MAINTENANCE INSTRUCTIONS
AND SPARE PARTS LIST FOR

THE PATENT 6-VOLT

DYNOHUB

DYNOTHREE

AND

DYNO-LUXE

SOLE DISTRIBUTORS:
RALEIGH INDUSTRIES LTD.
NOTTINGHAM - ENGLAND

Ref. S 34
PREFACE

The purpose of this preface is to summarize the broad essentials to be borne in mind in order to obtain the high standard of lighting efficiency from the Dynohub and Dyno-Luxe Sets for which they are designed, but it is important that the detailed instructions given in the following pages are carefully observed.

The DYNOHUB SET is so completely simple in design that little or no attention is necessary beyond ensuring that the circuit is complete and all that need be done in this respect is to keep the terminal nuts tight.

But with the DYNOLUXE SET in which current from the Dynohub is passed through a Rectifier and then to a storage battery of three 2-volt Accumulators, more maintenance attention must be given. As with all accumulators, it is absolutely imperative that:

1. Cells are topped-up at least once a month in winter time and once a fortnight in summer time.
2. All contacts must be properly maintained and they must be kept clean and lightly smeared with vaseline.
3. Cells must be re-charged from an external source if they run down beyond the point at which they can be recovered by Dynohub charging.

It must be borne in mind that the accumulators are charged from the Dynohub at .18 amp., and the discharge rate with head and tail lights on is .24 amp. In practice, assuming that the bicycle is ridden at an average speed of twelve m.p.h., it is necessary to cover approximately twice the period of running with lights “off” to that with lights “on.”

Your Dealer has full equipment for testing this electrical and for re-charging accumulators when necessary. He will readily help you in any difficulty.

Ref. No. 1414

AMENDMENT.

DRY-ACCUMULATOR MAINTENANCE—Topping-Up:-
As it has been found unnecessary to top-up more frequently in summer than winter, our instructions are amended to:

TOP-UP once every four weeks, summer and winter.

MAINTENANCE INSTRUCTIONS

THE Patent DYNOHUB

(6 volt type for Front Wheel Fitting)

NOTE.—These instructions DO NOT apply to 8-and 12-volt Dynohubs. See separate instructions for these two hubs.

FITTING

The dynamo should be on the off side of machine (right-hand side looking in direction of travel), taking care that the terminals are below and clear of the fork blades.

The cone lock nuts and axle nuts must be kept tight and should be examined regularly to ensure that they do not shake loose through vibration in use.

BEARING ADJUSTMENT

The fixed cone on the axle at side opposite to dynamo should always be tight up against small shoulder on spindle.

Adjustment of the bearings is carried out on the dynamo side. Loosen the hexagon locknut on this side of hub and turn notched washer next to it until only a trace of side play can be felt at wheel rim. Then make sure that locknut is fully re-tightened. It is best to hold notched washer with one spanner whilst tightening up lock nut with another spanner, to make sure that both parts do not turn together.

The notched washer is fitted over flats on the end of adjusting cone, so that turning the washer screws cone along spindle.

DISMANTLING

Remove cone lock nut; then notched adjusting washer and four magnet fixing screws. Hold wheel with dynamo downwards just above a bench, and a few light taps with a mallet on the end of spindle will cause dynamo unit to drop out complete.

Unless it is essential to do so, the armature and magnet should never be separated. To separate them, a KEEPER RING IS ESSENTIAL. This is placed alongside armature, and by tapping it against bench, the magnet will slide from within cover plate on to keeper ring. To retain its magnetism, there must always be iron within the magnet.

To re-assemble, the magnet is slid from keeper ring on to armature, and the cover plate is fitted last, taking care that the holes for magnet fixing screws line up with the slots of magnet.

LUBRICATION

The dynamo has no bearings of its own, and the only lubrication necessary is to the wheel bearings.

