a new paper washer used if the old one has been damaged. Preferably coat with quick drying gold size.

CLUTCH ADJUSTMENT.

In the event of clutch slip being experienced, the adjustment of clutch operating cable should be suspected. When correctly adjusted

it should be possible to move the clutch actuating worm (part to which lower end of cable is attached) to and fro slightly with the fingers and if this free movement cannot be felt, the cable stop should be adjusted accordingly. If necessary, the bolt securing the clutch worm lever may be slackened and the worm portion revolved slightly back to provide slacker cable adjustment, or forward to tighten. Should the clutch on the other hand develop harshness even with correctly adjusted chains, the clutch plates should be carefully removed and smeared with a mixture of powdered graphite and water worked up into a paste. Oil should not be used under any circumstances.

ADJUSTMENT OF GEAR CONTROL.

After an adjustment has been made to the primary chain, the gear lever adjustment should be checked and corrected if necessary. To do this, jack the back wheel up on the stand, and while gently rocking the rear wheel to and fro, move the gear lever in the gate sufficiently either side of the neutral notch to feel the dogs on gears grating, carefully noting at the same time the distance the gear lever travels past the neutral position. The movement either side should be exactly similar, and adjustment to the length of the rod should be made to correct if necessary. This adjustment is obtained by removing the yoke end pin which passes through the lever end, and after unscrewing the locking nut, screw the yoke end down or up the rod as may be required. It is important that this checking be carefuly carried out, and in practice, the operation as described above will be found extremely simple.

TO ADJUST FRONT CHAIN.

First remove the snap-on cover over the gear box fixing bolts (this may easily be prised out of position), then slack off both of the long fixing nuts. Now turn the special double headed adjuster nut in right-hand direction to tighten or vice versa to slacken. After the correct adjustment has been obtained, the fixing nuts should be firmly tightened down. NOTE.—The adjustment of chain should be tried in various places, and the correct adjustment (which should allow a whip of about $\frac{3}{8}$in. when chain is pressed lightly up and down) should be obtained for the tightest place.

NOTE.—It is advisable to remove the outer half of front chain case to enable the correct adjustment to be readily verified.

TO ADJUST REAR CHAIN.

Put down rear stand, then slack off rear wheel spindle nuts. Then adjust chain as required, by means of the bolts which pass through each of the fork ends, after which securely tighten spindle nuts. Tension of chain should be tried in a number of places, and the correct adjustment (which should allow a whip of $\frac{3}{8}$in. to $\frac{1}{2}$in.

when chain is pressed up and down), should be obtained for the tightest place.

NOTE.—Before tightening rear chain, the adjustment of front chain should be inspected, and if attention to each is required, the latter should be treated first.

IMPORTANT.—Care is necessary when tightening rear chain to leave the wheel in correct alignment. When correct, a piece of thin string stretched taut across both wheels, and about four inches from and parallel to the ground, should be observed to just touch each tyre at both sides of wheel centre simultaneously. Alternatively a straight wooden batten about five feet long is a very handy article to be used for the purpose of checking wheel alignment applied as in the case of string parallel to and about four inches from the ground.

FRONT FORKS.

SPINDLE ADJUSTMENT.

Provision is made for taking up side or end wear of the various fork spindle bearings. The need for adjustment will be made apparent by a click or creaking noise when the steering head is abruptly turned. By placing the fingers partly over the spindle link end and partly upon the lug through which the spindle passes, first ascertain which spindle or spindles require adjustment. Then after slacking off both end nuts, turn the spindle bodily by means of its hexagonal end L.H. or contra-clockwise to take up slack or vice versa to slacken. Do not turn more than half a revolution before a re-trial, and care is essential to guard against over-tightening, when the fork will become stiff in action or most probably refuse to function. The fibre washers which are fitted between the lug ends and the spindle side plates are not provided for frictional purposes, but to prevent actual seizure in the event of the spindle adjustment being too tight. The necessary friction damper effect is provided independently and is adjusted as follows:—

TO ADJUST FORK ACTION DAMPER.

The fork action damper can best be adjusted while cycle is actually in motion and a badly corrugated surface such as may be found on many bus routes provides the best condition for the purpose. The ebonite damper hand nut should be screwed sufficently tight to make the fork action sluggish under such circumstances as those described and will subsequently require very little variation for other conditions of road surface to provide the maximum degree of comfort.

TO ADJUST STEERING HEAD.

The steering head should be occasionally tested for adjustment by exerting pressure upwards from the extreme tips of the handlebars, while the steering damper is completely slacked off. Should any shake be apparent, the top lock nut on steering column should be slackened off

and the lower nut screwed down until all trace of slackness has disappeared when the top lock nut should be again tightened down.

IMPORTANT.—To guard against unconsciously over-tightening the head bearings, the effect of which is extremely difficult steering, it is advisable to jack up the front of the machine (a box of suitable height under crankcase will serve) in order that all shake may be taken up satisfactorily and the steering head left perfectly free.

TO ADJUST WHEEL BEARINGS.

To adjust either rear or front wheel bearings, slack off the left side spindle nut, and with the smaller thin cone spanner provided, slack off the thin adjusting cone lock nut, after which with the larger spanner, turn the adjusting cone in the required direction, i.e., clockwise to tighten, after which lock the adjusting cone in position with the lock nut provided, and lastly carefully retighten the axle nut.

IMPORTANT NOTE.—It must be understood that taper roller bearings must not be adjusted tightly, and unless a trifling amount of slackness is observed it is possible quite unknowingly to impose an enormous crushing strain on the slightly tapered rollers without same being made apparent by undue friction. This slight slackness must therefore, always be maintained.

TYRES AND SERVICE.

To obtain satisfactory life and service from the tyres is largely within the user's control, and the first essential to obtain this is proper inflation. The correct amount of pressure is governed substantially by the load to be carried, and it is therefore difficult to lay down a hard and fast ruling. Assuming the weight of driver to be normal, the pressures recommended below may be regarded as satisfactory, and we urge all users to make a practice of checking the actual pressure by means of a low-pressure Schrader tyre gauge. This takes a few seconds only, and will amply repay the owner by reason of additional service and immunity from failures.

		Solo.		With Pillion Passenger.
Front wheel	...	15-16lbs.	...	15-16lbs.
Rear wheel	...	21-22lbs.	...	26-28lbs.

INCORRECT ADJUSTMENT OR MISUSE OF BRAKES.

With the highly efficient brakes fitted, harsh application is liable to result in heavy tyre wear. Particularly does this apply if the brake coupling is not correct, thereby allowing a large proportion of the braking effect to be taken by one wheel only. The instructions contained hereafter regarding brake synchronisation should be carefully followed, and under no circumstances other than emergency should the brakes be applied sufficiently harshly as to cause either of the wheels to stop revolving or to cause a squeak of protest from the tyres.

BRAKE CONTROL ADJUSTMENT.

Owing to the fact that the foot operation of the front wheel brake is effected through a Bowden cable, it is necessary in order to obtain the correct and maximum braking effect to adjust the controls so that the front brake is applied slightly before the rear. To do this both wheels should be jacked up on the stands and dur.ng the process of setting the knurled adjusting nuts, the brake should be light y applied and the controls so adjusted that when it becomes difficult to move the front wheel against the action of the brake, the effect is only just noticeable on the rear wheel. When correctly adjusted, both wheels must of course turn freely when the brake pedal is released, and upon applying a moderate pressure to the brake pedal it should be observed that applica-tion of the hand brake lever does not cause any add.tional movement of the front brake expander lever, thus indicating that the brake in question is in full engagement. Any tendency for the back wheel to squeak or skid upon a moderately strong application of the brake pedal indicates that the adjustment of the front brake foot operated cable is not sufficiently in advance of the rear, and in such a case the remedy is to either tighten up the front adjustment slightly or alternatively slacken the rear.

CUTS IN TYRES.

Any but superficial rubber cuts are a menace to the whole tyre structure. The tyre casing retains its strength only so long as the whole of its plies are unbroken. If two or three strands are severed, the whole tyre casing is weakened and a large burst may result. The penetration of wet and road matter results in rapid deterioration of the casing material to which it may gain access. Covers should be periodically examined, and any cuts, other than those purely superficial, efficiently repaired.

CONCUSSION BURSTS.

If a tyre when travelling and bearing its share of the load, comes into contact with an obstruction, the impact, which is a product of the load carried and the velocity of the vehicle, may reach an extremely high figure and produce an excessive localised strain upon the material forming the casing, and a resultant fracture. The tread rubber, owing to its nature, may not show perceptible signs of bruising or damage as the result of even the most severe blow. An incorrectly inflated tyre is more susceptible to damage resulting from such blows than one inflated to the recommendations above.

TO REMOVE REAR WHEEL.

First raise the rear of cycle on to rear stand by holding same down with right foot and gently lifting the rear of cycle by means of the hand stay. Under no circumstances should the cycle be dragged up violently on to this stand, as it can be easily realised that the sudden stop as the stand comes into action under such usage imposes a totally unfair strain upon the tubular members from which

To Remove Rear Wheel—contd.

it is constructed. Having jacked the wheel up, disconnect the rear brake rod crosshead by withdrawing the split pin by which it is secured to the shoe expander lever, and also disconnect the rear chain connecting link, after which release wheel axle nuts. The wheel is then ready to be removed by drawing same backward until axle is free from fork ends, at the same time twisting it in forks to release brake cover plate from its anchorage.

NOTE.—See instructions re wheel alignment (to adjust rear chain).

TO REMOVE FRONT WHEEL.

Put down rear stand (as directions above) and then jack the front up on the front stand which, it should be explained, is not sufficient to provide a safe balance by itself. Then remove the nut securing the expander lever, and gently force this lever off the splined end of the expander to which it is attached. Next withdraw the two cables from their slotted anchorage, and after slacking off both axle nuts, gently force out each washer from the recess in fork ends in turn with a stout lever, at the same time exerting pressure down-wards upon the wheel, which will then fall out of position.

PERIODICAL INSPECTION OF NUTS, ETC.

Satisfactory service depends largely upon the necessary immediate attention to details. The old adage "A stitch in time saves nine" applies with particular force to motor cycle maintenance. Make a point of testing the security of all nuts occasionally with a spanner. There is possibly more dissatisfaction and damage caused through neglecting details than for any other reason. It must always be remembered that a motor cycle is a highly specialised piece of engineer-ing, and that while it does not call for great engineering skill in driving, the exercise of a little mechanical sense and the occasional use of a spanner, cleaning cloth, etc., is very necessary if the maximum of service is to be obtained with the requisite degree of satisfaction. Therefore, do not wait until to-morrow, but adjust it now.

CLEANING.

If the machine is used to any extent in bad weather, a small hose is almost indispensable for mud removing. Care should be exercised not to direct water on to the engine and magneto, or other such parts. If a hose is not available, soak dirt with paraffin before removing. Do not attempt to rub or brush mud off an enamel surface when dry, or the polish will soon be destroyed. For engine, magneto, etc., a good stiff paint brush and a pot of petrol is preferable.

IMPORTANT NOTE.—Upon no account should ordinary metal polishes be used upon chromium plated parts, as almost without exception such polishes contain oleic acid which attacks chromium. Should the chromium plating become dirty or lacking in lustre, a little "Goddard's Silver Plate Powder" should be used. This powder, incidentally, is obtainable at any domestic store.

CORRECTIVE MEASURES.

No adjustment should be made nor any part tampered with until the cause of the trouble is known. Otherwise adjustments which are correct may be destroyed.

Engine Suddenly Stops :—

(1) Petrol shortage in tank.
(2) Choked petrol supply pipe or tap.
(3) Water in float chamber.
(4) Oiled up or fouled sparking plug.
(5) Water on magneto pick-up or sparking plug.

