

TRIVELOX

3 SPEED GEAR

Speed with

Ease.



TRIVELOX

3-SPEED GEAR

The Gear and its Function

When first introduced some seven years ago, **TriVelox** Gears were welcomed with open arms by the connoisseurs of the cycling world, and it was agreed on all sides that at last a perfect Derailleur Gear was born.

From the first one supplied the demand for this product has grown and grown and to-day stands as one of the most outstanding successes in cycle design and engineering.

TriVelox is a 3-speed for cycle or tandem combined in both models with a hub brake if desired. The Model "A" gear is so designed to give perfect chain alignment on all gears and makes cycling whatever the nature of the country, extremely easy, increases the radius of travel and lessens considerably the effort and fatigue.

In the **TriVelox** Gear all three gears are direct so that there are no frictional losses and no wasted effort. It is superior to all ordinary Derailleur gears because the **Driving chain is always in line** no matter which gear is engaged. This is achieved by providing for lateral movement of the three sprockets used so that each sprocket, as it is engaged, moves into constant chain line which is a decided improvement on the method whereby the chain is thrown out of line to engage the sprockets. Moreover, the **TriVelox** method prolongs the life of the sprockets and chain and ensures every ounce of the rider's effort being transmitted to the road wheel.

Your choice of a **TriVelox** will ensure years and years of happy and carefree cycling especially when you consider the following outstanding features.

It differs from other makes of a similar kind inasmuch as the chain is in **PERFECT ALIGNMENT IN ALL THREE GEARS**, whereas in the other known makes the chain is out of line in two of the positions.

Its advantage over hub gears is that **EVERY DRIVE IS DIRECT**, whereas with the hub type of gear two of the drives are through gears.

The **TriVelox** Gear can be supplied with either a **CLOSE** or **WIDE** ratio to suit every class of rider and district.

Alteration of the gears can be obtained by varying the size of the sprockets and each sprocket is made easily detachable (see notes on Technical Page). This is not possible with a hub gear. This is a great advantage to the clubman as it enables him to alter his gears to suit the particular requirements of any route.

Hub bearings are well up to fork ends; this reduces strain on the hub spindle and minimises fracture which is common on other similar types of gear.

The **TriVelox** Gear can be supplied with or without hub brake of the internal expanding type. (See illustrations).

TRIVELOX GEARS LTD.
Priory St. COVENTRY England

'Phone : Coventry 5730

London Address : 4, Highbury Place, Highbury Corner, London, N.5
Liverpool Address : 2, Hardy Street, Great George Street, Liverpool, 1

Compliments to



PERTH.

"The all round good performance of my TriVelox 3-speed gear has been the cause of quite a few other satisfied TriVelox users in this locality and I shall be more than ever pleased to recommend your product when and where I can."

LEITH.

"I herewith acknowledge receipt of your letter of the 28th May. I received the jockey sprocket swivel arm and have duly fitted same, and I wish to thank you for your promptness in replying to my query."

MANCHESTER.

"I am returning one of the clips you sent me as I find the other quite suitable and am pleased to say have just had a try out ; I am quite pleased and think it a wonderful improvement on your 1935 model which I have just finished with."

LEEK.

"I received the parts on the 24th June and having tried them out, find they run perfectly. Thanking you for sending them free and also for the prompt delivery."

SHREWSBURY.

"What I particularly noticed was the easiness of the change of gear and the absence of any friction."

ROYSTON.

"This is the first machine I have had with Derailleur Gear, but I have tried one with this type made by another well-known firm, and I find your Gear superior for ease of changing."

WITHAM.

"I would like to say that my Gear is now working splendidly, and in order to show how keen I am on this Gear, I have just bought a tandem fitted with it."

LONDON.

"With regard to repairs you carried out on Saturday, 25th April, to TriVelox Gears on Dawes Tandem, I would like to report that I have given them a thorough test and they are running with complete satisfaction in all three Gears."

"THE BEST GEAR YET" SO SAYS C.S.M. OF LONDON IN
A LETTER DATED 31st JULY, 1937.

45,383 MILES IN 1 YEAR

by

Walter Greaves

Such is the remarkable record set up by Walter Greaves—a record that can never be beaten because as you know Walter has the decided disadvantage of **ONLY HAVING ONE ARM**. He came to us when preparing for his great ride and a **TriVelox** was fitted to his machine. During his wonderful ride when he encountered all sorts of weather conditions, only two chains were used and two sets of sprockets—says something for the **TriVelox Gear**, doesn't it? He used gears of 85, 74, 66. His greatest distance in one day was over 231 miles.



GEAR RATIO TABLE

The range of sprocket sizes available is included in the following gear ratio table:—

Sprockets			Chain Wheel 44T		Chain Wheel 46T		Chain Wheel 48T		Chain Wheel 52T	
High	Middle	Low	Tyres		Tyres		Tyres		Tyres	
			26"	28"	26"	28"	26"	28"	26"	28"
12			95.3	103.0	99.7	107.0	104.0	112.0	113.0	121.0
13			88.0	94.8	92.0	99.0	96.0	103.0	104.0	112.0
14			81.7	88.0	85.5	92.0	89.2	96.1	96.6	104.0
15			76.2	82.1	79.7	85.8	83.2	89.6	90.1	97.0
16			71.5	77.0	74.7	80.5	78.0	84.0	84.5	91.0
17	17		67.3	72.5	70.3	75.7	73.4	79.1	79.5	85.6
18	18		63.5	68.4	66.5	71.6	69.3	74.7	75.1	80.8
	19		60.2	64.8	63.0	67.8	65.7	70.8	71.2	76.6
	20	20	57.2	61.6	59.8	64.4	62.4	67.2	67.6	72.8
	21	21	54.5	58.6	57.0	61.3	59.4	64.0	64.4	69.3
			52.0	56.0	54.3	58.5	56.7	61.1	61.5	66.2
			49.7	53.5	52.0	56.0	54.2	58.4	58.8	63.3
			47.7	51.3	49.8	53.6	52.0	56.0	56.8	60.7
			45.7	49.2	47.8	51.5	49.9	53.7	54.1	58.2
			44.0	47.4	46.0	49.6	48.0	51.7	52.0	56.0
			40.8	44.0	42.7	46.0	44.6	48.0	48.3	52.0

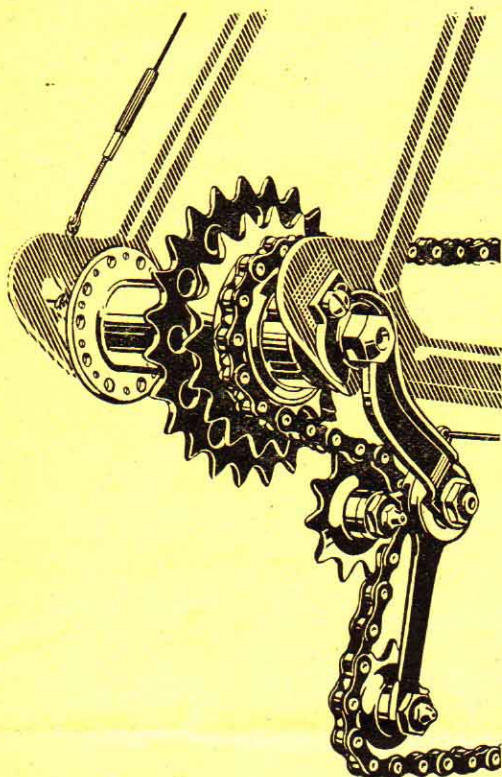
WHAT GEAR RATIO MEANS

If you have a 48 tooth chain wheel and a 16 tooth sprocket on a 26" rear wheel, you have 78.0 gear, which means that every time your chain wheel makes a complete revolution you cover as much ground as a wheel 78" in diameter would cover.

To find out what your gear is, divide the number of teeth in the chain wheel by the number of teeth in rear wheel sprocket and multiply the result by the diameter of the rear wheel, i.e., $48 \div 16 \times 26 = 78$.

TRIVELOX

3-SPEED GEAR



MODEL A1 TRIVELOX

SOLO, LESS BRAKE.

When fitted to an existing machine we prefer you have this done by an experienced cycle mechanic and we know then that you will be more than satisfied.