Use R.I. ALL-PURPOSE OIL and apply only through lubricator in hub shell. Make sure that lubricator cup is free from dirt before injecting oil into hub and see that oil sinks into hub; then be sure to close lubricator cover. Oil regularly and often, a few drops at least every fortnight—weekly if you cover a big mileage.
HEADLAMP H.F.63 and H.F.62

FEATURES.
A special lamp bracket is fitted to new cycles, and may be substituted for the existing pattern, or headlamp can be provided with an adaptor to suit standard cycle lamp bracket. Keep fixing nut tight, but do not attempt to adjust angle at which lamp is set without first loosening this nut.

The simple On/Off switch lever is underneath lamp and moves across it. The "On" position is to the right when seated on cycle.

Foucussing is by turning sunk screw at rear of lamp. This screw is slotted for coin.

The flex wires pass through a hole in fixing bracket, and are secured to a terminal plate within lamp. The lamp front has to be removed to reach these terminals and a label is affixed to back of reflector showing correct wiring connections and also giving details of correct bulbs to use.

The headlamp front is secured to lamp body by a small screw, which effectively prevents front being shaken off by vibration. This screw is anchored to lamp front to prevent its loss. This type of fixing is also a protection against theft.

WIRING
The illustration at side shows flex connections to switch inside headlamp, looking into lamp from the front.

Note that head and tail lamps are wired in parallel, which differs from the arrangement of our early 8-volt and 12-volt models.

This wiring diagram requires to be modified when the Dry Accumulator Unit is fitted.

See notes on Dry Accumulator Unit page 6.

TAIL LAMP
This is a specially small and neat unit, fitted with a red dome so that light is visible through a full 180 degrees angle. Three types of fixing clip are available (oval, D-shape and round), to suit rear stays.

When used with Dry Accumulator Unit, a small area of enamel must be removed from seat stay opposite the clip dimple, to ensure good earth contact to frame. This is not necessary except when used with accumulator set.

BULBS
Headlamp : 6-volt .3 amp. GL. 471
Tail Lamp : 6-volt .04 amp. GL. 628

NOTE
The above Headlamp Bulb is not suitable if the Dry Accumulator Unit is fitted. See Dry Accumulator notes on page 7.

FLEX CABLES
Two twin flex wires are used. One of these goes from hub to headlamp switch and the other connects between headlamp switch and tail lamp. Be careful to make sure that the wire connected to tail lamp fixing clip is joined to correct switch terminal in headlamp, otherwise lamps will fail to light.

The Patent
DYNOTHREE
incorporating 6-Volt Dynamo and Three Speed Gear.

FITTING
The dynamo lies on the near side, away from chain sprocket for 3-speed gear. Take care that terminals are below and clear of rear frame stays, and that lock nuts and axle nuts are kept tight.

BEARING ADJUSTMENT
The right-hand cone (sprocket side) is fixed at works, and should not be disturbed unnecessarily, since its correct position is vital to the operation of all gears. It should be adjusted with left-hand cone slackened right back, and must be screwed up finger tight until it causes the bearings on that side of hub to bind, and then should be unscrewed just far enough to allow parts to revolve freely but without shake. Half-a-turn is usually correct, but never more than this. The cone is then secured by a special lock washer and lock nut.

With the right-hand cone correctly fixed, the whole of the bearings are simultaneously adjusted by screwing up left-hand cone. Loosen the hexagon lock nut on dynamo side of hub, and turn notched washer next to it, until only a trace of side play can be felt at wheel rim. Then make sure that lock nut is fully re-tightened. It is best to hold notched washer with one spanner whilst tightening up lock nut with another spanner, to make sure that both parts do not turn together.

The notched washer is fitted over flats on end of adjusting cone, so that turning the washer screws cone along the spindle.

DISMANTLING THE DYNAMO
Remove cone lock nut, notched adjusting washer and four magnet fixing screws. Hold wheel with dynamo downwards just above bench, and a few light taps with a mallet on end of axle will cause dynamo to drop out complete.

Unless it is essential to do so, the armature and magnet should never be separated. To separate them a KEEPER RING IS ESSENTIAL. This is placed alongside armature, and by tapping it against the bench, the magnet will slide from within cover plate on to keeper ring. To retain its magnetism, there must always be iron within the magnet. Do not attempt to dismantle the armature further.