Engine Fails to Start :—

(1) Lack of fuel or insufficient flooding if cold.
(2) Oiled up sparking plug.
(3) Stuck up valve or valve stem sticky.
(4) Weak valve spring or valve not seating properly.
(5) Too liberal throttle opening.
(6) Contact breaker sticking.

Loss of Power :—

(1) Valve or valves not seating properly.
(2) Weak valve spring or springs.
(3) No tappet clearance or excessive clearance.
(4) Lack of oil in tank.
(5) Brakes too closely adjusted.
(6) Badly fitting or broken piston rings.
(7) Punctured carburettor float.
(8) Silencer choked with carbon deposit.

Engine Overheats :—

(1) Lack of proper lubrication.
(2) Weak valve springs.
(3) Pitted valve seats.
(4) Worn piston rings.
(5) Late ignition setting.
(6) Punctured float, causing rich mixture.
(7) Air control to carburettor out of order.
(8) Silencer choked with carbon deposit.

Engine Misses Fire :—

(1) Valve spring weak.
(2) Defective or oiled plug.
(3) Incorrectly adjusted contact breaker.
(4) Incorrectly adjusted tappets.
(5) Defective sparking plug cable.
(6) Contact breaker arm sticking.

LEGAL MATTERS.

NOTE.—In view of the growing public objection to noisy motor-cycles, a word of warning on this subject may not be out of place here. Firstly, it has been noted, and freely commented upon, that much of the noise complained of is unnecessary, being due to injudicious driving as for instance, violently accelerating from a standstill, racing the engine when stationary, driving on full throttle when ascending hills in residential districts, etc. Any motor cycle, or for that matter, any motor vehicle driven in this manner creates abnormal noise, and in the interests of all, we earnestly implore every " Matchless " owner to studiously refrain from any of the practices enumerated.

To comply with the Law relating to motor cycles, the owner of a " Matchless " Model T/5 and T/S2 must :—

1. Hold a driver's license, which can be obtained from the Chief Constable or Corporation of a County Borough, or from the County Council. The charge for this license is 5/- yearly, and must be renewed annually from the date of issue. A Motorcar driver's license covers the driving of a Motorcycle.
2. Apply to the Taxation Department of the Local Authority of the district in which the vehicle is to be ordinarily kept for Inland Revenue License and Registration Form RF 1/2 (Motor-cycles only). The address of the above Taxation Department can be obtained, by enquiry, at a Post Office.
3. The Form RF 1/2, when obtained, must be filled in and returned, accompanied by the requisite remittance which varies according to the date of registration and the term to be covered. For a full year, January 1st to December 31st, the fee is £3 (solo) or £4 with sidecar attached. In some districts evidence that the vehicle to be licenced is new and has not previously been registered may be demanded. A Manufacturers' or Agents' Invoice will serve.
4. See that his front plate is illuminated on both sides at night.
5. Never drive at a speed which is dangerous to the public.
6. Wherever necessary, give audible and sufficient warning by horn or other instrument, of the approach of his motor cycle.

For registration purposes the following particulars will be required :—

Weight of cycle unladen (with equipment required by Law), 250lbs.
Type of Model, " Matchless " Model T/5.
Manufacturers' horse power, 4.98.

NOTE.—The above weight applies only to machines without electrical equipment.

GUARANTEE.

We give the following guarantee with our motorcycles, motorcycle combinations and sidecars, which is given in place of any implied conditions, warranties or liabilities whatsoever, statutory or otherwise, all such implied conditions, warranties and liabilities being in all cases excluded. Any statement, description, condition, or representation contained in any Catalogue, advertisement, leaflet or other publication shall not be construed as enlarging, varying or over-riding this guarantee. In the case of machines which have been used for "hiring out" purposes, or racing, or from which the trade mark name or manufacturing number has been removed, no guarantee of any kind is given or is to be implied.

WE GUARANTEE, subject to the conditions mentioned below, that all precautions which are usual and reasonable have been taken by us to secure excellence of materials and workmanship, but this guarantee is to extend and be in force for six months only from date of purchase, and damages for which we make ourselves responsible under this guarantee are limited to the free supply of a new part in exchange for the part of the motorcycle, motorcycle combination, or sidecar which may have proved defective. We do not undertake to replace or refix, or bear the cost of replacing or refixing, such new part in the motorcycle, motorcycle combination or sidecar. We undertake, subject to the conditions mentioned below, to make good at any time within six months any defects in these respects. As motorcycles, motor cycle combinations, and sidecars are liable to derangement by neglect or misuse, this guarantee does not apply to defects caused by wear and tear, misuse or neglect.

The term "misuse" shall include amongst others the following acts :—

1. The attaching of a sidecar to the motor cycle in such a manner as to cause damage or calculated to render the latter unsafe when ridden.
2. The use of a motor cycle or motor cycle and sidecar combined, when carrying more persons or a greater weight than for which the machine was designed by the manufacturers.
3. The attaching of a sidecar to a motorcycle by any form of attachment not provided or supplied by the manufacturers, or to a motorcycle which is not designed for such use.

Any motorcycle, motorcycle combination or sidecar sent to us to be plated, enamelled or repaired will be repaired upon the following conditions, i.e., we guarantee that all precautions which are usual and reasonable have been taken by us to secure excellence of materials and workmanship, such guarantee to extend and be in force for three months only from the time such work shall have been executed or until

the expiration of the six months above referred to, and this guarantee is in lieu and in exclusion of any common law or statute warranty or condition and the damages recoverable are limited to the cost of any further work which may be necessary to amend and make good the work found to be defective.

CONDITIONS OF GUARANTEE.

If a defective part should be found in our motorcycles, motorcycle combinations or sidecars, or in any part supplied by way of exchange before referred to, it must be sent to us CARRIAGE PAID, and accompanied by an intimation from the owner that he desires to have it repaired or exchanged free of charge under our Guarantee, and he must also furnish us at the same time with the number of the machine, the date of the purchase, or the date which the alleged defective part was exchanged as the case may be.

Failing compliance with the above, such articles will lie here AT THE RISK OF THE OWNER, and this guarantee and any implied guarantee, warrantee or condition shall not be enforceable.

We do not guarantee specialities such as tyres, saddles, chains, lamps, etc., or any component parts supplied to the order of the purchaser differing from standard specifications supplied with our motorcycles, motorcycle combinations, sidecars or otherwise.

IMPORTANT NOTE.—Any part sent to us for any reason whatsoever must bear distinctly the sender's name and address and instructions or requests relative to parts must be sent separately by letter post.

MACHINE NUMBERS.

The frame number will be found stamped on the right hand side of lug under saddle.

The engine number is stamped on the aluminium crankcase, transmission side, immediately beneath cylinder base.

MATCHLESS MOTOR CYCLES (COLLIERS) LTD.

INTRODUCTION.

We have pleasure in presenting this Spares List for the "Matchless" Models T/5 and TS/2.

Every part likely to be required can readily be found by reference to the illustrations contained therein.

Every part has a distinctive number, and care should be taken to order the correct part, calling same by the name specified, and giving the part number.

Read carefully rules on Pages 25 and 26.

We are at all times willing to give estimates for parts or repairs and also give to all customers the benefit of our advice regarding any query.

MATCHLESS MOTOR CYCLES (COLLIERS) LTD.

TERMS OF BUSINESS.

Our invariable rule in this department is net cash with order. Remittance to £1 in value may be sent by Postal Order, but over this amount it is advisable to remit by cheque. Cheques to be made payable to Matchless Motor Cycles (Colliers) Ltd., and crossed. When making a remittance by Telegraph Money Order, the name and address of sender should be included, as unless this is done, the Post Office do not give this information in the telegram. We frequently receive Telegraph Money Orders without sender's name, with the result that we cannot trace by whom the amount is sent, and we have to wait until customer writes complaining about delay before the matter can receive attention. If remittance is not sufficient to pay for postage or carriage, goods will be sent "Carriage Forward" (Goods Train).

All repairs accounts are strictly net cash before delivery.

The prices in this list are subject to alteration without notice.

Only goods to the value of 5s. and over are sent upon request, per C.O.D.

DEPOSIT ACCOUNT.

We strongly advise all owners of "Matchless" Motorcycles to take advantage of our "Deposit System." It often occurs that parts are required by return, but unless customers have a current account, there is the inevitable delay while a pro forma invoice is sent, and we have to await receipt of the remittance before the goods can be despatched. This delay causes considerable inconvenience to the party concerned, and can be avoided by opening a Deposit Account.

A remittance of not less than £2 entitles a customer to this form of account, and when goods are ordered by phone, telegram, or letter they will be despatched at the earliest possible moment by the quickest route. Invoices will be sent for all goods supplied and a statement will be rendered when required showing amount of deposit in hand. Customers will be notified immediately their deposit becomes exhausted, so that they may renew same. We are at all times prepared to return balance of deposit upon request.

Kindly note when ordering to mention "Deposit" or quote reference as shown on monthly statements.

REPAIRS.

In cases of extensive structural repairs being required, we strongly advise all owners to send machines to our works for attention. It is obvious that manufacturers can do this kind of work better than any repairer.

OVERHAULING.

When sending us a complete motorcycle, engine, gear box or other part with the request that we overhaul same, we understand by the term "overhaul" that it is to be entirely dismantled, thoroughly renovated, and all badly worn parts renewed and put in perfect working order. In case a customer desires only certain parts attended to, explicit instructions should be given us to that effect, otherwise cost may be far in excess of what is anticipated.

ESTIMATES.

It is becoming a general practice for customers when sending their engines or complete motorcycles to us for repairs, to request a detailed estimate for the necessary repairs before proceeding with the work.

We are always pleased to furnish these estimates, but it must be distinctly understood that only approximate quotations can be given, as when re-erecting, it is often found that other repairs or new parts are necessary, which it was impossible to locate when dismantling.

In some instances, when an estimate has been submitted, several of the items quoted for are questioned as being unnecessary or not required. We may say that we only include in our quotations new parts and repairs that we consider essential to make the machine suitable and satisfactory for the road.

If an estimate is not accepted, i.e., the parts returned to the owner in their original condition, a nominal charge is made for taking down and re-assembling.

All repair accounts are strictly net cash before delivery.

RULES TO BE OBSERVED.

1. Parts sent to us for repair, replacement or as pattern must bear distinctly senders' full name and address. Instructions regarding same must be sent under separate cover, otherwise goods may lie at our works and not be unpacked until instructions are received.
2. All goods must be consigned to us carriage paid.
3. Do not enclose cash (whether in the form of coin or paper) with goods. Remittance should be sent by letter post for your own protection.
4. Customers having no account with us should not fail to remit at the time of order, and also to include postage.
5. When customer has no account, a Telegraph Money Order will ensure immediate attention.
6. When making enquiries respecting any part on order or repair, it is advisable to quote date of order.
7. In case of doubt regarding correct names of parts required it is advisable to send old part as pattern.
8. Only goods to the value of 5/- and over can be sent upon request per C.O.D.

DAMAGE IN TRANSIT.

Our responsibility ceases when goods leave our works, and claims must be made on carriers in the event of damage occurring in transit. Any such damage should be immediately reported to the carriers.

NOTE.—By the Railway Companies' special regulations, unless damage in transit is reported within three days of receipt of goods, no claim can be entertained.

Goods not unpacked at the time of receipt should always be signed for as "Unexamined."

ENGINE.

CRANKCASE, FLYWHEELS, MAIN BEARINGS, ETC.