Complete Gear includes :—

- I Hub.
- I Control Lever and Wire.
- I Jockey Arm with Sprockets.
- I Tension Spring.
- I Conversion Plate or Clip (On Conversion Sets only).

Weight, including Hub and Controls : 2 lb. 14 oz.

Price **32/6**, or with complete Wheel **40/-**

All prices exclusive of fitting charges.



A special gear is supplied for tandem without Hub Brake fitted.
This may be had with small or large flange.

Model A3 - 35/-, or with complete Wheel **42/6**

MODEL A2 Solo with Hub Brake

As you will see from the illustration this model incorporates a fine internal expanding brake making a complete unit. This brake has proved successful over a long period and the gear is exactly the same as in all other **TriVelox** "A" models. The illustration will at the same time give you a very clear impression of the gear control wire and we think you will agree that the whole assembly is very neat.

Complete Set includes :—

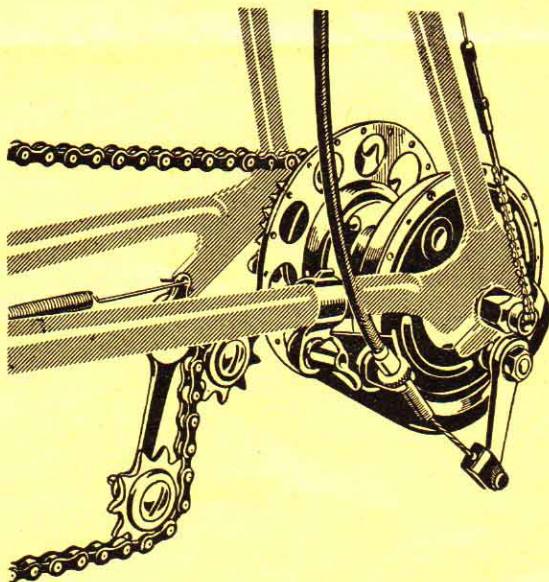
- I Hub and Brake combined.
- I Brake Lever and Wire.
- I Brake Clip for Chain Stay.
- I Control Lever and Wire.
- I Jockey Arm and Sprockets.
- I Tension Spring.
- I Conversion Plate or Clip (On Conversion models only).

Weight, including Hub and Brake Controls, 4 lb. 7 oz.

Price **43/-**, or with complete Wheel **50/6**

SPECIAL NOTES.

To remove **TriVelox** sprockets it is only necessary to hold the low gear sprockets with a chain cog remover and with another sprocket remover turn the top and middle gear sprockets in an anti-clock-wise direction. The low gear sprocket is keyed on by a unique **TriVelox** method and will slip off quite easily. Well worth that little extra, isn't it?

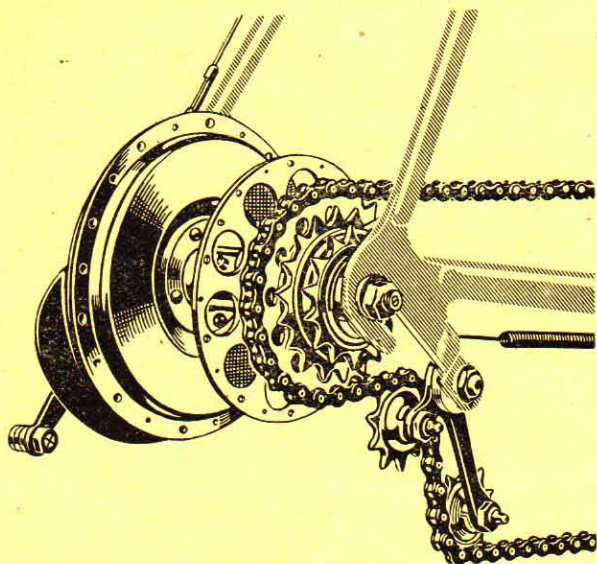


TRIVELOX
3-SPEED GEAR

Makes the "going"
easier.

TRIVELOX

3-SPEED GEAR



Probably the most popular of Gears fitted to tandems to-day—you will find it listed as standard on such machines made by Armstrong, B.S.A., Co-operative, Coventry-Eagle, J. Grose, Halford, James, Saxon, Sun, Sunbeam, Three Spires and Triumph. 90% of the finest cycle manufacturers can't be wrong, can they ?

MODEL A 4

Notice the fine brake—ideal for the work called for on a two-seater—what a feeling of security. Again look at the illustration and we feel sure you will agree with the exclusive layout of the fork ends, exactly the same layout for solo or tandem. Notice too, the large flange on the Gear side as on Model A2, to give better wheel building balance.

Complete Set includes :—

- 1 Hub and Brake combined.
 - 1 Brake Lever, Rod and Cable.
 - 2 Brake Clips for rod and brake arm.
 - 1 Control Lever and Wire.
 - 1 Jockey Arm and Sprockets.
 - 1 Tension Spring.
 - 1 Conversion Plate or Clip (On Conversion models only).
- Weight, including Hub Brake, 5 lb. 8 oz.

Price **45/6**, or with complete Wheel **53/-**

INSIST ON A TRIVELOX GEAR ON YOUR
NEXT SOLO OR TANDEM AND BE 'IN LINE'

OUR LATEST PRODUCTION

So many people have written to us, both dealers and actual users praising the **TriVelox** Gear and at the same time saying that in fairness to the **TriVelox** they thought that so many more people would like to be associated with the **TriVelox** products. Why couldn't we produce an ordinary Derailleur even if we sacrifice the **TriVelox** "always in line" principle—so we got to work—first the design—model after model was drawn and tried—months of testing and experimenting—and at last we were on the right track—the outcome of this is that we proudly present the **TriVelox** in two NEW forms—Model "B" and Model "C."

Model "B" is a complete hub and freewheel together with the control mechanism for changing gear, eminently suitable for fixing to a new machine with brazed on attachment or by means of conversion clips or plate to existing machines. Only two bearings are used in the hub, and bearings are right up to the end for strength and reliability. Sprockets follow the unique **TriVelox** practice of being easily detachable and interchangeable. The whole outfit weighs with hub complete 2 lb. 8 oz.—only 1 lb. 12 oz. in extra weight for a three speed gear. A multitude of sprockets available from 12—28 ; what a range for you to choose from, as close as 12—13—14 for the racing lads or 16—21—28 for the mountaineers. The **TriVelox** "B" is controlled by a single wire and a quadrant with three definite stops to it, so that there is no feeling for gears. Just a flick of the lever and away you go.

SOME ADVANTAGES OF **TriVelox** B

A DEFINITE STOP FOR EVERY GEAR

LIGHT IN WEIGHT

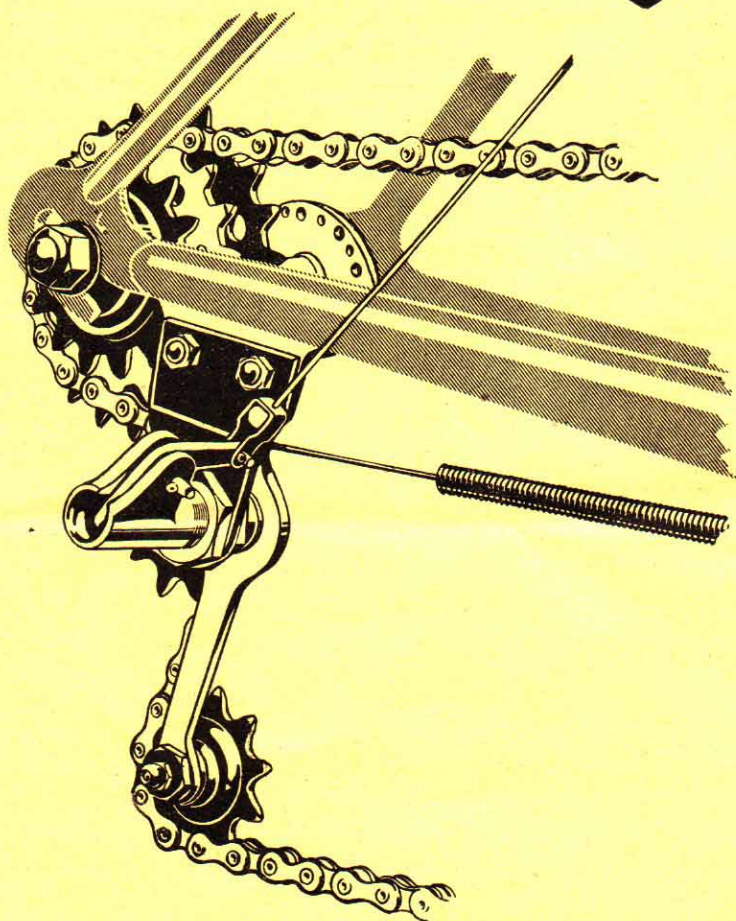
CLOSE OR WIDE RATIOS

QUICK AND EASILY CHANGED SPROCKETS

DIRECT GEARS ON ALL RATIOS

MODEL B1

COMPLETE WITH HUB.