When assembling, lay armature on bench with terminals upwards and slide magnet on to it directly off the keeper. Next, lay thin washer on the magnet with its notches opposite magnet notches. The cover plate can now be pushed over the magnet taking care that the four holes, the washer notches and magnet notches line up. The channel in cover plate which excludes water should be filled with vaseline before fitting.

DISMANTLING GEARS
Remove L.H. cone. Then turn to R.H. end of hub and, using hammer and soft punch, unscrew the R.H. Ball Ring from the hub shell. The whole of the internals may now be withdrawn from hub as a complete unit. If it should be necessary to dismantle further, unscrew R.H. Cone and the Driver, R.H. Ball Ring; Gear Ring may be lifted off, also Clutch Spring with Cap and Thrust Ring. Unscrew indicator and lift out Axle Key, Sliding Clutch, Sleeve and Planet Cage.

Reassemble all parts in reverse order.
L.H. Ball Cup will not normally have to be removed, but remember that it has L.H. thread if it has to be unscrewed. This part has two internal notches to facilitate removal.

When re-assembling, fit up all internals and fix position of R.H. Cone as explained under bearing adjustment (p.4) before fitting into hub shell. Then add L.H. Cone last of all.

LUBRICATION
Oil should only be applied through the lubricator in hub shell. The dynamo has no bearings of its own.

Use only R.L. ALL-PURPOSE OIL, which is specially refined and compounded to suit variable hub gears. Before using a new hub, or one that has been stored away for some time, inject one teaspoonful through lubricator on hub shell; then add from one quarter to one half this quantity at least once every fortnight afterwards, or every 200 miles if you cover this distance in less than two weeks.

Make sure that lubricator cup is clear before injecting oil, and that oil sinks into hub; then be sure to close lubricator cover afterwards.

TRIGGER “FLICK” CONTROL
Patent Number 498,820

The control is always carefully adjusted on every completely assembled bicycle leaving the factory, but as it may become deranged in transit we suggest that before use the control is checked to make sure the following points are in order.

1. The cable should be so arranged that acute angles do not occur at any point. Check specially at point where it leaves control casing and at the fulcrum clip. Acute angles will cause undue wear and eventual fraying of strands and impede smooth gear change.

2. There must be ample slack in the outer casing to allow for full steering movement without strain and the stranded steel inner wire must not foul on the frame throughout its length.

GENERAL MAINTENANCE
The cable ferrule is fixed in control casing and should never be detached. If this is loose it will allow the inner wire to bend at this point, and it may result in fraying the wire.

The lower rivet in control casing should not be moved except when new pawl is required nor must the upper rivet be disturbed except to fit new lever or ratchet plate.

LUBRICATION
An occasional drop of oil on moving parts is necessary to maintain easy action of the control. Over-oiling is undesirable as surplus oil attracts dirt and grit. Occasionally detach cable and wire from fulcrum clip, slip the outer cable back and oil inner wire.

Occasionally apply a trace of vaseline to the pulley bearings.

Should it ever be necessary to replace Pawl Spring or Control Wire proceed as follows:

TO REMOVE CONTROL WIRE

Fig. 1.

Detach complete control from handlebar.

Pull outer cable clear of ferrule on casing (A).

Pull trigger back until nipple appears at casing cut-away (B).

Pass inner wire through ferrule slots, and push pawl inwards past wire (C). The pawl spring may now be removed (D).

Push inner wire through until enough slack is given to allow nipple to be removed from hole (E).

Withdraw wire complete.

TO REPLACE CONTROL WIRE

Fig. 2.

Pass wire, nipple first, through hole in front of casing and between pawl and ratchet until enough is through to allow nipple to be inserted in ratchet plate. The ratchet plate hole must be opposite cut-away in casing (F).

Pull slack wire back.

Fit pawl spring and push pawl upwards with a small screwdriver, until lever and ratchet plate can be pushed under it (G).

Pull wire, pass it through ferrule slot, and push outer cable into ferrule (H). Fix cable stop on top tube at other end of cable.