		£	s.	d.
T/5E 1108A	Crankcase, with studs and bushes (supplied complete only)	4	0	0
V/2E 126	Cylinder stud only (each)			5
L/3E 239	Crankcase drain plug			4
R/4E 1027	Mainshaft bush (timing side)		3	0
AE 21	Mainshaft bush (hardened steel), transmission side		5	0
AE 22	Rollers and cage (transmission side)		7	0
T/5E 1083	Tappet guide (see also timing gear), each		3	6
AE 49	Release valve body		1	0
L/3E 240	Release valve diaphragm			2
L/3E 108	Release valve diaphragm seating			9
H/2E 179	Release valve diaphragm spring			2
R/4E 1038	Cam lever axle (see also timing gear)		1	3
T/5E 1025	Flywheel only (timing gear side)		10	0
T/5E 1019	Flywheel only (transmission side)		10	0
R/4E 1026	Flywheel axle (timing gear side)		6	0
T/5E 1020	Flywheel axle (transmission side)		7	0
AE 17	Crankpin		4	9
L/3E 70	Crankpin or flywheel axle nuts (each)			6
L/3E 95	Axle key (transmission side), each			5
STD 15	Axle nut locking screw			2
L/3E 306	Crankpin rollers (per set of 30)		5	0
L/4E 319	Connecting rod with small end bush		13	6
L/3E 89	Small end bush only		3	3
T/5E 1036	Bush, for cam wheel (crankcase side)		1	6
L/3E 300	Sprocket, for transmission (solo type)		7	0
L/3E 244	Sprocket, for transmission (sidecar type)		6	6
TE 57	Sprocket fixing nut			7
L/3E 95	Key, for transmission sprocket			5
TE 56	Sprocket, for magneto drive		1	6
TE 162	Lock nut, for magneto drive sprocket			6
TC 9	Chain case support stud (screws into crankcase)			8
TE 161	Locking washer, for magneto sprocket fixing nut			2

TIMING GEAR, TAPPETS, VALVE LIFTER, ETC.

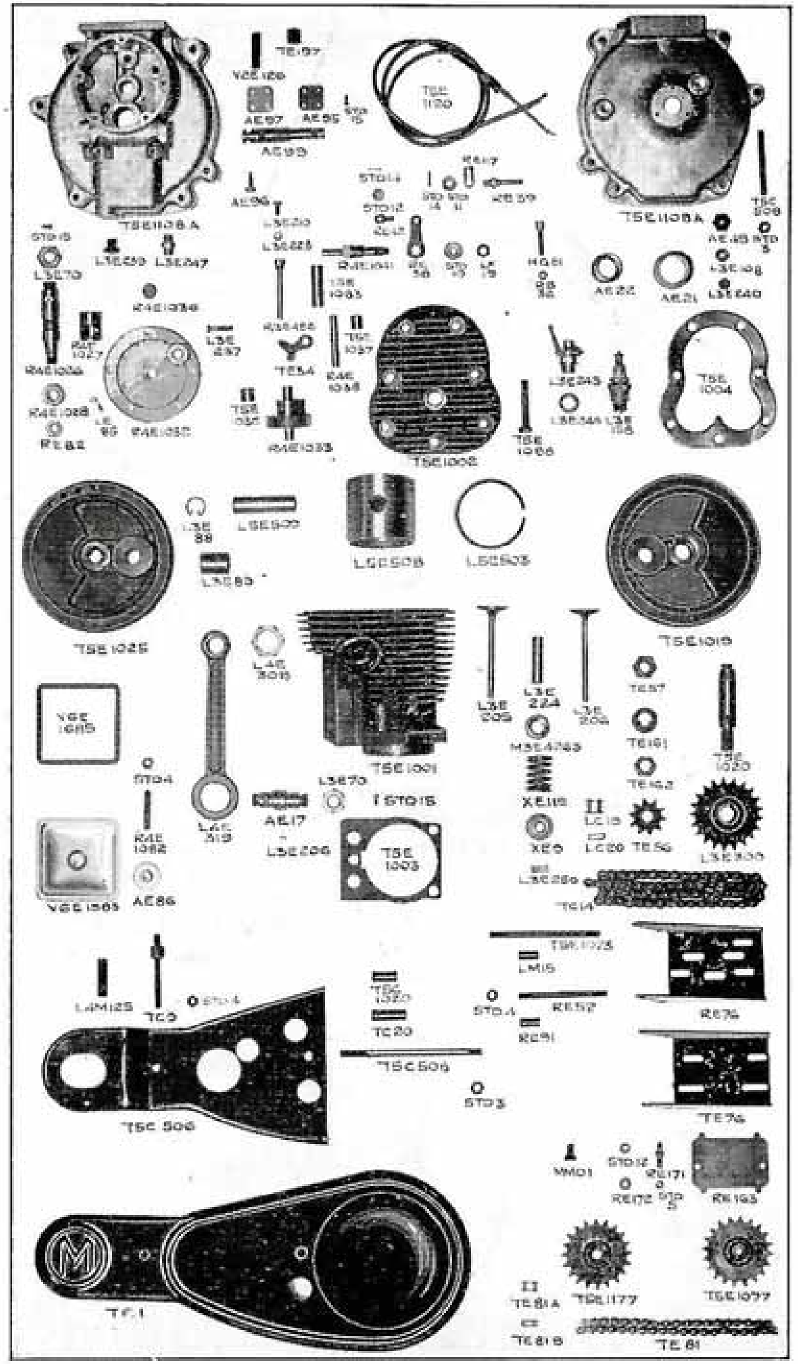
		£	s.	d.
R/4E 1033	Cam wheel	1	0	0
T/5E 1036	Cam wheel bush cover side		1	6
R/4E 1032	Timing gear aluminium cover with bush		7	6
L/3E 237	Timing gear cover fixing screw (slit head)			2

Timing Gear, Tappets, Valve Lifter, etc.—contd.

			£	s.	d.
RE	39	Timing gear cover screw with extension for valve lifter cable anchorage			9
R/4E	1041	Valve lifter cam spindle		4	3
RE	38	Valve lifter lever (fits on above)		1	0
LF	19	Valve lifter lever fixing nut			2
STD	10	Washer, for lever fixing nut			1
TE	34	Cam lever (inlet or exhaust)		3	6
R/4E	1038	Cam lever axle (see crankcase)		1	3
T/5E	1037	Cam lever axle spacing collar			8
R/4E	1028	Small timing pinion		3	9
RE	82	Small timing pinion fixing nut			2
LE	85/S	Small timing pinion key			5
R/3E	486/B	Tappet complete (inlet or exhaust)		2	10
R/3E	486	Tappet only (less head and lock nut) ...		2	0
L/3E	210	Tappet adjusting head only			6
L/3E	223	Tappet adjusting head lock nut			4
T/5E	1083	Tappet guide (see crankcase)		3	6
RE	117	Valve lifter cable anchor bracket (fits on RE 39)			6
STD	14	Split pin securing above to RE 39			1
STD	11	Washer, for RE 39			1
RE	42	Valve lifter cable stop (fits on lever RE 38)			6
STD	14	Split pin securing above to lever			1
STD	12	Washer (fits behind split pin)			1
HG	81/RB32	Valve lifter cable adjuster with lock nut ...			8
T/5E	1120	Valve lifter cable (assembled)		3	10
T/5E	1118	Valve lifter inner cable only			9
T/5E	1119	Valve lifter outer casing only		2	1
HE	36A	Armouring sheath for outer casing ...			3
LE	184	Valve lifter cable nipple (each)			3
RE	114	Valve lifter cable spring			2
		Valve lifter lever (see handlebars)			
R/4E	1036	Cap for timing gear cover bush			3

CYLINDER, HEAD, VALVES, PISTON, ETC.

			£	s.	d.
T/5E	1001	Cylinder only	2	12	6
TE	197	Cylinder holding down nuts (each)			4
T/5E	1003	Cylinder base jointing washer			2
T/5E	1002	Cylinder head only	1	0	0
T/5E	1004	Cylinder head gasket		1	3
T/5E	1088	Cylinder head fixing bolts (each)			6
L/3E	206	Exhaust valve		6	0
L/3E	205	Inlet valve		5	0
XE	119	Valve spring (inlet or exhaust)		1	0
M/3E	426/S	Valve spring top cap			5



Engine Parts.

Cylinder, Head, Valves, Piston, etc.—contd.

		£	s.	d.
XE 9	Valve spring bottom cap			5
L/3E 250	Valve cotter			5
L/3E 224	Valve guide (inlet or exhaust)		3	9
V/6E 1585	Valve inspection cover		3	0
AE 86	Knurled nut fixing inspection cover			9
V/6E 1685	Jointing washer, for cover			4
R/4E 1082	Cylinder stud, for inspection cover			4
K STD 4	Lock nut, for stud			2
L/5E 508A	Piston complete with rings and gudgeon pin		18	8
L/5E 508	Piston only		12	6
L/5E 503	Piston ring (each)		1	0
L/5E 509	Gudgeon pin		4	0
L/3E 88	Gudgeon pin securing spring rings (each)			1
	Gudgeon pin bush (see crankcase)			
L/3E 245	Cylinder compression tap		2	6
L/3E 246	C. and A. washer, for above and/or sparking plug			2
L/3E 158	Sparking plug with C. and A. washer		5	0

OIL PUMP AND OIL PIPES, ETC.

		£	s.	d.
AE 99	Oil pump plunger		5	0
AE 96	Oil pump plunger guide screw			3
AE 97	Oil pump end caps (each)			6
AE 98	Oil pump end cap screws (each)			2
AE 95	Oil pump end cap jointing washer			1
L/3E 247	Screwed union for oil pipe			4
T/5E 1040	Oil pipe (supply side)		5	6
T/5E 1042	Oil pipe (return side)		4	6
R/6T 121	Rubber tube connector to oil tank complete			9
RE 54	Oil pipe nipple only			3
RE 53	Oil pipe union nut only			4

CRANKCASE BOLTS AND SPACERS.

		£	s.	d.
LE 16	Crankcase bolt (medium), $\frac{3}{8}$ diam.			7
RE 50	Crankcase bolt (short), $\frac{3}{8}$ diam.			3
T/5C 508	Crankcase bolt (long), $\frac{3}{8}$ diam. (supports chain case)			8
T/5C 520	Short spacer tube (rear of chain case)			3
TC 20	Long spacer tube (inside chain case)			5
STD 3	Nut, for $\frac{3}{8}$in. crankcase bolt			3
STD 10	Washer, for $\frac{3}{8}$in. crankcase bolt			1
LE 15	Crankcase bolt (5-16ths diam.) short			3
RE 52	Crankcase bolt (5-16ths diam.) medium for magneto platform			5

Crankcase Bolts and Spacers—contd.