Complete Set includes :—

- I Hub and Free Wheel combined.
- I Control System.
- I Control Quadrant and Wire.
- I Tension Spring.

Weight including Hub, 2 lb. 8 oz.

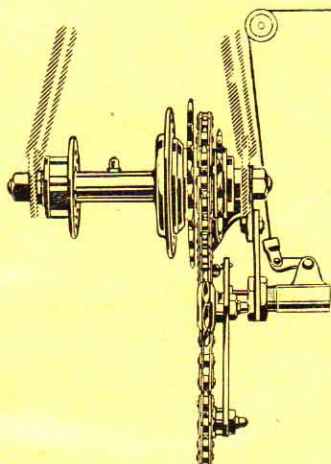
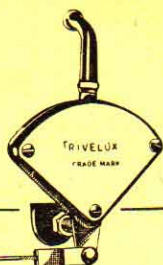
Price - - - **27/6**

With Hub Brake - - **38/-**

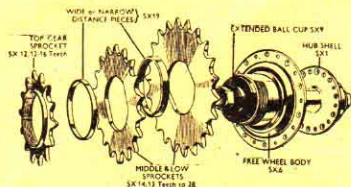
Complete Wheels **7/6 extra.**

Any Rim supplied.

HOW IT OPERATES



The free wheel is built into the hub thus giving the designers the opportunity of offering a better free wheel with wider bearings and a range of sprockets from 12—16 top and 13—28 middle and bottom. The gear changing mechanism is very simple. By means of a lever on the top tube through a celluloid covered cable running over a pulley the spring loaded jockey sprocket shaft is made to slide laterally by moving the bell crank through the Fulcrum, the correct movement being controlled by notches on the control quadrant.



Thus if the jockey system is upright when the lever is in the middle position, jockey sprockets should be in line with the middle gear sprocket on the hub. By moving the control lever backwards the shaft is moved by the pressure exerted and when the lever is moved forward the shaft is returned by spring pressure. No matter what pressure is on the pedals the gear should change quite easily.

IMPORTANT POINTS TO WATCH.

1. Whole system is perfectly upright and parallel with the front chain wheel when in middle gear position.
2. Chain length. (See fitting instructions).
3. When changing from top to middle and middle to bottom, pull the lever a little further than the notch to be selected to get a quick and silent change. Provision is made on the control quadrant to ensure that this extra movement can be made.

TRIVELOX MODEL C

Exactly the same gear mechanism as Model "B" but supplied with a loose free wheel ready for screwing on to an existing hub. Has the advantage of detachable sprockets making it very easy to vary the ratios for different districts.

May be had for solo or tandem. When ordering state whether solo which is C1 or tandem C2, and size of sprockets.

Complete Set includes :—

- I Triple Sprocket Free Wheel.
- I Control System.
- I Control Quadrant and Wire.
- I Tension Spring.

Please state whether conversion or brazed on pattern.

Price : Model C1	25/-
Model C2	26/-

Sprockets available on TriVeloX Gears.

Model "A."

Top : 14, 15, 16, 17, 18.

Middle : 17, 18, 19, 20,
21.

Low : 19, 20, 21, 22,
23, 24, 25, 26.

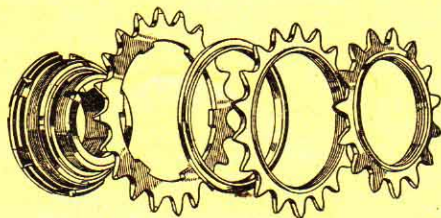
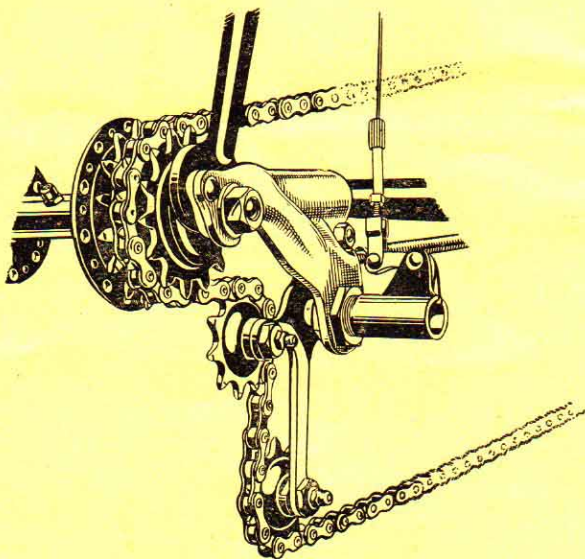
Model "B."

Top : 12, 13, 14, 15, 16.

Middle and Bottom :
13, 14, 15, 16, 17,
18, 19, 20, 21, 22,
23, 24, 25, 26, 28.

Model "C."

All sprockets as Model
"A."



FITTING INSTRUCTIONS

TRIVELOX MODEL A

1. Build the wheel with the hub and rim chosen. It is impossible to outline every size and type of rim available and size of spokes necessary, but we give below specimen sizes ; other sizes can be worked out from these.

TRIVELOX SPOKE SIZES.

SOLO LESS BRAKE

$1\frac{1}{2}$ " C.L.	$26 \times 1\frac{1}{4}$ " Rim.
$13/15$ ga.	$11\frac{1}{4}$ " Gear Side $\times 4$.
$15/17$ ga. or 15ga. Plain.	$11\frac{1}{8}$ " Plain Side $\times 4$.

SOLO WITH BRAKE.

$1\frac{1}{2}$ " C.L.	$26 \times 1\frac{1}{4}$ " Rim.
$13/15$ ga.	$9\frac{7}{8}$ " Gear Side $\times 1$.
$13/15$ ga.	$10\frac{5}{8}$ " Brake Side $\times 3$.

TANDEM LESS BRAKE.

$1\frac{3}{4}$ " C.L.	$26 \times 1\frac{3}{8}$ " Rim.
$13/15$ ga.	$11\frac{1}{8}$ " Gear Side $\times 4$.
15ga. Plain.	$11\frac{1}{4}$ " Plain Side $\times 4$.

TANDEM LESS BRAKE (Large Flange).

12—14g Single Butted.	$26 \times 1\frac{3}{8}$ " Rim.
14—Plain.	$9\frac{3}{8}$ " Gear Side $\times 1$.
	$11\frac{1}{4}$ " Plain Side $\times 4$.

TANDEM WITH BRAKE.

$1\frac{3}{4}$ " C.L.	$26 \times 1\frac{3}{8}$ " Rim.
12/14ga.	$9\frac{3}{8}$ " Gear Side $\times 1$.
12/14ga.	$9\frac{3}{8}$ " Plain Side $\times 2$.

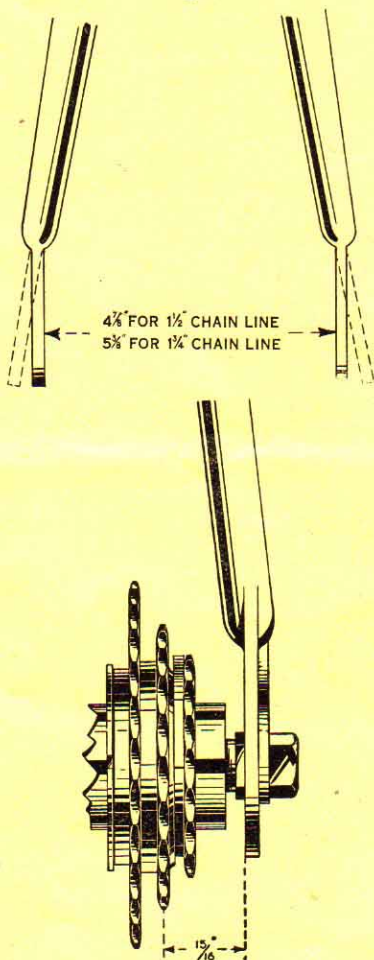
Make sure that the rim is central over the cones and not flanges. This can be checked with the usual wheel builder's "wheel stick."