GEAR CONTROL ADJUSTMENT
After the wheel has been fitted in frame, the indicator should first be screwed up finger tight, and then turned back just far enough to allow the chain to line up with control wire. It should never be necessary to unscrew it more than one half turn for this purpose. This is necessary before adjustment may be checked. To adjust gear control, first place gear lever in normal position. Then unscrew lock nut on screwed connection, at chain end of hub, and adjust knurled connection fitted to wire, until the shoulder on indicator screw is level with end of axle. This can be seen through slots in R.H. nut. If this method gives insufficient adjustment, further adjustment can be obtained by sliding fulcrum clip on top tube control, or the fulcrum clip in the case of handlebar control along the top tube in required direction.
GENERAL NOTES
1. Keep the gear control wire properly adjusted. See that all clips securing the control and guide pulley are tight, the pulley in line with wire so that wire does not tend to ride up side of pulley flange.

   Remember that if the wheel is moved at any time, either for chain adjustment or when mending a puncture, the gear control must be verified afterwards.

2. Change gear smartly, and do not hold the pedals still. It is only necessary to ease pressure on pedals whilst control lever is moved, without actually ceasing to pedal forward.

3. It is essential that lock nut on dynamo end of hub axle is kept tight, otherwise there is risk of dynamo rotating.

4. Do not dismantle hub unless it is essential to do so, but if at any time this has to be done, see that recess in right hand ball ring, in which outer dust cap revolves, is filled with vaseline or grease when re-assembling, as a protection against water entering bearings. Also put a little vaseline or grease in right-hand and left-hand ball races, but see that none gets into the hub, as it may clog the action of the pawls.

5. Check adjustment of left-hand cone occasionally.

6. Pay special attention to lubrication, and use only the special oil recommended.

7. It is important to keep both axle nuts thoroughly tight; these should be checked regularly to see that they do not shake loose.

DRY ACCUMULATOR UNIT

FITTING

The Unit is attached to the seat tube, but earth connection is obtained by flex wire joined from terminal on side of rectifier to tail lamp fixing screw.

(On early models this side terminal was not used, and the accumulator casing was earthed direct to the cycle frame. A small area of enamel must in this case be removed from frame to ensure a good earth contact for lower fixing lug, which has a small projection for this purpose. The enamel should also be cleaned from this projection.)

Be careful to avoid contact between accumulator casing and rear mudguard, which would cause vibration and affect lighting. Water collecting in mudguard recess may also cause corrosion around base plate.

WIRING

This is illustrated in diagram. One twin flex lead joins the two hub terminals with two outer terminals in head of accumulator casing.

A second twin cable is connected to the two upper terminals on headlamp switch. The wire connecting left-hand switch terminal is taken to the centre terminal in head of accumulator, the wire from right-hand switch terminal is joined to terminal at rear end of tail lamp and the short wire at tail lamp and is joined from tail lamp fixing screw to terminal at side of accumulator casing. The lower centre terminal on headlamp switch is not used for external flex connections.

The head and tail lamp bulbs are joined in parallel.

The tail lamp clip must be earthed to the frame by removal of a spot of frame enamel under the cimple on tail lamp clip.

BULBS

<table>
<thead>
<tr>
<th>Bulb</th>
<th>Symbol No.</th>
</tr>
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<tbody>
<tr>
<td>Headlamp</td>
<td>GL 474</td>
</tr>
<tr>
<td>Tail Lamp</td>
<td>GL 228</td>
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</table>

If the cycle is used without the dry accumulators fitted, light will be obtained whilst the machine is in motion direct from the dynamo, without risk of burning out the bulbs.

In early models packing must be inserted in the casing so as to provide sufficient pressure on the spring at base of rectifier to prevent shaking loose, when earth contact would be broken.

NOTE—however, that should the accumulator unit be removed for any reason and the lamps run direct from dynamo without rectifier in circuit, it is necessary to change above headlamp bulb and use instead the 6-volt .3 amp. bulb, our symbol No. GL 471, also re-wire in accordance with diagram in Headlamp Notes on page 3.