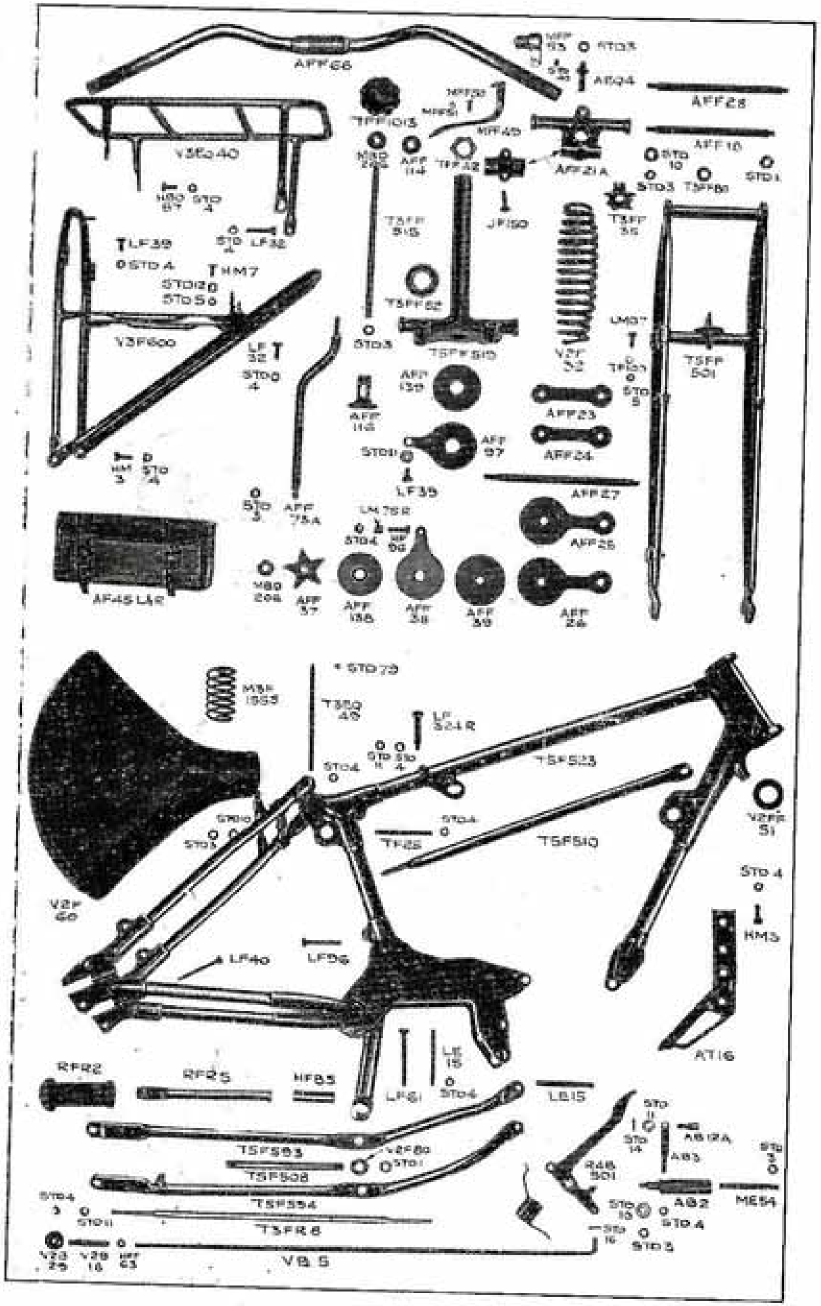
		£	s.	d.
T/5E 1073	Crankcase bolt (5-16ths diam., long) for exhaust pipe support			7
RE 91	Short spacer tube, for 5-16th bolt			4
LM 15	Long spacer tube, for 5-16th bolt			4
STD 4	Nut, for 5-16th crankcase bolt			2
STD 11	Washer, for 5-16th crankcase bolt			1

SILENCER.

		£	s.	d.
T/S2E 662	Silencer only			
T/5E 1104/A	Exhaust pipe only	1	1	0
TE 475	Fish tail only		8	6
TE 463	Silencer clip only		1	0
TF 41	Silencer clip pinch bolt			2
TE 465	Silencer clip bolt collar plain hole			2
TE 464	Silencer clip bolt collar tapped hole			3
TE 466	Silencer detachable perforated baffle		1	0

FRAME AND FORK PARTS.

		£	s.	d.
T/5F 523	Complete frame less tank rails and torque tubes	4	15	0
T3EQ 49	Long bolt, for top end of rear frame stays			9
3 BA	Small nut, for right side of above			2
T/5F 510	Tank rail only, left or right		2	0
HM 3	Front tank rail fixing bolt			4
TF 25	Rear tank rail fixing bolt			4
STD 4	Nut, for above bolts (each)			2
STD 11	Washer, for nut			1
AT 16	Front support bracket for tank and gear quadrant		3	0
LF 40	Rear chain adjuster screw			9
STD 5	Rear chain adjuster screw lock nut			2
TF 28	Sheet metal cover for rear engine plates		1	6
T/5F 593	Left side torque tube		3	6
T/5F 594	Right side torque tube		4	3
LE 15	Bolt, for front end of torque tubes			6
T/5F 508	Long bolt, for centre bridge of torque tubes			9
STD 1	End nuts, for above (each)			5
V/2F 80	Cap, for bridge tube (each)			3
T/5FF 501A	Front forks complete less stand and mudguard but including fork and steering dampers and ball races	6	12	6
T/5FF 501	Front fork girders only	3	0	0
V/2F 32	Front fork spring		3	0
T/5FF 519	Steering head crown and stem (acetylene)		15	0
T/5FF 619	Steering head crown and stem (electric)		15	6



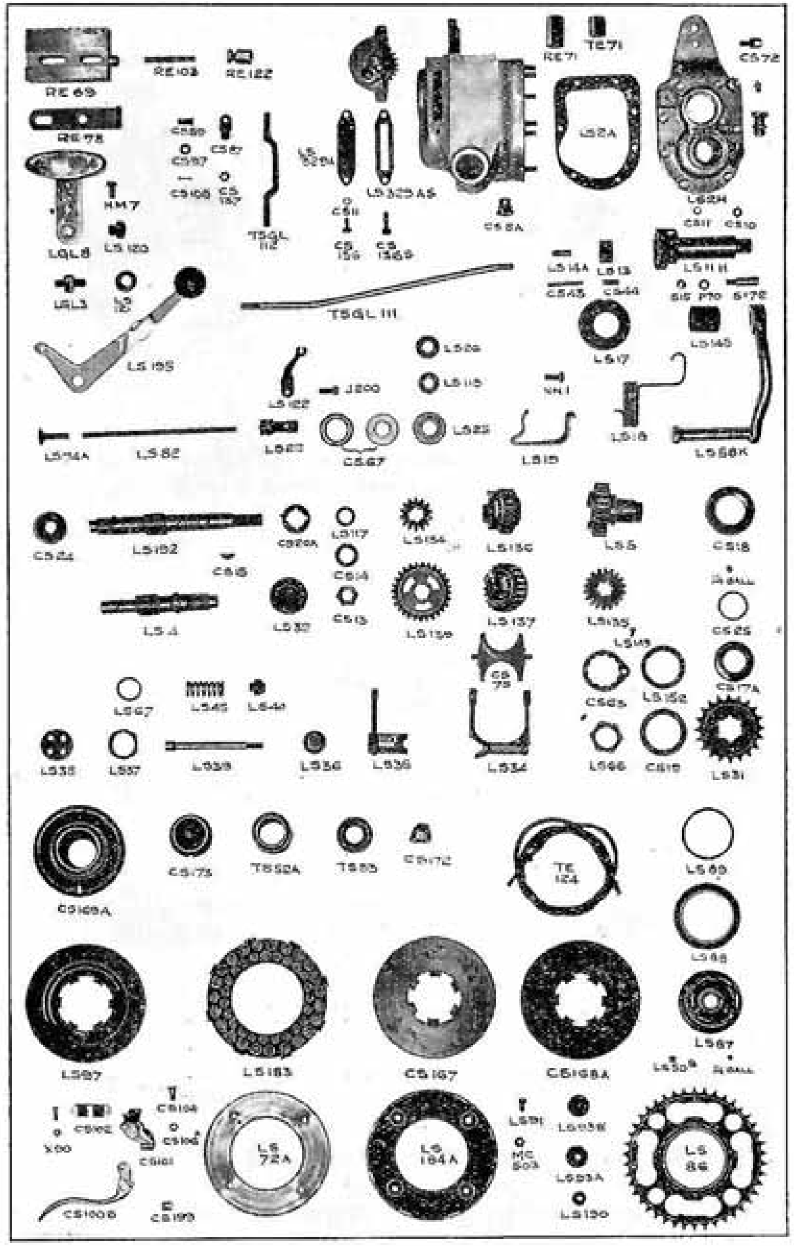
Frame and Fork Parts.

Frame and Fork Parts—contd.

			£	s.	d.
AFF	21/A	Handlebar clip lug complete with bolts (acetylene)		9	0
AFF	121/A	Handlebar clip lug complete with bolts (electric)		9	6
JF	150	Handlebar clip lug bolt only			3
T/3FF	59	Steering head balls per set (50x3-16ths diam.)			8
T/3FF	52	Steering head crown race (one off) ...		3	2
V/2FF	51	Steering head frame race (three off) each		2	5
AFF	28	Top fork spindle (front or rear)		1	5
AFF	18	Bottom fork spindle (rear)		1	5
AFF	27	Bottom fork spindle (front)		1	6
STD	1	Left side fork spindle lock nut			4
STD	3	Right side fork spindle lock nut			3
STD	10	Washer, for fork spindle lock nut			1
MB	68	Grease nipple, for fork spindle			2
AFF	24	Left side top fork link		1	4
AFF	23	Right side top fork link		1	3
AFF	26	Left side bottom fork link		1	8
AFF	25	Right side bottom fork link		1	7
AFF	39	Fork damper friction disc			3
AFF	138	Fork damper spherical disc			10
AFF	38	Fork damper side plate			5
HF	96	Fork damper side plate fixing bolt			5
LM	75/R	Collar, for side plate fixing bolt			3
STD	4	Nut, for side plate fixing bolt			2
TFF	101/S	Fork damper hand adjusting nut		1	6
AFF	37	Fork damper star washer			6
MBD	206	Fork damper spring washer			3
T/3FF	80	Fibre washer for fork spindle ends (each) ...			2
AFF	139	Steering damper friction washers (each) ...			3
AFF	97	Steering damper stationary plates (each) ...			5
LF	39	Steering damper stationary plate fixing bolt			2
STD	11	Washer			1
AFF	116	Steering damper sleeve		3	6
T/3FF	515	Steering damper rod (acetylene)			8
T/3FF	615	Steering damper rod (electric)			9
TFF	101/S	Steering damper hand adjusting nut ...		1	6
MBD	206	Steering damper spring washer			2
AFF	114	Steering damper cap washer (fits on head stem)			4
T/3FF	35	Fork spring top anchor lug		1	3
M/3F	175/S	Fork spring top anchor lug bolt (plain) ...			7
AEQ	4	Fork spring top anchor lug bolt with extension, for electric horn attachment ...			10
STD	3	Nut, for above			3
TFF	42/S	Steering head adjusting nut and lock nut ...			8

GEAR BOX.

			£	s.	d.
LS	1b	Gear box shell only	1	15	0
LS	2h	Gear box end plate		17	0
LS	192	Gear box main driving shaft		13	0
LS	4	Layshaft only		12	6
LS	5	Mainshaft high speed or sleeve pinion less races		16	0
CS	18	Ball cup for LS 5		5	0
CS	17A	Ball races, for above (each) left or right ...		2	6
CS	25	Packing shims, for adjusting above (each)			1
LS	137	Middle gear sliding pinion for layshaft ...		10	0
LS	136	Middle gear sliding pinion for mainshaft ...		8	6
LS	135	Layshaft pinion		5	0
LS	134	Mainshaft pinion		4	0
LS	139	Low gear and kickstarter pinion		10	0
LS	11h	Kickstarter shaft or axle (with bush) ...		12	6
LS	12	Layshaft bush		4	0
LS	13	Kickstarter pawl		1	3
LS	14a	Kickstarter pawl pin or axle			3
CS	43	Kickstarter pawl spring			1
CS	44	Kickstarter pawl spring sleeve			3
LS	18	Kickstarter return spring		1	6
LS	17	Kickstarter return spring cover			9
LS	145	Kickstarter axle tubular sleeve			3
LS	19	Kickstarter crank stop spring			7
NN	1	Bolt, securing above			3
LS	31	Sprocket, for rear chain (fits on LS 5) ...		7	6
LS	66	Sprocket fixing nut			9
CS	63	Locking plate, for nut			5
LS	143	Lock screws, for above			1
LS	152	Felt washer (fits behind sprocket)			2
CS	19	Dust cover (fits behind felt washer) ...			3
LS	24	Gear striker fork		6	6
LS	35	Gear striker lever		6	6
CS	75	Gear striker plate, for sliding pinions ...		2	6
LS	39	Rocking shaft		1	3
LS	40	Rocking shaft nut			6
LS	37	Rocking shaft lever bush (screws in gearbox)		2	0
LS	38	Rocking shaft end bush or cap		1	6
LS	36	Oil retaining cap, for rocking shaft lever ...			2
LS	45	Compensating spring for rocking shaft ...			5
LS	58K	Kickstarter crank		11	0
S	172	Kickstarter crank cotter pin only			2
		Ditto, complete			4
S	15	Nut, for above			1
P	70	Washer only			1



Gear Box Parts.