2. For conversion sets or new machines when fitted with standard fork ends. Remove the old wheel and set the frame to a width of $4\frac{7}{8}$ " for solo or $5\frac{3}{8}$ " for tandem. Make sure that in setting the frame that one side is not pulled more than the other and the fork ends are parallel and equidistant from the centre line of the machine.

3. Fit wheel to frame and then tighten the axle nut on the opposite side to the gear leaving the gear side nut off to have easy access with conversion plate.

4. Fit quadrant to top tube, fit buttress clip on seat stay and hook up wire to toggle chain extension (when single wire control is used fix pulley instead of buttress clip) and generally adjust wire so that the free wheel can be made to move laterally across the hub. To get correct position adjust wire so that when the quadrant lever is in the back notch the free wheel is just clearing the hub and spokes by about $\frac{1}{32}$ ". Test by pulling the lever to the back of the quadrant and notice the small movement of the free wheel towards the centre of the hub. By releasing the quadrant lever to each notch a movement of $\frac{5}{16}$ " should be made. In making sure that this movement is correct, the secret of fitting TriVelox "A" Model is ensured. You know that this movement is right and after fitting the jockey system correctly you will have no further trouble.

Fig. 5



MODEL A, FITTING INSTRUCTIONS—continued.

5. Now fit the conversion plate and clamp it to the axle by means of the gear side axle nut, unscrew the nut in the centre of the jockey sprocket assembly and fasten to the plate, leaving the aluminium distance piece on the inside. The plate should be set to square it up and bring the jockey sprockets perfectly upright and parallel with the front chain wheel. The distance from the centre of the chain stay to centre of conversion plate hole (where the jockey sprocket pivot pin fastens) should be $1\frac{7}{8}$ ". Lateral movement of this jockey system may be made by means of a washer behind the conversion plate and in front of the aluminium distance pieces.

6. Fit the **tension spring and clip**, this may need shortening according to length of chain stay used, and it must be shortened at the end that is clipped to the frame. Finally, fit the chain, which must be long enough to allow the Jockey Arm to be just behind the upright position when in Top gear, i.e., on the small sprocket. It is most essential that the **Guide Sprocket is as near to the top gear sprocket as possible and enough clearance maintained when the low gear sprocket is engaged**. This point is most important, because the ease of changing gears depends upon the Guide Sprocket being as close as possible to the main sprockets. **It is imperative that a new chain be used at the outset**. This will ensure correct meshing with sprocket teeth, easy and even running, and the longest possible life both of sprockets and chain.

Experience has shown that when a new chain is fitted it is sometimes apt to jump the sprockets when starting off. This is caused by undue stiffness of the rivetted joints. After a very short time in use the chain will gain sufficient slackness and the gear will operate perfectly even under a heavy load.

Check over the nuts and screws for tightness and finally adjust the cable so that the distance from the centre of the middle sprockets to the inside face of the fork end is $\frac{11}{16}$ " when the chain speed lever is in the middle position on the Quadrant.

Change gear only when pedalling in the direction of the drive. The pressure on the pedals should be momentarily relaxed and when this is done at the exact moment when the chain is taken up on the next cogs, and the drive taken up once again at just the right time, changing gear will be practically noiseless.

When changing from the high gear to middle on a small combination of sprockets, it may be necessary to let the lever go a little further than the notch, and after the gear has been selected, allow the lever to go back into the corresponding notch. This will help to make a quick and silent change.

Please note that **when the chain is on the low gear sprocket the control wire should be taut**, so that the main sprockets are not allowed to travel to the end of the Hub.

Finally, although these instructions have taken some time to read it need not be thought that the fitting of **TriVelox** Gears is a long and tedious job. Use a little patience and you will find it will amply repay you to have a gear that runs perfectly for long periods with the minimum of attention.

We strongly recommend that any of the well known Wakefield cycle oils are used to lubricate the chain, sprockets, hub and free wheel. **Under no circumstances should grease be used for the free wheel except for assembling after dismantling.**

FITTING INSTRUCTIONS, MODEL C.

Instructions should be followed as outlined for **TriVelox** Model "B" except that instead of a new wheel the following notes should be followed:—

Remove the old wheel and dismantle the old free wheel or fixed cogs. Fit new free wheel with three sprockets on free wheel side of hub and if necessary fit longer spindle and cone to accommodate this to give sufficient clearance for chain when on top gear. We can supply a new spindle for 1/- complete with distance piece and lock nut. When this work is done continue to fit gear as outlined in Model "B."

TriVELOX

MODEL A THREE-SPEED GEARS

THEIR CONSTRUCTION AND MAINTENANCE.

TriVelox Gears will run for long periods without trouble and should change gear easily even when under load. If trouble is experienced, it is invariably due either to the method of fitting or to derangement after fitting. For example, if the jockey arm becomes bent by accident or during transit it will affect gear changing. The arm can be straightened by a small wrench until it is perfectly upright with the front chain-wheel and in line with the particular sprocket in use at the time.

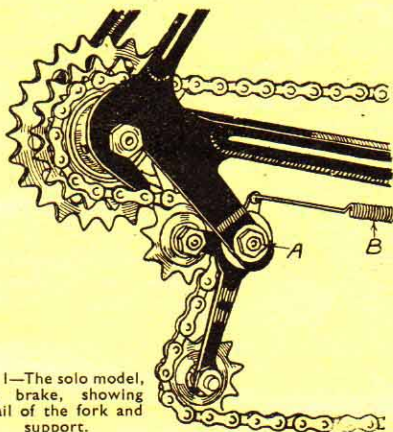


Fig. 1—The solo model, less brake, showing detail of the fork and support.

When use is made of the smallest sprocket available, that is the 14 tooth, the chain may tend to jump until it beds down on the sprocket. After a very short ride this will rectify itself. In fitting the chain, the length should be such that when on high gear the jockey sprocket lies a little to the rear of the machine, it will then be correct for the other two sprockets.

THE CONSTRUCTION.

Coming now to constructional details and maintenance, the first unit is the control quadrant. This can be dismantled after removing the three screws holding the front plate in position. The adjustment on the arm attached to the cable is of particular importance and adjustment will always be necessary with a new cable after the initial stretch has occurred. Control quadrants are supplied to suit $\frac{7}{8}$ ", 1" and $1\frac{1}{8}$ " tubes. Referring to Fig. 3, which shows a complete quadrant the main adjustment is marked **A** on the arm.

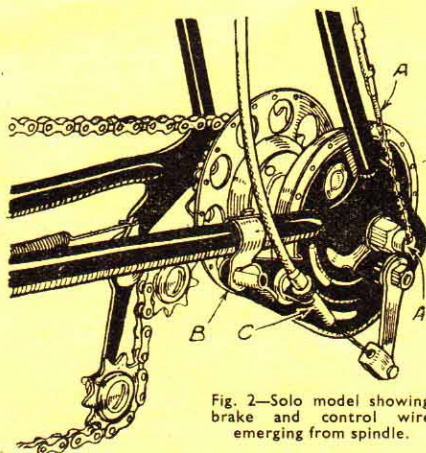


Fig. 2—Solo model showing brake and control wire emerging from spindle.

Coming now to constructional details of the hub, Figs. 4 and 4A show the latest type hub stripped, and Fig. 5 the internal parts of the hub. The parts from **A** to **F** are threaded on the spindle **H** in the order shown, that is to say they are assembled into the hub and the last operation is to pass the spindle through the assembly, place the balls into the ball cups and screw on the cone **J**. The spring **A** contacts with the spigoted washer **B**, the spigot of which in turn presses on the plain washer **D**, leaving a space between the washer faces equal to the length of the spigot. Into this recess comes the internal flange of sleeve **C** which is slightly thinner than the space left between the two washers.