DRY ACCUMULATOR CELLS

Subject to the proviso that the cycle is ridden at least twice as long with lights "off" as with lights "on," as explained in the preface to this booklet, the three dry accumulator cells are charged automatically when cycle is being ridden and the only attention cells require in normal use is addition of distilled water about once a fortnight in summer and once a month in winter. To do this, first remove rectifier unit by a slight turn to left and lift it out. The three cells can now be pushed out from below.

POSITIVE TOP CONTACT

RUBBER STOPPER

SEALING COLLAR

ABSORPTENT SURFACE

NEGATIVE PLATE

SEPARATOR

NEGATIVE BOTTOM CONTACT

OUTER PLATE

INNER PLATE

Remove rubber stopper from each cell and add distilled water until white upper surface of each still remains moist. Any surplus water may be shaken out. Wipe cell dry and replace stopper. The upper contact and base of each should be lightly smeared with vaseline before replacing in accumulator case on bicycle.

When replacing cells in container, see that domed lead-coated base plate is in position in bottom of container with dome upwards. The insulating sleeve on each cell must be in position.
Cleanliness of cells and of container is essential for good service. The rectifier contact spring, the top contact and base of each cell and the lead-coated domed base plate must be kept clean and bright and smeared lightly with vaseline, as should the lower inside rim of container. The terminal on side of rectifier case, which engages the bayonet groove of container must also be kept clean, because this provides the earth contact. Any trouble which may arise will generally be due to corrosion at one of above points.

When not in use the accumulator cells run down slowly, usually in about one month for fully charged cells. Even when fully run down a light will be obtained whilst riding and the cells will recover themselves provided they are not run down. Without lights is adequate. If, however, a standing light is required, the accumulator can be re-charged from an external supply source by dealer. The charging rate is .25 amp. for eight hours, which rate must not be exceeded.

Fully charged cells will give approximately four hours light without running the cycle.

The condition of the cells can be checked by a voltmeter with lamps switched off. The voltage between cover screw on top of rectifier and cycle frame should be 6.45 volts when cells are fully charged, dropping to 5.8 volts when fully run down. If cells have been re-charged from an external source, the lights should be used for a few minutes before taking the reading.

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**SPARE PARTS LIST**

**PLEASE ORDER FROM YOUR DEALER**

The Patent DYNOHUB (6-Volt for Front Wheel)

- GL.345Z Hub Shell, 32 holes
- S.545 Lubricator
- K.67Z Ball Cage complete with balls
- LB.426B Spindle, 4½ ins. long
- LB.357Z L.H. Cone with K.59 Dust Cap
- LB.358Z R.H. Cone with LB.404 Dust Cap
- LB.405 Cup Dust Cap
- GL.603AZ Armature complete
- GL.613 Terminal Nut
- GL.343A Magnet (magnetised and with Keeper Ring)
- GL.609 Magnet Spacing Disc
- GL.610 Patent Number Disc
- GL.611 Cover Plate
- GL.612 Magnet Fixing Screw
- GL.333 Spring Washer for GL.316 Nut
- GL.316 Nut for Magnet Fixing Screw
- K.605 Spacing Washer (fits outside Terminal Plate)
- LB.121 Notched Adapting Washer for L.H. Cone
- X.42A Axle Washer " in. thick
- LB.153 Cone Lock Nut, plain
- LB.155A Cone Lock Nut, split sided
- LB.162 Spindle Nut

**TOOL**

- K.44A Spanner for Cones, Nuts and Notched Washer

**HEADLAMP**

Headlamp complete—Type H.F.62 and Type H.F. 63

- GL.454 Focussing Screw
- GL.455 Focussing Spring
- GL.406 Focussing Bracket
- X.43A Split Pin
- GL.456Z Bulb Holder, complete with two flex leads
- GL.463Z Connecting Lead and Tag
- GL.202C Terminal Nut
- GL.457Z Switch Assembly complete
- GL.401SZ Lamp Rim, with fixing lug and screw
- GL.403 Lamp Glass
- GL.402 Reflector
- GL.408 Seal for Lamp Glass
- GL.405 Reflector Securing Spring
- GL.430 Lamp Bracket Adaptor
- GL.431 Bracket Fixing Bolt
- GL.432 Spring Washer for Fixing Bolt
- K.175 Bracket Fixing Nut
- P.70 Washer for Bracket Fixing Nut