			£	s.	d.
CS	24	Ball bearing, for mainshaft or layshaft ...		8	9
LS	32	Pressed steel cup, for layshaft ballbearing			3
CS	67	Adjusting shims or washers (each)			1
TGL	6	Gear rod crank (attached to gear box) ...		1	0
HBD	10	Gear rod crank fixing bolt			9
LF	154	Washer, for above			4
LS	120	Special spigot nut, for bolt			5
LS	121	Spring washer, for above			4
LS	195	Gear lever with knob		5	0
LS	195Z	Gear lever ball only			9
LGL	8	Gear lever gate with back plate		6	6
HM	7	Bolts securing above (each)			3
LS	194c	Long gear rod only		1	0
LS	194G	Short gear rod only		1	0
CS	87	Gear rod yoke ends, for above (each) ...			10
CS	137	Gear rod yoke and lock nuts (each)			1
CS	89	Gear rod yoke end pins (each)			2
CS	108	Split pin, for above (per dozen)			6
CS	97	Washer, for yoke end pin (each)			1
LS	2/A	Gear box end plate paper washer			2
CS	9	Gear box end plate stud (each)			3
CS	10	Gear box end plate stud nut (each)			2
TS	4/H	Gear box fixing stud			5
TS	5	Gear box fixing stud spring washer			2
RE	71	Gear box fixing stud long nut			5
TE	71	Gear box fixing stud short nut			5
RE	78	Gear box adjuster plate			2
RE	103	Gear box adjuster stud (screws into RE 69)			3
RE	122	Gear box adjuster nut (special)			7
CS	8/A	Gear box filling plug			9
CS	8/A	Gear box drain plug			9
CS	20/A	Main axle bronze thrust washer		1	6
RE	69	Gear box guide block (aluminium), fits between rear engine cradle plates ...		5	0
LE	61	Bolts, fixing above (rear), each			4
LE	15	Bolts, fixing above (front), each			6
STD	4	Nuts, for above (each)			2
STD	11	Washer only			1
LS	329/A	Cover, for speedometer drive aperture (used only when speedometer is not fitted) ...			3
LS	329AS	Speedometer gear box adjusting shims ...			3
CS	136	Cover fixing bolts (each)			4
CS	136S	Speedometer gear box fixing bolts			4
CS	11	Spring washer, for end plate nuts and above bolt (pair)			1
MB	68	Grease nipple only, for filling plug			2

			£	s.	d.
CS	67	Ball bearing adjusting shims			1
LS	67	Felt oil retaining washer			2
LS	117	Adjusting nut packing washer			1
CS	15	Axle key			3

CLUTCH PARTS.

			£	s.	d.
LS	87	Clutch centre hub		12	0
CS	13	Clutch centre fixing nut			5
CS	14	Washer, for fixing nut			1
LS	72A	Clutch sprocket back plate			10
LS	184A	Clutch driver (eight slots)		8	0
LS	86	Clutch sprocket	1	0	0
LS	50B	Clutch sprocket rollers (each)			2
		Clutch sprocket balls ¼in. diam. (set of 16)			6
LS	88	Clutch sprocket securing ring			5
LS	89	Clutch sprocket split ring			4
LS	93A	Clutch sprocket shock absorber rubbers, ¼in. hole			2
LS	93B	Clutch sprocket shock absorber rubbers, solid			2
LS	190	Clutch sprockt friction rubber			2
LS	94A	Clutch thrust pin			9
LS	82	Clutch thrust rod, 7½ inch			10
LS	97	Clutch back plate		2	3
CS	167	Clutch centre plate (flat)		2	3
CS	168a	Clutch outer plate		2	3
LS	183A	Clutch friction plate with cork inserts ...		2	6
LS	183	Clutch friction plate with fibre inserts ...		5	0
CS	169A	Clutch spring cup		3	0
TS	52A	Clutch spring		1	8
CS	172	Clutch spring adjuster nut			8
TS	53	Clutch spring collar (fits over CS 172) ...			6
CS	173	Clutch end cap		1	6
LS	91	Clutch driver screw			1
MC	503	Clutch driver screw lock nut			1
LS	116	Fibre inserts, large (per dozen)		1	0
LS	116a	Fibre inserts, small (per dozen)		1	0
TS	56	Cork inserts, large (per dozen			4
TS	57	Cork inserts, small (per dozen)			4
LS	22	Clutch thrust worm		1	9
LS	122	Clutch worm lever		2	6
J	200	Clutch worm lever pinch bolt			1
LS	25	Clutch worm nut		4	9
LS	26	Clutch worm nut oil retaining cap			9
LS	118	Clutch worm felt washer			2
CS	100	Clutch handlebar lever complete (less cable)		8	0
CS	100B	Clutch lever portion only		4	0

Clutch Parts—contd.

			£	s.	d.
CS	104	Clutch lever fulcrum screw			1
CS	106A	Nut, for fulcrum screw			1
CS	101	Lower half of handlebar clip		2	6
CS	102	Upper half of handlebar clip		1	0
X	90	Screw and nut, for handlebar clip			3
CS	199	Clutch cable roller for lever			4
TE	124	Clutch cable complete		5	6
TE	124A	Clutch cable, inner only (with nipples) ...		1	6
CS	106	Clutch cable stop and lock nut			6
CS	72	Clutch cable stop T piece		1	0
CS	101X	Spring, for clutch cable, inner			2

MUDGUARDS, CARRIER, MUDSHIELDS, ETC.

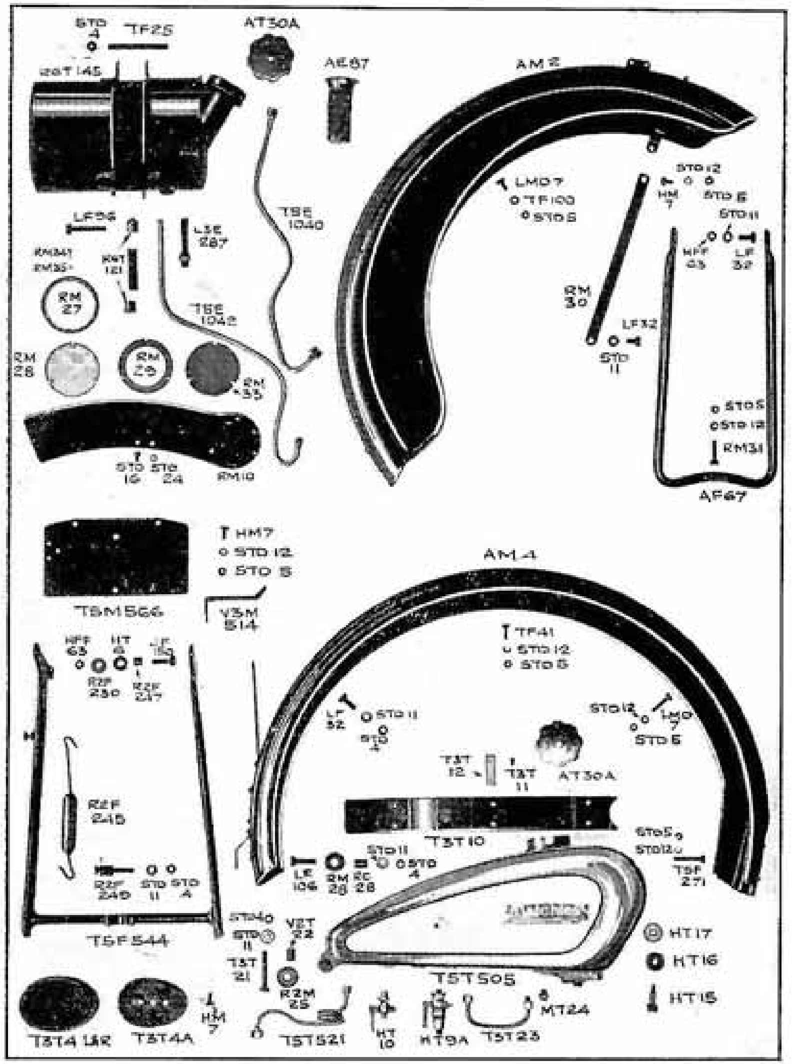
			£	s.	d.
AM	2	Front mudguard only		15	6
KM	30	Front mudguard stay, left or right			6
LMD	7	Fixing bolt, for side of mudguard			4
STD	5	Fixing bolt nut, for side of mudguard ...			2
TF	100	Fixing bolt spring washer			2
HM	7	Front mudguard stay top bolt			3
STD	5	Front mudguard stay top bolt nut			2
LF	39	Front mudguard stay bottom bolt			2
STD	11	Front mudguard stay bottom bolt washer ...			1
STD	4	Front mudguard stay bottom bolt nut ...			2
RM	31	Front stand clip bolt			3
STD	5	Front stand clip bolt nuts (each)			2
STD	12	Front stand clip bolt washer			1
T/S 2M604		Rear mudguard only		14	6
T/3F	271	Rear mudguard bottom fixing bolt			6
STD	5	Rear mudguard bottom fixing bolt nut ...			2
TF	41	Rear mudguard top fixing bolt			2
STD	5	Rear mudguard top fixing bolt nut			2
V/3F	600	Rear mudguard triangular stay assembly ...		18	6
LMD	7	Bolt, securing triangular stay to mudguard at top (each)			4
STD	5	Nut, for above			2
LF	32	Bolt, securing triangular stay to mudguard at rear			3
STD	4	Nut, for above			2
HM	3	Bolt, securing triangular assembly to fork end			4
STD	4	Nut, for above			2
V/3M	514	Rear number plate bracket			4
HM	7	Rear number plate fixing bolt (each) ...			3
STD	5	Rear number plate fixing bolt nut			2
T/5M	566	Rear number plate only (for acetylene lamp)		1	1
T/5M	570	Rear number plate only (for electric lamp)		1	3

Mudguards, Carrier, Mudshields, etc.—contd.