HUB ASSEMBLY.

These washers do not revolve and the clearance left allows the sleeve to rotate with the hub without friction. The projections **K** on the spindle **H** contact with washer **D** and, when they are moved by means of the control cable and chain, the washers are moved axially along the spindle against the pressure of the spring. The formed keys **G** fit into the slots in the sleeve and also into slots machined in the inner side of the free-wheel sleeve, it is therefore necessary to place the free wheel on the splines before fitting the keys. After this has been done, the screwed sleeve **E** is screwed into the sleeve and tightened home using the slots shown. The last item of assembly is the screwed cup **F**, which is screwed into the hub. The two slots are used for tightening purposes and also to give clearance for the projections **K** when threading the spindle through the hub.

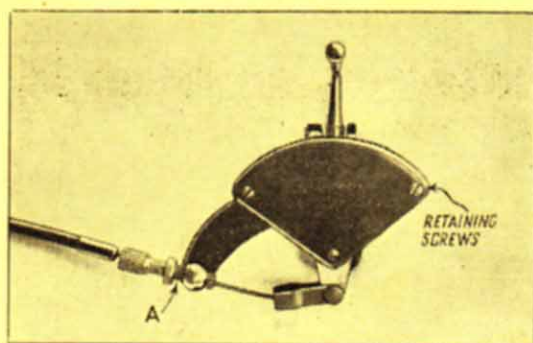


Fig. 3—The control quadrant.

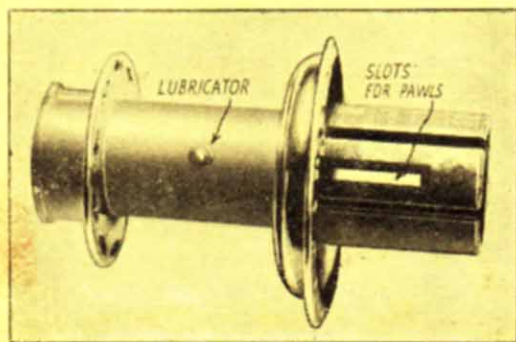


Fig. 4—The hub stripped.

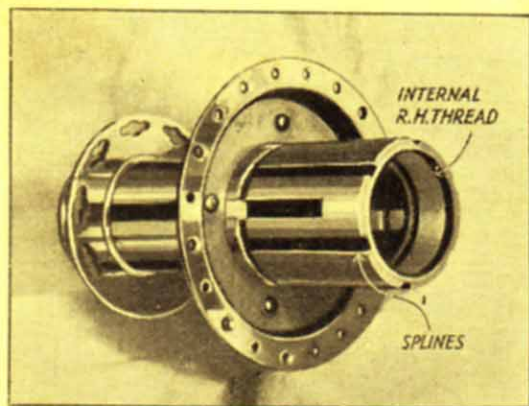


Fig. 4a—The hub stripped, showing the thread into which the cup is screwed.

WITH HUB BRAKES.

The latest type of TriVelox Gears can be supplied with hub brakes, $3\frac{3}{4}$ " for solo machines and 5" for tandems. Fig. 9 shows the hub-brake assembly as removed from the hub. It consists of a steel pressing which carries a pair of brake shoes **G G**, on which are riveted friction linings **F F**. The brake shoes are anchored on the anchor pin **A** and impinge on cam **B**. They are retained in contact with the cam by the springs **E**. The cam is rotated by means of the lever **H** which, when pulled by the brake cable causes the brake shoes to move outwards and make contact with the inner diameter of the brake drum shown in Fig. 10.

It will be seen that the movement of the washers **B** and **D** causes the sleeve **C**, together with the keys and free wheel, also to move axially along the splined hub, the cable pulling in the one direction and the spring returning the free-wheel back to the original position when the tension is released by movement of the control lever. It is this movement of the free wheel that alters the chain line and causes the chain to jump from one gear to another and thus alter the gear ratio.

THE FREE WHEEL.

The free wheel is shown in Fig. 6 partly dismantled. The pawls **A** are spring loaded to engage the internal teeth of the outer sleeve **C** when it is rotated in the direction of the arrow, thereby transmitting motion to the inner sleeve **D** and thence to the hub by means of the splines. The locking ring **B** screws into the outer ring of the free wheel with a left-hand thread.

The operation of refitting any steel bearing balls is facilitated by smearing the cup or cone with grease which will hold the balls in position while the parts are being assembled. The free wheel assembly carries the three chain sprockets. The low-gear sprocket is fitted first and this one is always splined as shown at **A**, Fig. 7, next in order of assembly comes the distance collar **B**, followed by middle gear **C** and low gear **D**, both of which are screwed on the hub with a right-hand thread. The low-gear splined sprocket allows the free-wheel assembly to be held stationary by the use of a short length of chain when it is desired to unscrew either of the other sprockets.

Fig. 8 shows the jockey pulley assembly partly dismantled. Each of the small sprockets runs on a single row of ball bearings as can be seen in sprocket **A**. The spindle and cone **B** are in one piece and the spindle is drilled and fitted with a grease nipple for lubrication purposes, the outlet being at **B1**. The other cone **C** is screwed on to the spindle, and after the cone has been adjusted the spindle is passed through the oval slot in the arm **E** and locked by the nut **D**. It is not necessary to remove the lubricator when dismantling as the diameter of the hexagon on the nipple is less than the bore of the cone and lock nut.

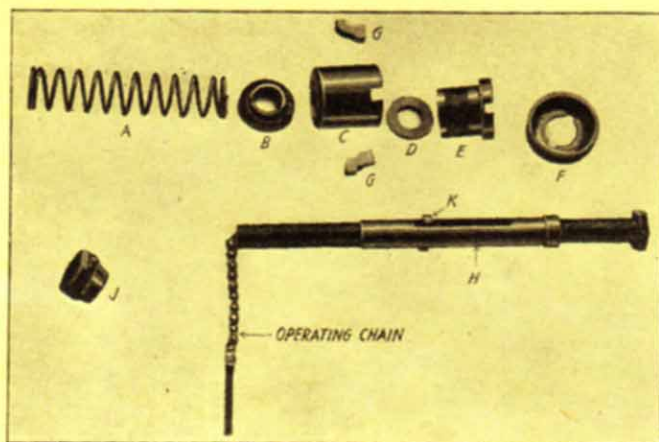
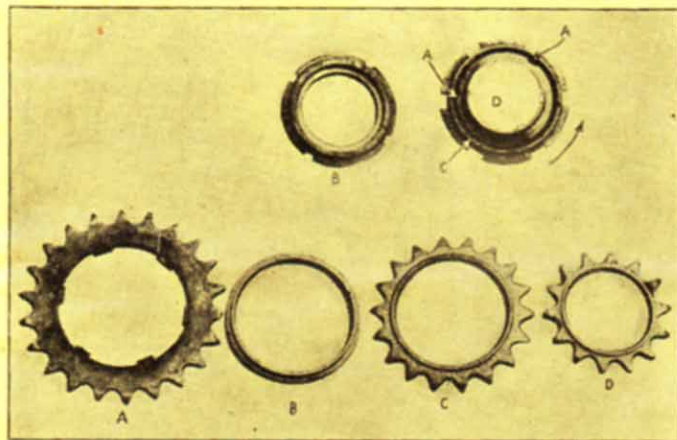


Fig. 5—Internal parts of the hub.



Top, Fig. 6—The free-wheel parts.

Bottom, Fig. 7—The sprockets.

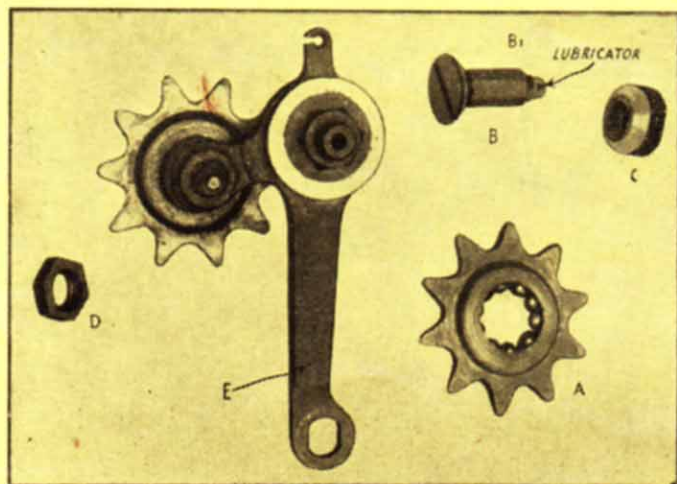


Fig. 8—The jockey pulley assembly.