14s. 0d.
TAIL LAMP
TL.6 Tail Lamp, complete with 6v, .04 amp. bulb and round clip but less flex wire... 2s. 0d.
TL.6D Tail Lamp, complete with 6v, .04 amp. bulb and “D” shape clip but less flex wire... 2s. 0d.
TL.6S Tail Lamp, complete with 6v, .04 amp. bulb and oval clip but less flex wire... 2s. 0d.
GL.231 Dome for Tail Lamp... 7d.
GL.329 Terminal Tag (6 B.A.) for flex wire... 1d.
GL.326 Contact Spring... 1d.
GL.210 Insulating Washer, small... 1d.
GL.217A Red Insulating Washer, large... per set of three 1d.
GL.377 Steel Washer... 1d.
GL.202Z Terminal complete... 4d.
S.98 Nut for Fixing Screw... 1d.

BULBS
GL.471 Headlamp Bulb 6-volt, .3 amp. for use without Accumulator... 2½d. 9d.
GL.474 Headlamp Bulb 6-volt, .3 amp. for use with Accumulator... 2½d. 9d.
GL.228 Tail Lamp Bulb 6-volt, .04 amp. for use with... 2½d. 9d.

FLEX WIRES
GL.229DZ Twin Flex from Rear Hub to Dry Accumulator... 1s. 6d.
GL.229CZ Twin Flex from Headlamp to Dry Accumulator and Tail Lamp... 2s. 3d.

For use without Dry Accumulator:
GL.229Z Twin Flex from Hub to Headlamp 30 ins. long... 1s. 6d.
GL.229BZ Twin Flex from Head to Tail Lamps, state length required... 2s. 3d.

Fittings:
GL.320 Cable Clip for Head Stem... 2d.
GL.321 Cable Clip for Dyno side Back Stay... 2d.
GL.322 Cable Clip for Roadster Forks... 2d.
GL.323 Cable Clip for Sports Forks and for Top Frame Tube... 2d.
GL.324 Cable Clip for Fork Ends and for Sports Back Stay... 2d.
GL.328 Wire Tag 2 B.A....... 1d.
GL.329 Wire Tag 6 B.A..... 1d.
GL.334 Cable Clip for Seat Tube... 2d.
GL.335 Cable Clip for Roadster Back Stay... 2d.
P.1503 Cable Clip for Lady’s Diagonal Tube... 2d.
GL.339 Cable Clip for Roadster Back Stay... 1d.
GL.320A Handlebar Stem Clip (Chrome)... 2d.

DYNO-LUXE HUB AND GEAR PARTS
K.601AZ Axle, 6½ ins. long with Sun Pinion fitted... 4s. 6d.
K.508 Sun Pinion... 10s.
K.509 Dowel for Sun Pinion... 5s. 6d.
K.503 Planetary Cage... 6d.
K.527 Clutch Sleeve... 6d.
K.505 Sliding Clutch... 1½d.
K.526A Axle Key... 1d.
K.528 Thrust Ring... 8d.
K.16 Planet Pinion... 8d.
K.510 Planet Spindle (set of 4)... 6d.
K.511A Gear Ring... 4s.
K.512 Gear Ring Pawl... 4d.
K.64 Pawl Spring (per dozen)... 1½d.
K.58 Pawl Pin... 5d.
K.60 R.H. Ball Ring... 4½d.
K.61 Inner Dust Cap... 2d.
K.530 Clutch Spring... 2d.
K.529 Cap for Clutch Spring... 1½d.
K.507 Driver... 5s.
K.67Z Ball Cage complete with eight ½ in. balls... 4½d.
LB.405 Dust Cap for Driver... 1½d.
K.506Z R.H. Cone with LB.405 Dust Cap fitted... 1s. 6d.
K.516 Axle Lock Washer... 1d.
K.513 L.H. Pawl... 4d.
GL.618 Hub Shell, 40 holes... 7s. 6d.
S.545 Lubricator... 2½d.
K.604 L.H. Ball Cup... 4s.
K.105 L.H. Cone with K.59 Dust Cap... 1s. 6d.
K.504AZ Indicator Spindle, 2½ ins. long complete with K.227 Lock Nut... 1s. 6d.
K.227 Lock Nut... 1d.