			£	s.	d.
RM	9	Front number plate (solo type with license holder)		3	0
STD	16	Front number plate fixing screw (each) ...			1
STD	24	Front number plate fixing screw nut (each)			1
TM	10	Front number plate plain (sidecar type) ...		1	2
RM	10	Front number plate bare (solo type) ...		1	6
RM	29	Rubber ring for license holder			3
RM	28	License holder transparent window ...			3
RM	27	License holder rim only			4
RM	33	License holder cardboard disc			2
RM	34/35	Screws and nuts, securing rim (per pair) ...			2
MEQ	60	Complete license holder (sidecar type) ...		1	9
V/3EQ	40	Detachable luggage carrier (less bolts and nuts)		13	6
HBD	87	Carrier rear fixing bolt			5
LF	32	Carrier front fixing bolt			3
STD	4	Carrier fixing bolt nut			2
TE	280	Mudshield, for magdyno		3	6
TE	180	Mudshield, for magneto		3	6
T/3M	112	Legshields with all fittings		15	0
T/3M	116	Left side legshield only		6	0
T/3M	117	Right side legshield only		6	0
L/4M	123	Legshield long fixing rod			10
L/4M	126	Distance tubes (left or right)			5
STD	4	Legshield rod end nuts (each)			2
STD	11	Legshield end washer (each)			1
RE	73	Legshield bottom fixing bolt (each) ...			4
RE	91	Distance tube (right side) only			3
STD	4	Nut, for bottom fixing bolt			2
STD	11	Washer, for bottom fixing bolt			1

TANK AND FITTINGS.

			£	s.	d.
T/5T	505	Petrol tank only, chromium plated	3	12	6
AT	30/A	Petrol tank filler cap only, chromium plated		3	0
HT	9	Petrol supply tap		2	6
HT	10	Petrol drain pipe		1	9
T/3T	23	U connecting pipe		2	4
MT	24	Union, for U pipe (screws into tank) ...			3
T/5T	521	Petrol pipe		5	0
RT	27	Union nut, for petrol pipe (tank end) and (U pipe)			4
TT	29	Union nut, for petrol pipe (carburettor end)			4
RT	28	Union nipple, for petrol pipe (tank end) and (U pipe)			3



Tank, Stands and Mudguards.

Tanks and Fittings—contd.

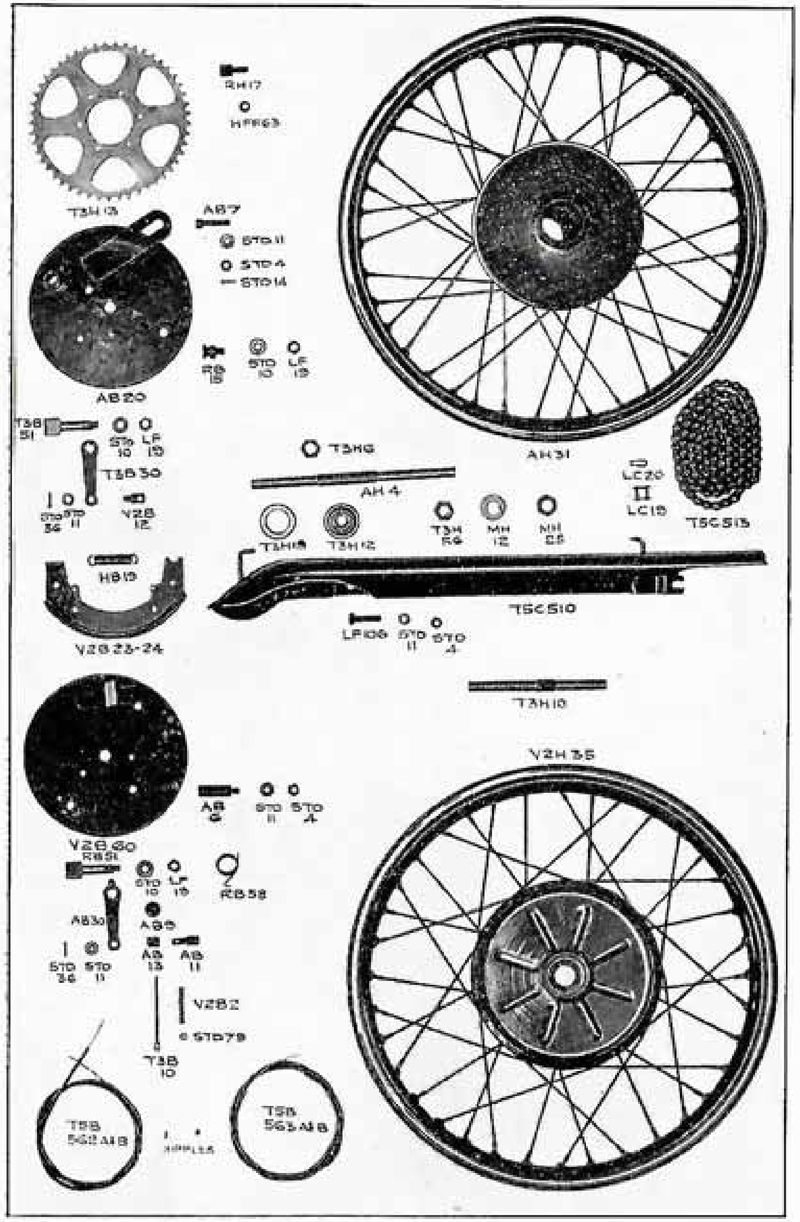
			£	s.	d.
TT	28	Union nipple, for petrol pipe (carburettor end) ...			3
HT	15	Petrol tank fixing bolt (front end) each ...			6
HT	17	Washer for fixing bolt (front end) each ...			2
HT	16	Rubber buffer, for front end of tank ...			5
T/3T	21	Tank fixing bolt, rear end ...			5
V/2T	22	Tubular distance piece ...			3
R/2M	25	Rubber washers, for rear end of tank ...			5
STD	4	Nut, for rear tank fixing bolt ...			2
R/6T	145/A	Oil tank only ...	1	0	0
AT	30/B	Oil tank filler cap only ...		3	0
TF	25	Oil tank bolt (top) ...			3
LF	96	Oil tank bolt (bottom) ...			4
STD	4	Nuts, for above ...			2
L/3E	287	Screwed union and filter, for oil supply pipe		2	3
T/5E	1040	Oil pipe (supply side) ...		5	6
T/5E	1042	Oil pipe (return side) ...		4	6
RE	53	Oil pipe union nut ...			4
RE	54	Oil pipe nipple ...			3
R/6T	121	Return oil pipe rubber tube connector ...			9
AE	87	Filter, for oil tank filler orifice ...			8
T/3T	4/L	Knee grip (left side) ...		2	6
T/3T	4/R	Knee grip (right side) ...		2	6
T/2T	4/A	Knee grip fixing plate ...			6
HM	7	Knee grip fixing bolt ...			3
T/3T	10	Tank metal strip ...		2	6
T/3T	12	Tank metal strip fixing plates ...			4
T/3T	11	Tank metal strip fixing plates screw (each)			2

STANDS.

			£	s.	d.
T/5F	544	Rear stand only ...		12	0
JF	150	Rear stand fixing bolts (each) ...			3
R/2F	247	Rear stand fixing bolt sleeve ...			2
HT	6	Rear stand bolt spring washer ...			2
R/2F	250	Rear stand bolt plain washer ...			1
HFF	63	Rear stand bolt nut ...			2
R/2F	245	Rear stand pull up spring ...			6
R/2F	249	Special anchor bolt, for spring ...			3
STD	4	Nut, for above ...			2
R/2M	25	Rubber buffer, for rear stand ...			6
T/AF	67	Front stand only ...		5	0
LF	32	Front stand fixing bolts (each) ...			3
HFF	63	Front stand fixinr bolt lock nut ...			2
STD	5	Front stand clip nut (see also mudguards)			2
LF	106	Fixing bolt, for rear stand rubber buffer ...			4
STD	4	Nut, for above ...			2
STD	11	Washer, for above ...			1
RC	28	Tubular sleeve, for buffer ...			3

REAR WHEEL AND BRAKE PARTS.

			£	s.	d.
AH	26	Rear wheel complete less tyre	4	12	6
AH	28	Rear wheel complete with tyre, Dunlop 26x3.25	6	11	0
AH	31	Rear wheel less all hub and brake fittings	1	14	3
T/3H	13	Rear wheel chain sprocket (49 teeth) ...		8	0
RH	17	Sprocket fixing bolt (each)			3
HFF	63	Sprocket fixing bolt lock nut			2
AB	20/A	Rear brake cover plate with shoes, expander, etc.		15	0
AB	20	Rear brake cover plate only		4	6
V/2B	24/25	Rear brake shoes (per pair) with linings		7	0
V/2B	50	Rear brake shoe linings with rivets (each 1/-) per pair		2	0
HB	19	Rear brake shoe internal springs (each) ...			3
T/3B	51	Rear brake shoe expander		2	6
T/3B	30	Rear brake shoe expander lever			10
LF	19	Expander lever fixing nut			2
STD	10	Washer, for nut			1
VB	5	Rear brake rod		1	9
V/2B	12	Rear brake rod cross head (fits on lever)			8
STD	36	Split pin, for cross head			6
STD	11	Washer (fits behind split pin)			1
HFF	63	Brake rod nuts (each)			2
V/2B	18	Spring, for brake rod			3
V/2B	29	Knurled adjusting nut		1	0
R/4B	501	Rear brake foot pedal		5	6
AB	2	Rear brake pedal support stud		2	0
ME	54	Long bolt, for pedal support stud			8
STD	3	End nut, for above and support stud end			3
STD	10	Washer, for support stud end			1
AB	3	Vertical support, for front brake cable ...			10
STD	4	Nut, securing above to pedal support stud			2
		Cross head, for front brake cable (see front brake)			
AB	7	Anchor bolt, for rear brake cover plate ...			3
STD	4	Nut, securing anchor bolt			2
STD	14	Split pin (per dozen)			6
STD	11	Washer, for anchor bolt			1
AH	4	Rear wheel axle		2	9
T/3H	12	Rear wheel taper bearing complete ...		8	3
T/3H	6	Taper cone lock nuts (inside hub) each ...			3
AH	56	Taper cone lock nut (outside hub) chain side			4
T/3H	56	Lock nut, for brake cover plate			4
MH	25	Axle end nuts (each)			4
MH	12	Axle end washer (each)			1
T/3H	15	Metal dust cap, for hub end			3
MB	68	Hub grease nipple			2



Wheels and Parts.

Rear Wheel and Brake Parts—contd.

			£	s.	d.
AH	18/A	Rear hub complete with brake parts	2	1	6
AH	18	Rear hub shell only		10	9
TH	43	Rear wheel spoke (left side), butted			2
TH	43	Rear wheel spoke (right side), butted			2
RH	34	Spoke nipples (each)			2
V/2H	21	Rear wheel rim (drilled and enamelled)		10	0
T/3H	29/30	Dunlop tyre, 26x3.25, with tube	1	18	6
T/3H	29	Dunlop cover only, 26x3.25	1	11	9
T/3H	30	Inner tube only, 26x3.25		6	9
R/4B	508	Brake pedal pull-off spring			4
RB	45	Brake shoe fulcrum stud			4
LF	19	Nut, securing fulcrum stud to cover plate			2
STD	10	Washer, for nut			1

FRONT WHEEL AND BRAKE PARTS.

			£	s.	d.
AH	27	Front wheel complete with tyre, Dunlop 26x3.25	4	13	6
AH	25	Front wheel complete, less tyre	2	15	0
V/2H	35	Front wheel only, less all hub and brake fittings	1	7	6
V/2B	60/A	Front wheel cover plate with shoes, expander, etc.		14	6
V/2B	60	Front brake cover plate only		4	3
V/2B	24/25	Front brake shoes (per pair) with linings		7	0
V/2B	50	Front brake shoe linings with rivets (each 1/-), per pair		2	0
HB	19	Front brake shoe internal springs (each)			3
RB	51	Front brake shoe expander		2	6
AB	30	Front brake shoe expander lever			10
LF	19	Nut, securing brake shoe expander lever			2
STD	10	Washer, for nut			1
RB	58	Front brake expander lever pull-off spring			4
T/5B	562	Front broke cable complete (foot operation)		5	6
T/5B	562/A	Inner cable only (with nipple and rod extension)		2	0
T/5B	562/B	Outer casing only		3	0
AB	12/A	Slotted stop for casing (pedal end), with washer and pin			9
AB	6	Slotted stop (hub end)			10
STD	4	Nut, securing above			2
T/5B	563	Front brake cable (hand operation)		5	6
T/5B	563/A	Inner cable only		1	6
T/5B	563b	Outer casing only		3	0
T/3B	10	Rod extension, for inner cable			9
V/2B	28	Spring, for rod extension			2

Front Wheel and Brake Parts—contd.