The lever **H**, which is shown in Fig. 9, is operated by a Bowden cable and handlebar lever. The adjustment sleeve can be seen at **C** in Fig. 2. The steel pressing, termed the anchor plate, which carries the brake shoes, is prevented from rotating by the clip **B** shown in Fig. 2, which fastens it to the chain stay.

Maintenance mainly consists of lubrication and adjustment, as there are practically no parts, other than the chain, sprockets, and, with hub brakes, the brake linings, which will give trouble with wear.

CONTROL CABLE ADJUSTMENT.

It is important to make sure that the control cable is correctly adjusted or it will be difficult to change gear. The correct adjustment is such that correct chain alignment is secured on any gear. It will be noted that there is sufficient room left on the control quadrant to allow for over-derailing, which is of help in changing gear. In course of time when the chain becomes badly worn, it may need replacing and, if the sprockets are also worn, they can be removed and replaced in the reverse direction, thereby bringing the unworn sides of the teeth into use. When the hub-brake linings are worn out, it is preferable to send the brake shoes to the **TriVelox Co.** to have new linings fitted, as it is difficult to fit new linings without the special tools necessary. Always use a good quality lubricating oil for lubricating the various moving parts.

The TriVelox gears are supplied in two patterns, one of which is the conversion set, which will fit most makes of machines by means of a conversion clip on the chain stay, or by a plate suspended from the fork ends suitable for forward drop-out type only.

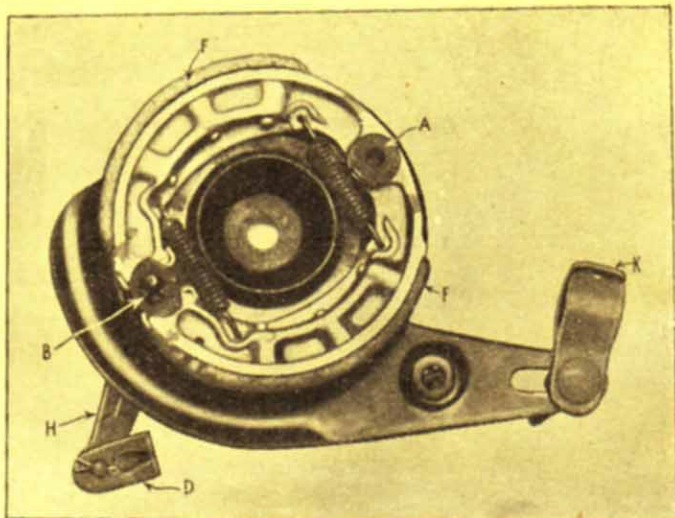


Fig. 9—The hub brake, solo.



Fig. 10—The brake drum, solo. Model "A"

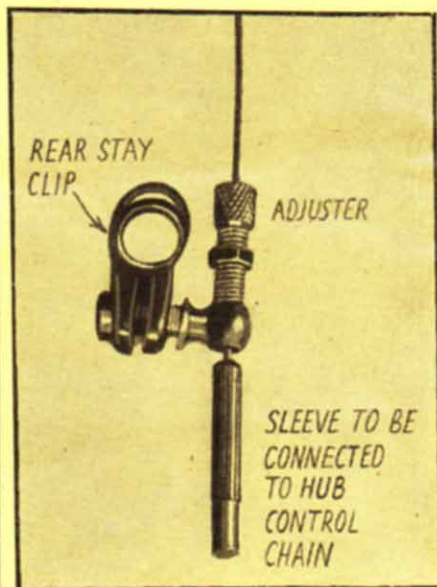
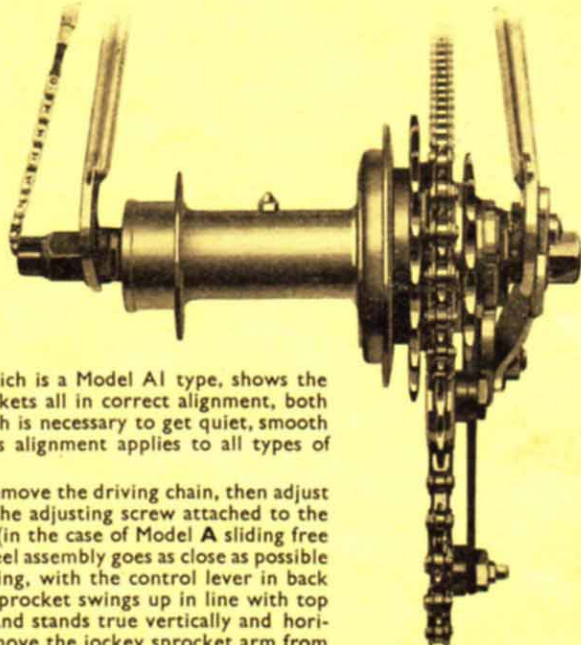


FIG. 11—The control cable-hub end.

IMPORTANT INSTRUCTIONS

re CORRECT ALIGNMENT OF HUB, GUIDE AND JOCKEY SPROCKETS.



A glance at the illustration, which is a Model A1 type, shows the middle, guide and jockey sprockets all in correct alignment, both vertically and horizontally, which is necessary to get quiet, smooth running and easy change. This alignment applies to all types of TriVeloX 3-Speed Gears.

To get this correct alignment remove the driving chain, then adjust the cable control by means of the adjusting screw attached to the quadrant buttress, or seat stay (in the case of Model A sliding free wheel type), so that the free wheel assembly goes as close as possible to the hub flange without binding, with the control lever in back notch. Next, see if the guide sprocket swings up in line with top gear or small sprocket on hub and stands true vertically and horizontally. If it is too far out, remove the jockey sprocket arm from the support plate, and place either one or two of the thin washers supplied with each gear inside the support plate, which should bring the sprockets all in line. If it is found that the jockey sprocket arm does not stand vertical, viewed from rear, the support plate should be set in or out as required, by means of a shifting spanner adjusted to slip over the $\frac{1}{8}$ " plate close up to the fork end. (This applies both to built in and conversion type).

Avoid adjusting the control cable so that when the quadrant is in the forward notch the toggle chain is slack. This means lost movement when changing into middle or high gear.

Turning the adjusting screws out draws the free wheel closer to the hub flange, and screwing it in allows the free wheel to go over towards the fork end.

With Model B and C type gears, adjustment is effected by the knurled adjuster at the jockey system.

When you are satisfied that the free wheel, guide and jockey sprockets are in perfect alignment, replace the chain which must be long enough so that when on middle sprocket the jockey arm stands vertical.

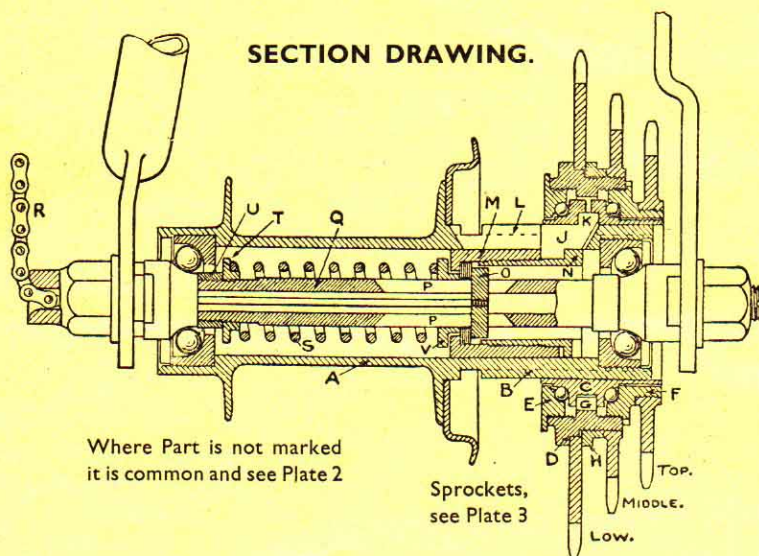
MODEL "A" TRIVELOX GEAR

INSTRUCTIONS FOR DISMANTLING HUB AND REMOVING FREE WHEEL AND FOR RE-ASSEMBLING.