DYNAMO PARTS
GL.603AZ Armature complete... 10s. 6d.
GL.613 Terminal Nut... 1½d.
GL.343A Magnet with Keeper Ring... 1s.
GL.609 Magnet Spacing Disc... 1½d.
GL.610 Patent Number Disc... 1½d.
GL.612 Cover Plate... 1s. 3d.
GL.315 Magnet Fixing Screw... 1d.
GL.333 Spring Washer for GL.316 Nut... ½d.
GL.316 Nut for Magnet Fixing Screw... ½d.
K.106 Notched Adjusting Washer for L.H. Cone... 6d.

OUTSIDE AXLE FITTINGS, Etc.
K.47A Cone Lock Nut... 2d.
K.521 Axle Lock Washer... 1½d.
K.520 L.H. Axle Nut... 3½d.
K.519 R.H. Axle Nut... 9d.
K.62 Outer Dust Cap (behind sprocket)... 3½d.
X.49 Sprocket Spacing Washer... 1½d.
X.48 Sprocket 18 teeth... 1s. 8d.
X.48C Sprocket 17 teeth... 1s. 8d.
X.48D Sprocket 16 teeth... 1s. 8d.
X.48E Sprocket 16 teeth... 1s. 8d.
X.48F Sprocket 20 teeth... 1s. 8d.
### TRIGGER “FLICK” CONTROL

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<tr>
<th>Item</th>
<th>Description</th>
<th>Price</th>
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<tbody>
<tr>
<td>GC. 3</td>
<td>Trigger Control complete for solo cycle</td>
<td>8s. 0d.</td>
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<tr>
<td>GA. 246</td>
<td>Trigger Quadrant complete less wires</td>
<td>3s. 9d.</td>
</tr>
<tr>
<td>K. 839A</td>
<td>Control Lever only</td>
<td>1s. 6d.</td>
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<tr>
<td>K. 838A</td>
<td>Ratchet Plate</td>
<td>1s. 0d.</td>
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<tr>
<td>K. 732</td>
<td>Control Pawl</td>
<td>4d.</td>
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<td>K. 733A</td>
<td>Pawl Spring</td>
<td>2d.</td>
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<tr>
<td>K. 731A</td>
<td>Pivot Pin for Pawl or Control Lever</td>
<td>1d.</td>
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<tr>
<td>K. 735Z</td>
<td>Inner and Outer wires complete</td>
<td>3s. 0d.</td>
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<td>X. 111A</td>
<td>Clip Nut plated</td>
<td>2d.</td>
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<td>X. 90</td>
<td>Clip Screw plated</td>
<td>1d.</td>
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<tr>
<td>X. 116Z</td>
<td>Fulcrum Clip complete, 1 in. dia.</td>
<td>7d.</td>
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<tr>
<td>X. 116AZ</td>
<td>Fulcrum Clip complete, $\frac{3}{8}$ in. dia.</td>
<td>7d.</td>
</tr>
<tr>
<td>X. 116BZ</td>
<td>Fulcrum Clip complete, $\frac{1}{2}$ in. dia.</td>
<td>7d.</td>
</tr>
<tr>
<td>X. 69</td>
<td>Clip Screw, black</td>
<td>2d.</td>
</tr>
<tr>
<td>X. 111</td>
<td>Clip Nut, black</td>
<td>1d.</td>
</tr>
<tr>
<td>X. 78Z</td>
<td>Pulley complete, 1 in. dia.</td>
<td>1s. 4d.</td>
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<tr>
<td>X. 78BZ</td>
<td>Pulley complete, $\frac{3}{8}$ in. dia.</td>
<td>1s. 4d.</td>
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### DRY ACCUMULATOR UNIT