			£	s.	d.
STD	79	Nuts, for rod extension			1
AB	9	Knurled edge hand adjusting nut		1	0
AB	11	Cross head, for expander lever			8
AB	13	Cross head sleeve			6
MFF	48	Front brake hand inverted lever		8	6
MFF	49	Lever portion only		4	3
MFF	50/51	Lever fulcrum screw and nut			6
NFF	53	Body portion (fits in handlebar)		3	9
STD	40	Screw, securing hand lever body			2
V/2H	19/A	Front hub complete with all fittings	1	19	6
V/2H	19	Front hub shell only		10	3
V/2H	20	Front wheel rim drilled and enamelled		10	0
RH	54	Front wheel spoke (left side)			1
RH	52	Front wheel spoke (right side) butted			2
RH	34	Front wheel spoke nipple			2
T/3H	10	Front wheel axle		2	6
T/3H	15	Front hub end dust cap			3
T/3H	12	Front wheel taper bearing complete (each)		8	3
T/3H	6	Taper cone lock nuts inside hub (each)			3
T/3H	6	Taper cone lock nut (left side) each			3
T/3H	56	Brake cover plate fixing nut, each			4
MH	25	Axle end nuts			4
MH	12	Washer, for axle end			1
MB	68	Front hub grease nipple			2
T/3H	29/30	Front wheel tyre, Dunlop 26x3.25	1	18	6
T/3H	29	Outer cover only, Dunlop 26x3.25	1	11	9
T/3H	30	Inner tube only, Dunlop 26x3.25		6	9
RB	45	Front brake shoe fulcrum stud			4
LF	19	Nut, fixing above to cover plate			2
STD	10	Washer for nut			1

CHAIN GUARDS AND CHAINS.

			£	s.	d.
T/3C	510	Rear chain guard		6	6
R/2F	249	Rear chain guard fixing bolt (rear end)			3
STD	4	Nut, for above			2
STD	11	Washer only			1
LF	61	Rear chain guard fixing bolt front end (see also engine bolts)			5
T/5C	506	Front chain guard, back portion (non-electric model)		7	6
T/5C	536	Front chain guard, back portion (electric model)		7	6
TC	9	Special bolt, fixing front end (screws in crankcase)			8
L/4M	125	Distance tube (fits on above)			5
STD	4	Nut, for distance tube			2

Chain Guards and Chains—contd.

			£	s.	d.
T/5C	508	Long bolt, fixing rear end (passes through crankcase)			9
TC	20	Distance tube (fits over above) long ...			5
T/5C	520	Distance tube (short)			4
STD	3	Nuts, for long fixing bolt (each)			3
TC	1	Outer portion of front chain guard (non-electric model)		15	0
TC	31	Outer portion of front chain guard (electric model)		15	0
STD	3	Fixing nut			3
STD	10	Washer (each)			1
TF	28	Guard or cover, for rear engine cradle plates		1	6
TC	14	Front driving chain T/5 Solo ½x.305 by 65 pitches		8	8
TC	34	Front driving chain T/5 Sidecar, ½x.305 by 63 pitches		8	4
T/5C	513	Rear driving chain, ½x.305 by 114 pitches		15	6
LC	19	Connecting link complete			5
LC	20	Spring clip, only for connecting link ...			1
LC	21	Cranked link			5
TE	81	Magneto driving chain		2	6
TE	81/A	Connecting link complete			4
TE	81/B	Spring clip only, for above			1
LC	25	Chain rivet extractor		5	0

FOOTRESTS.

			£	s.	d.
T/3FR	8	Footrest rod		1	4
STD	4	Footrest rod end nuts			2
STD	11	Washer, for above			1
RFR	5	Footrest tube (left or right)		1	2
RFR	2	Footrest rubber pads (push on)		1	6
HFB	5	Distance tube, for footrest (centre) ...			5

HANDLEBARS.

			£	s.	d.
AFF	66	Handlebar bare (standard type)		17	6
V/3FF	566	Handlebar bare (sports type)		17	6
MFF	58	Handlebar grips (standard) per pair ...		2	0
JF	150	Handlebar clip pinch bolt			6
MFF	48	Handlebar inverted lever complete		8	6
MFF	49	Lever portion only		4	3
MFF	53	Body portion only		4	3
MFF	50	Fulcrum screw for lever			4
MFF	51	Nut, for fulcrum screw			2
STD	10	Screw, securing lever body to handlebar ...			2

SADDLE AND PARTS.

			£	s.	d.
V/2F	60	Saddle top only	1	0	10
M/3F	155/S	Saddle springs (each)			6
STD	3	Nut, securing spring to saddle and frame ...			3
STD	10	Washer, for nut			2
LF	324/R	Shouldered bolt, for saddle nose			8
STD	4	Nut, for above			2

MAGNETO AND PARTS.

			£	s.	d.
LMD	12	Complete magneto only	3	15	0
LMD	41/B	Contact breaker only complete (tungston points)		13	0
LMD	4152/4122	Contact screws, tungston (per pair), with rocker arms		3	9
LMD	7/P	High tension pick-up complete		2	6
LMD	1052	Carbon brush only for pick-up with spring		1	0
T/5E	1077	Chain sprocket for magneto		4	0
LMD	175	Chain sprocket fixing bolt			2
LMD	175/A	Washer, for above			1
TE	56	Chain sprocket, for engine shaft (see also engine)		1	6
RE	171	Magneto fixing bolts (special)			9
RE	172	Cupped washer, for magneto fixing bolt ...			4
STD	12	Standard washer, for above			1
STD	5	Nuts, for above (each)			2
RE	163	Magneto base locking plate			4
TE	76	Magneto platform		2	0
T/5E	1073	Long bolt, securing above			8
RE	52	Short bolt, securing above			6
RE	91	Distance tube, for platform fixing bolt ...			3
STD	4	End nuts, for platform fixing bolt (each) ...			2
LMD	27	Magneto advance and retard lever, for handlebar		6	9
LMD	27/A	Lever portion only of above		3	0
TE	93	Magneto advance and retard cable (outer) ...			9
TE	92	Magneto advance and retard cable (inner) ...		2	0
TE	180	Magneto shield		3	6
MMD	1	Base bolts, for fixing magdyno			4
T/5E	1177	Chain sprocket for magdyno		4	0
LMD	175	Nut, securing chain sprocket			2
LMD	175/A	Washer, for nut			1
RE	76	Magdyno platform		2	0
PM	4	High tension cable complete for sparking plug		1	3
PM	1	Rubber cap, for high tension pick-up ...			3

CARBURETTOR B. & B.

			£	s.	d.
TE	67	Complete carburettor (special type) ...	2	10	0
B & B	101	Float chamber body only		8	0
B & B	102	Float chamber cap and tickler		4	3
B & B	106	Float chamber needle valve		1	2
B & B	104	Float		2	6
B & B	118/134	Main jet complete		1	9
B & B	158/1	Fibre washer for same			1
B & B	135	Jet taper needle			10
B & B	135A	Needle holder and screw			6
B & B	120/3	Spraying chamber		8	6
B & B	128	Spraying chamber cap with bushes ...		1	8
B & B	129	Spraying chamber cap lock ring		1	0
B & B	138	Pilot jet			10
B & B	139	Pilot jet air screw and lock nut			7
B & B	133	Venturi air intake		2	1
B & B	126	Throttle valve		4	7
B & B	126	Air valve		2	2
B & B	145	Valve springs (each)			7
B & B	2	Control levers complete		7	0
C	173/1	Air lever only		2	6
C	174/1	Throttle lever only		2	6
C	159	Control cables assembled (each)		2	3
L/4E	308	Locking nut, for carburettor			6

EQUIPMENT.

For Proprietory Equipment see Manufacturers' Latest Price Lists.

			s.	d.
P & H	125	Head lamp, acetylene (less brackets) ...		
SS		Head lamp, electric (less brackets)		
AFF	73/A	Head lamp brackets (per pair) with nuts ...	3	6
P & H	135	Tail lamp (acetylene)		
MT	110	Tail lamp (electric)		
P & H	137	Sidecar lamp (acetylene)		
R3	35/S	Sidecar lamp (electric)		
LEQ	18	Acetylene generator with bracket		
LEQ	19	Acetylene generator bracket only		
PL	5	Electric head lamp bulb		
LEQ	23	Electric side, tail, or instrument panel bulb		
LJW	7E	Accumulator only		
68L/52S		Accumulator carrier		
PH	125/A	Acetylene head lamp glass		
SS	47/A	Electric head lamp glass		
PH	137/A	Acetylene side lamp glass		
R	335/S/A	Electric side lamp glass		
LEQ	20/A	Acetylene generator rubber tube (per yard)		

Equipment—contd.

			£	s.	d.
PH	201	Bulb horn complete			
PEH	1	Electric horn complete			
PL	1	Electric head lamp dipping switch with cable			
PL	2	Cable harness complete			
AEQ	1/2	Instrument panel (top and bottom) ...		7	6
HM	7	Instrument panel fixing bolts (each) ...			3
PS	1	Speedometer complete with gear box drive (non trip)			
PS	2	Speedometer complete with gear box drive (trip)			
PS	6	Gear box drive for speedometer			
PS	3	Speedometer cable complete			
PS	4	Speedometer head complete (non trip) ...			
PS	5	Speedometer head complete (trip)			
PL	2	Electric switch box complete			
PL	3	Dash lamp or magneto switch			
PL	4	Ammeter complete			

TOOLS AND TOOLBOXES, ETC.

			s.	d.
LF	39	Tool box end fixing bolt		4
STD	4	Nut, for above		2
AF	45/LR	Tool box, left or right	3	9
HM	7	Tool box bottom fixing bolt (each)		3
STD	5	Tool box fixing bolt nut		2
LTK	17	Tool roll only (each)	2	6
LTK	15	6in. combination pliers	1	6
LTK	13	6in. screwdriver		9
LTK	10	Double end forged spanner, ¼x5-16ths ...	1	3
LTK	11	Double end forged spanner, ⅜x½	1	6
LTK	9	Tappet adjusting spanner		9
V/2TK	19	Thin cone adjusting spanner		6
LTK	14	Tyre lever		3
LTK	4	Carburettor lock nut spanner	1	3
L/3TK	20	Grease gun	6	0
L/3TK	21	Tyre pump	3	9
LTK	5	Magneto spanner		4
LTK	3	Spanner, three sizes, .920, 1.10 and 1.01 hexagons	1	0
HTK	19	Ring spanner for wheel axle nuts	1	3
LTK	1	Cone lock nut spanner		6
LTK	8	Folding valve spring compressor (Model T/S only), not provided in standard tool kit	6	6

SIDECAR AND PARTS.