1. Remove cone on the opposite side to free wheel.
2. Remove dust cap on the gear side ; it is then possible to withdraw the spindle, the key passing through the slot in the screwed cup on the gear side ; the screwed cup can then be removed by means of a tool which fits into the key-way (right hand thread). This leaves exposed a slotted screwed sleeve which must now be screwed out (right hand thread). A flat piece of steel which fits in the slots will answer this purpose.
3. After the sleeve is removed, the two keys or pegs which carry the free wheel assembly backwards and forwards will probably drop out, but in any event, they can easily be removed with a pair of thin pliers.
4. The free wheel body will then slide completely off the hub, the whole of the interior will come out with the exception of the cup on the opposite side of the gear which is pressed in, and need not be removed unless for replacement.

ASSEMBLY.

1. Do not forget to put the flanged washer in before the sliding sleeve. It is best to stick it on to the end of the sliding sleeve with some vaseline. There is also a hardened steel washer which goes inside the sliding sleeve.
2. Place the pegs in their relative positions, using a little vaseline, and see that they drop into the slots of the free wheel body which must be inserted over the end of the splined hub. When the pegs are in position, carefully insert the screwed sleeve and tighten up.
3. If the free wheel does not slide backwards and forwards freely, ease it a trifle, and then tighten up again. It is then necessary to replace the screwed cup, and to see that it is tight, when the spindle and spring can be inserted. See that the distance washers are placed inside the cones. This is particularly necessary on the opposite side to the free wheel in order to insert the balls.



A. & B.	V.G.401-2-3	H.	V.G.413	R.	V.G.430
C.	V.G.407	J. & K.	V.G.423	S.	V.G.420
D.	V.G.408	M.	V.G.422	T.	V.G.421
E.	V.G.410	N.	V.G.425	U.	V.G.417 or 485
F.	V.G.409	O.	V.G.418	V.	V.424
G.	V.G.15	Q.	V.G.415 or 416		

PARTS NOT ILLUSTRATED.

V.G.16A	Pawl Spring.	V.G.79	Pawl Spring	V.G.405	Screwed Cup (Gear end).
	Pin.			V.G.406	Plain Cup (Press in).
V.G.427	Brass Extension Indicator Rod.	V.G.67	Cone Lock Nut	} Common to all 1935 Models.	
V.G.44	Free Wheel Shim, .002, .004, or .010 thick.	V.G.65	Cone		
		V.G.68, 69, 71,	illustrated on Plate 1.		

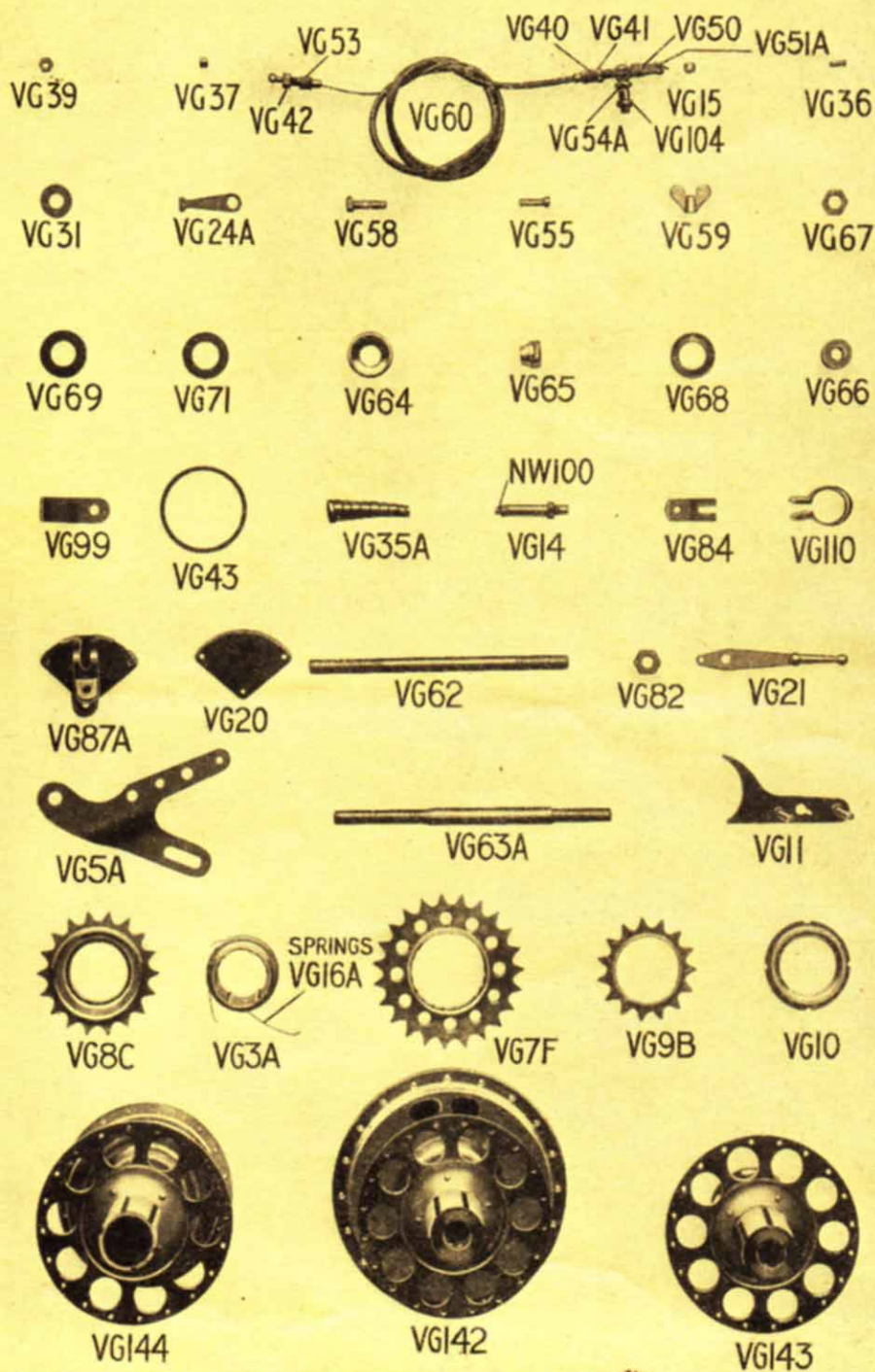
CATALOGUE OF SPARE PARTS.

Except where marked "All Models" Parts 1-210 are only for gears up to and including 1935 models

PLEASE SEND CASH FOR SMALL PARTS.

As the cost of these Spares chiefly represents very small amounts, we shall be greatly obliged if Dealers will remit Cash with Order to save booking expenses.

Part No.	Description	Price		
		£	s.	d.
VG.1	Jockey Sprocket (state Model) All Models	1	6	
	" " complete with cones, etc.	2	6	
VG.2	Guide Sprocket (state Model)	2	0	
	" " complete with cones, etc.	3	6	
VG.3A	Free Wheel Body, complete with springs	2	6	
VG.4	Jockey Sprocket Arm	1	0	
VG.5A	Selector Guide Support Plate... ..	2	0	
VG.7	Low Gear Sprocket (20T to 23T)	4	0	
VG.7	" " (24T to 26T)	4	6	
VG.8	Middle Gear Sprocket (16T to 21T)	3	6	
VG.9	High Gear Sprocket (14T to 18T)	2	0	
VG.10	Lock Ring	1	0	
VG.11	Selector Assembly, Fork and Pins	1	0	
VG.12	" Fork—NOT CALLED FOR. Always supply VG.11 ...	—		
VG.13	" Guide Pin—NOT CALLED FOR. Always supply VG.11	—		
VG.14	" " Support Bush, complete with NW.100 ...			10
VG.15	Freewheel Pawl All Models	2		
VG.16A	" " Spring	1		
VG.17A	Spoke Flange (C.P.)	2	0	
VG.18	Change Speed Quadrant	6		
VG.19	" " " Clip	9		
VG.20	" " " Cover	4		
VG.21	" " Lever Assembly	6		
VG.22	" " " (Always supply with VG.21 complete)			
	All Models	—		
VG.23A	" " " Top " " " " " " " "	—		
VG.24A	" " " Spring	4		
VG.26	Guide Sprocket Spindle	2	0	
VG.27	" " Cone	10		
VG.28	" " Shim (.004)	1		
VG.29	" " Spindle Distance Collar	4		
VG.30	" " Nut	2		
VG.31	Rear Wheel Spindle Washer	1		
VG.31A	" " " " " " " " " "	1		
VG.32	Jockey Sprocket Peg	6		
VG.33	" " Cone	4		
VG.34	" " Tension Spring All Models	10		
	" " complete with Clip	1	0	
VG.35A	Selector Guide Spring	4		
VG.36	Change Speed Quadrant Screw All Models	1		
VG.37	" " Lever Pivot Bush	1		
VG.39	" " Quadrant Clip Nut	1		
VG.40	Top Rail Cable Buttress	2		
VG.41	Cable Casing Buttress	2		
VG.42	" " Top Buttress Lock Nut	1		