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<th>Item</th>
<th>Description</th>
<th>Price</th>
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<td>GL.480Z</td>
<td>Casing with lugs, less Base Plate</td>
<td>3s. 6d.</td>
</tr>
<tr>
<td>GL.492</td>
<td>Base Plate for Casing</td>
<td>2d.</td>
</tr>
<tr>
<td>GL.483</td>
<td>Casing Fixing Clip</td>
<td>2d.</td>
</tr>
<tr>
<td>X.90</td>
<td>Clip Fixing Screw</td>
<td>2d.</td>
</tr>
<tr>
<td>X.111</td>
<td>Clip Screw Nut</td>
<td>2d.</td>
</tr>
<tr>
<td>GL.489Z</td>
<td>Rectifier Unit complete with Terminals</td>
<td>8s. 0d.</td>
</tr>
<tr>
<td>GL.497</td>
<td>Cover for Rectifier</td>
<td>7d.</td>
</tr>
<tr>
<td>GL.202C</td>
<td>Nut for Outer Terminal (6 B.A.)</td>
<td>1d.</td>
</tr>
<tr>
<td>GL.486</td>
<td>Centre Nut for Centre Terminal (2 B.A.)</td>
<td>1d.</td>
</tr>
<tr>
<td>GL.318A</td>
<td>Nut for Centre Terminal (2 B.A.)</td>
<td>1d.</td>
</tr>
<tr>
<td>GL.438</td>
<td>Accumulator Cell (RTU)</td>
<td>each 5s. 6d.</td>
</tr>
</tbody>
</table>

### TOOLS

The following special Tools are available for workshop use. Prices on application:

- **DD.5978** Driver Holder (for sprocket removal)
- **DD.9128** Sprocket Chain Wrench
- **DD.6019** Tube Spanner for Magnet Fixing Screw Nuts
- **GD.495** Keeper Ring

Charging Unit for 3 Dry Accumulator Cells for A.C. mains

Charging Unit as above but for D.C. mains

Dynohub Test Meter, to check voltage up to 12 volts, insulation and continuity of wiring.
WHOLESALE DEPOTS
LONDON and HOME COUNTIES
Raleigh House, Great West Road, Brentford, Middlesex.
Tel. Ealing 6721.
46, Ashburnham Road, Bedford. Tel. 4913.

LANCASHIRE, Cheshire
and North Wales
288-294, Eccles New Road,
Weaste, Salford, 5, Lancs.
Tel. Pendleton 2251-2-3.
Delamere Street, Chester. Tel. 3906.

EAST MIDLANDS
199, Lenton Boulevard, Nottingham.
Tel. 77539.
88-90, Charlotte Road, Sheffield, 2.
Tel. 21603.
Mars St., Smallthorne, Stoke-on-Trent.
Tel. 84421.

EASTERN COUNTIES
23, Castle Hill, Norwich.
Tel. 23894.

WEST OF ENGLAND
Asher Lane, Red Cross Street, Bristol, 2.
Tel. 24825.
Alphington Street, Exeter.
Tel. 54477.

SCOTLAND
90, Salkeld Street, Glasgow, C.5.
Tel. South 2692.
62—66, Leadside Road, Aberdeen.
Tel. 7171.

YORKSHIRE DISTRICT
421, Kirkstall Road, Leeds, 4.
Tel. 38050.
Park Street, Hull. Tel. 36052.

MIDLANDS
Empire House, Gt. Charles Street,
Birmingham, 3.
Tel. Central 1150.

NORTHERN COUNTIES
38, St. Mary’s Place,
Newcastle-on-Tyne, 1.
Tel. 22988.

SOUTHERN COUNTIES
Back of the Walls, Southampton.
Tel. 2227.
387, Cowley Road, Oxford. Tel. 7391.

NORTHERN IRELAND
47, Linenhall Street, Belfast.
Tel. 20086.

SOUTH WALES
DISTRIBUTORS
The Kennard Cycle Co.,
199-201, Richmond Road, Cardiff.
Tel. 1333.

HEAD OFFICES:
NOTTINGHAM - ENGLAND
TELEPHONE: NOTTINGHAM 75154.
TELEGRAMS: 'RALIND' NOTTINGHAM.