			£	s.	d.
XF	221	Sidecar frame with three clip lugs attached	3	10	0
LF	138	Pinch bolt, for clip lug (each)			7
STD	3	Nut, for pinch bolt			3
T/3F	226	Sidecar attachment bent arm front (upper)		9	6
XF	224	Sidecar attachment bent arm front (lower)		9	6
T/3F	226	Sidecar attachment rear bent arm		9	6
LF	95	Nut, securing arm to frame lug			3
LF	147	Washer for above			2
LF	88/A	Clip lug, for lower front arm attachment to frame tube complete		6	3
LF	101	Bolts, for clip lug only (each)			4
LF	138	Packing sleeve, for clip lug (two pieces) ...		1	2
LF	94	Large bolt, for fixing sidecar frame to clip lug above			6
STD	1	Nut, for bolt			4
LF	91	Sidecar body rear springs (each) three leaves		10	6
LF	96	Sidecar body rear spring fixing bolts (long)			4
LF	106	Sidecar body rear spring fixing bolts (short).			4
STD	4	Nuts, for above			2
LF	145	Rear spring pad lug plate		1	1
LF	152	Sidecar body front coil spring		1	6
STD	3	Nut, for fixing bottom end of spring ...			3
STD	10	Washer, for nut			1
LF	153	Bolt, securing top end of spring			3
LF	154	Large washer, for above			4
STD	3	Nut, for above bolt			3
LBD	1	Sidecar body rear bearer bar		3	3
STD	3	End nuts, for above (each)			3
HBD	14	Spring washer, for bearer bar ends ...			3
HBD	10	Plain washer, for bearer bar ends			1
STD	14	Split pin, for bearer bar ends			1
HBD	9	Coach bolts, for fixing rear bearer bar ...			2
HBD	13	Large washer, for coach bolt			4
HBD	24	Nut, for above bolt			1
LM	24	Sidecar mudguard only		12	6
STD	4	Nuts, for fixing to body studs (each) ...			2
STD	11	Washer, for nut (each)			1
L/4BD	25	Windscreen complete with all fittings (Matchless hinged)	1	7	6
MBD	317	Hood to suit above screen with all fittings	1	15	0
TBD	114	Sidecar body only (latest type touring) with apron	10	0	0
L/4BD	38	Sidecar body only (aluminium sports type) with apron	7	10	0
LBD	4	Sidecar body apron only (sports type) ...		10	6
MBD	289	Sidecar body apron only (touring type) ...		10	6
HBD	58	Apron turn buttons (each)			5

Sidecar and Parts—contd.

			£	s.	d.
LF	81/A	Sidecar wheel with ball cups only	1	2	3
CH	1	Sidecar wheel fixed cone		1	6
CH	2	Sidecar wheel adjusting cone		1	1
CH	3	Locking washer, for adjusting cone ...			2
CH	4	Castellated lock nut, for adjusting cone ...			6
CH	5	Split pin, for above			1
LF	6	Sidecar wheel hub end cap		1	6
LF	7	Sidecar hub balls (per set)		1	2
LF	8	Sidecar hub lubricator			5
LBD	11	Sidecar door handle (touring body) ...		2	6
T/3H	29/30	Sidecar tyre and tube (26x3.25 Dunlop) ...	1	18	6
T/3H	29	Cover only	1	11	9
T/3H	30	Inner tube only		6	9
XF	232	Sidecar wheel rim, drilled and enamelled ...		10	0
RH	43	Wheel spokes (each)			1
RH	34	Spoke nipples (each)			2
CH	10	Sidecar wheel axle		3	6
CH	11	Fixing nut, for above			9
CH	13	Inner hub cup			10
CH	14	Outer hub cup			10

MODEL T/S2 PARTS DIFFERING FROM MODEL T/5.

All parts and instructions not mentioned herein are common to both Models.

ENGINE.

CRANKCASE SECTION.

		£	s.	d.
TS2/E 608A	Crankcase with studs and bushes ... ... (supplied complete only)	4	0	0
TE 64/S	Cylinder stud only (each)			4
STD 3	Cylinder stud nut (each)			3

TIMING GEAR AND TAPPET SECTION.

		£	s.	d.
R3E/486A	Tappet complete (inlet or exhaust)		2	11
ME 73	Tappet head only			7
TE314/S	Tappet push rod		3	4
V2E/163	Tappet push rod covering tube (top portion)		1	0
V2E/166	Tappet push rod covering tube (bottom portion)		1	9
V2E/173	Tappet push rod covering tube spring plunger circlip			4
V2E/170	Tappet push rod covering tube internal spring			3
V2E/171	Tappet push rod covering tube internal collar			1
V2E/200	Tappet push rod covering tube leather washer			1
R3E/359	Overhead rocker (inlet)		8	0
R3E/360	Overhead rocker (exhaust)		8	0
R3E/357	Overhead rocker aluminium housing (supplied complete only)		15	0
LE421/R	Rocker hardened steel roller race (each) ...		4	6
R3E/363	Divided washers for rocker bearing (two pieces)			6
LE439/R	Rollers, for overhead rockers (per dozen) ...		2	0
RF 71	Rocker housing bolt, $\frac{1}{4}$in. diameter ...			2
TE 389/S	Rocker housing fixing bolt short (2 off), each			4
MB 68	Grease nipple for rocker housing			2
R/6E/389	Rocker housing fixing bolt, long (each) ...			5

CYLINDER, HEAD, VALVES SECTION.

		£	s.	d.
TS2/E501	Cylinder only	1	12	6
STD 3	Cylinder holding down nuts			3
TS/2E503	Cylinder base jointing washer			2
TS/2E502	Cylinder head	2	2	0
R3E/387	Cylinder head top bolt (plain type)			8

Cylinder, Head, Valves Section—contd.

		£	s.	d.
T/2SE 686	Cylinder head top bolt with extension ...			9
R/6E688	Cylinder head inverted bolt			6
TE 386/S	Bolt with extended head for rear end support of rocker housing			9
STD 3	Nut, securing above to cylinder head ...			3
TE 305/S	Valve stem only (inlet)		5	6
TE 306/S	Valve stem only (exhaust)		10	6
LE 487/R	Valve spring (outer)		1	0
LE 490/R	Valve spring bottom cap			10
V2E/209	Valve spring top cap		1	2
V2E/210	Divided taper collar (fits in above)		1	0
LE 438/R	Valve stem hardened end cap			6
LE 148/S	Valve guide (inlet or exhaust)		4	0
L3E/33	Piston only		10	0
L3E/135	Piston rings (each)		1	0
L3E/90	Gudgeon pin		3	9

SILENCER SECTION.

		£	s.	d.
TS2/603A	Left side exhaust pipe	1	5	0
TS2/604A	Right side exhaust pipe	1	5	0
RE 52	Exhaust pipe tie bolt			6
STD 3	Nut, for pipe tie bolt (each)			3
TS2/E661	Left side silencer only		10	0
TS2/E662	Right side silencer only		10	0

FRAME AND FORK SECTION.

		£	s.	d.
TS2/F592	Left side torque tube		4	3
V2F/208	Torque tube bridge bolt			10
V3FR/511	Short distance piece, for left side			4
TS2/F610	Tank rail left side		2	3
TS2/F611	Tank rail right side short portion		1	0
TF/312/S	Tank rail right side long portion		1	6

TANK SECTION.

		£	s.	d.
TS2/T 605	Petrol pipe only	3	15	0
TS2/T 621	Petrol pipe only		4	6

CARBURETTOR.

		£	s.	d.
B & B 1	Complete carburettor (special type) ...	2	10	0
B & B 101	Float chamber body only		8	0
B & B 102	Float chamber cap and tickler		4	3
B & B 106	Float chamber needle valve		1	2
B & B 104	Float		2	6

Carburettor—contd.

			£	s.	d.
B & B	118/134	Main jet complete		1	9
B & B	158/1	Fibre washer for same			1
B & B	138	Jet taper needle			10
B & B	135	Needle holder and screw		1	4
B & B	120/3	Spraying chamber		8	6
B & B	128	Spraying chamber cap with bushes ...		1	8
B & B	129	Spraying chamber cap lock ring		1	0
B & B	138	Pilot jet			10
B & B	139	Pilot jet air screw and lock nut			7
B & B	133	Venturi air intake		2	1
B & B	126	Throttle valve		4	7
		Air valve		2	2
B & B	145	Valve springs (pair)		1	2
B & B	2	Control levers complete		7	0
B & B	173/1	Air lever only		2	6
B & B	174/1	Throttle lever only		2	6
B & B	159	Control cables assembled (each)		2	3
4/063		Throttle stop screw			3
L/HE	308	Locking nut for carburettor			6
4/064		Throttle stop screw lock nut			1

FOOTRESTS.

TFR	16S	Footrest tube, left side	1	6
TFR	18S	Footrest rod	1	6

INSTRUCTIONS SPECIAL TO T/S2 MODEL ONLY.

TO ADJUST INLET OR EXHAUST TAPPETS.

First expose the tappet requiring adjustment by sliding up the lower portion of the tappet rod covering tube, which it will be found, can be held in a raised position by resting the flanged bottom cap on one of the cylinder fins. Next, hold tappet body (bottom hexagonal portion) with spanner provided, and slack off nut securing the tappet head with the smaller spanner, also provided. Then screw the concave tappet head up or down as may be required, until the correct clearance is obtained, after which securely lock in position with lock nut.

IMPORTANT NOTE.—Clearance of valves should always be tested with engine warm (not hot), and the correct clearance is the nearest approach to nil possible. When making adjustments, care must be exercised, and it should be observed after adjustment that each push rod is free to revolve when the valve is closed, while at the same time possessing no up-and-down movement, as mentioned above.

TO REMOVE CYLINDER HEAD FOR DECARBONISATION.

First remove sparking plug, both exhaust pipes, and petrol pipe. Then unscrew the top cap of carburettor mixing chamber and withdraw air and throttle slides. Next raise the lower portion of each tappet rod covering tube sufficiently to permit of the small spring plunger on the top half engaging with the hole in the lower half which engagement will retain the tubes in this telescoped position. Next unscrew the three bolts by which the aluminium rocker housing is held and withdraw this housing together with the tappet rods and covering tubes. Next remove all cylinder head fixing bolts when, after detaching the top of the gear operating rod, the head with carburettor body attached may be lifted clear. It may be necessary to give the head a sharp jolt upwards to release the spigoted joint, which occasionally tends to become somewhat firmly fixed with carbon deposit. During the removal and re-fixing process care must be taken to avoid losing the small hardened end caps for the valve stem and should the valves be removed for grinding-in purposes they must on no account be mixed. In re-assembling, as in the case of the Model T/5, all cylinder head bolts must be uniformly tightened (see Instructions) and the joint faces must be scrupulously clean. Should the head joint when dismantled, show any signs of leakage, it should be ground-in in exactly the same manner prescribed for grinding-in valves, great care, of course, being necessary to prevent the admission of any grinding mixture into the cylinder interior, and to remove all traces of the grinding mixture from the joint faces prior to finally placing the head in position.

TO GRIND IN VALVES.

After cylinder head has been removed as described, to remove valve springs it will be found convenient to rest the head of valve on a small block (wood preferably) while the spring is being compressed to allow of the removal of the taper valve cap divided collar. It may be necessary to give the valve springs cap a sharp tap to release this taper collar. After removing all carbon deposit the face of each valve seating should be smeared with a good grinding paste (this may be obtained already mixed) and the valve revolved slightly backward and forward (never revolve completely) while light pressure is applied to the head. During this operation it is advisable to occasionally raise the valve off its seating and turn in the guide slightly, afterwards repeating the backward and forward movement.

Generally one application only of grinding paste will be ample for the inlet, but two or three applications may be necessary to entirely restore the exhaust valve seating. After this grinding-in has been satisfactorily accomplished, all traces of the grinding mixture should be carefully washed off with petrol, and both valve stems and guides cleaned thoroughly. Prior to re-fitting it is advisable to smear each valve stem with graphite grease.

A special tool for compressing valve springs can be supplied at 6/6 (see Tools Section, TTK 8).