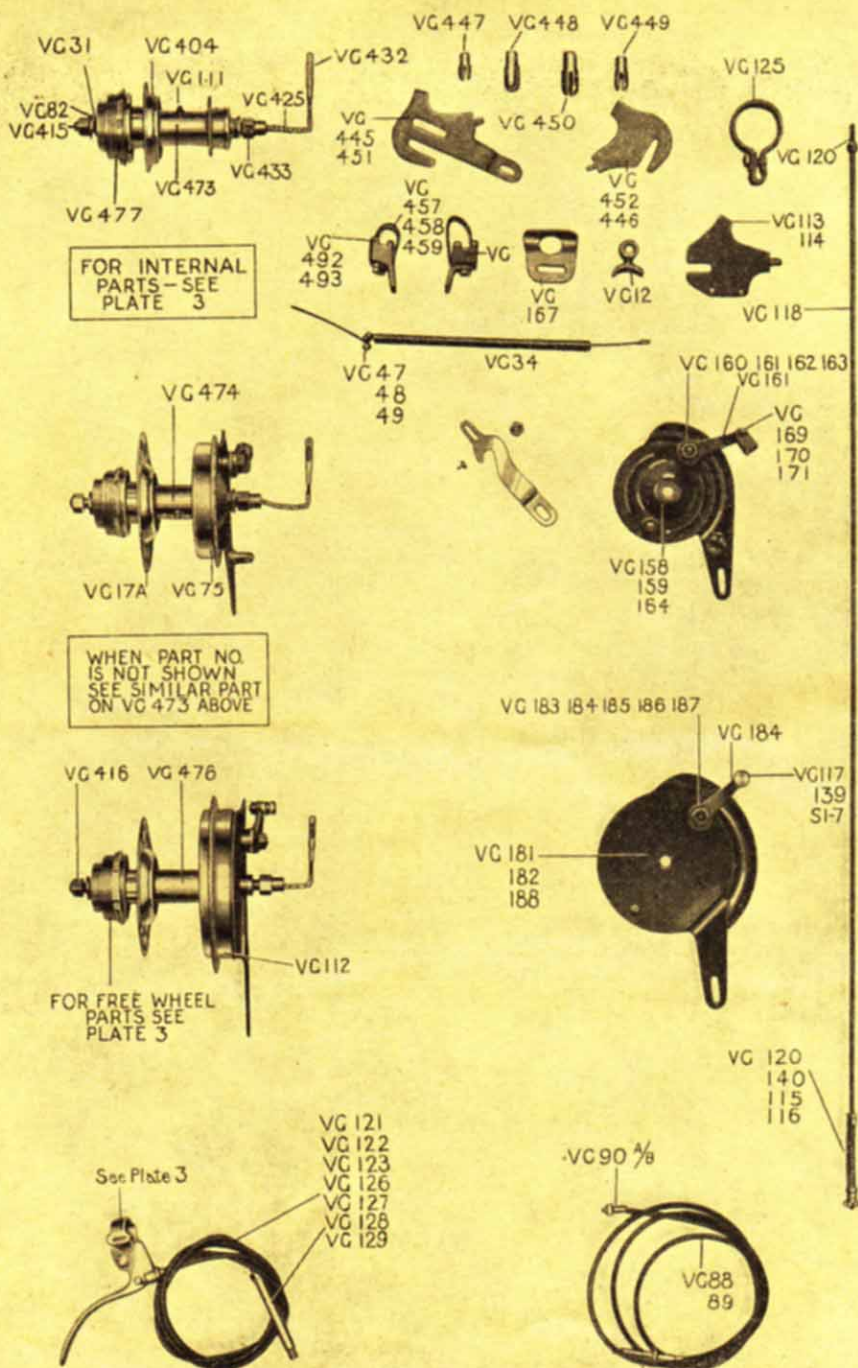


PLATE 2.
See page 18 for Sectional Drawing.

Part No.	Description	Price		
		£	s.	d.
VG.118	Brake Operating Rod Assembly All Models	1	4	8
VG.119	" " " " " " " " " " " "	1	8	0
VG.120	" " " " Spring Nut " "	1	2	0
VG.121	" Rod and Wire Union " "	2	2	0
VG.122	" Return Springs " "	2	2	0
VG.123	" Control Wire Buttress " "	10	10	0
VG.124	Bottom Bracket Buttress Lug Brake Control Wire (Brazed on) ...	4	4	0
VG.125	Brake Control Wire Buttress Clip with Screw and Nut All Models	10	10	0
VG.126	" " " Assembly (Tandem rod-cum-wire) " "	1	6	0
VG.127	" " " Screwed Nipple " "	1	1	0
VG.128	" " " Adjuster " "	4	4	0
VG.129	" " " Nut " "	1	1	0
VG.131	Hub Assembly (1 $\frac{3}{4}$ " Chain Line with 5" Brake)	1	5	0
VG.132	Brake Anchor Plate Distance Washer	2	0	0
VG.133	Selector Guide Support Plate for rear pull-out ends	2	0	0
VG.134	" " " Att. Screw	1	1	0
VG.135	Rear Fork End (Gear Side-solo)	6	6	0
VG.136	" " " (L.H. Side-solo)	6	6	0
VG.137	Fork End Ferrule Tandem Seat Stay	2	2	0
VG.138	" " " Chain Stay	4	4	0
VG.139	Brake Cam Lever Trunnion Washer All Models	1	1	0
VG.140	" Operating Rod Spring " "	2	2	0
VG.141	Hub Shell Sub-Assembly	12	0	0
VG.142	" " " " " " " " " " " "	14	0	0
VG.143	" " " " " " " " " " " "	10	0	0
VG.144	" " " " " " " " " " " "	12	0	0
VG.154	Rear Wheel Spindle	10	10	0
VG.157	5" Brake Anchor Plate Chain Stay Lug All Models	4	4	0
VG.158	Anchor Plate, complete with shoes	7	0	0
VG.159	" " only " "	2	6	0
VG.160	" " Cam " "	1	0	0
VG.161	" " " Lever " "	4	4	0
VG.162	" " " Spring Washer " "	1	1	0
VG.163	" " " Nut " "	1	1	0
*VG.164	Brake Shoes Assembly (for 3 $\frac{3}{4}$ " Brake Drum) pair 4 0	4	0	0
VG.165	" " Linings	—	—	—
VG.166	" " Rivets as VG.164	—	—	—
VG.167	" " Pads All Models	1	1	0
VG.168	" " Spring " "	1	1	0
VG.169	" Cam Lever Eye " "	2	2	0
VG.170	" " " Pin " "	1	1	0
VG.171	" " " Felt " "	1	1	0
VG.172	Lever complete	2	6	0
VG.173	" only	1	4	0
VG.174	" Housing Clip	10	10	0
VG.175	" Swivel Pin	1	1	0
VG.176	" " " Nut	1	1	0
VG.177	" Buttress Bush	1	1	0
VG.178	" Fixing Clip	3	3	0
VG.179	" " " Screw	1	1	0
VG.180	" " " Nut	1	1	0
VG.181	Anchor Plate, complete with Shoes	8	6	0
VG.182	" " only	3	0	0

*BRAKE SHOE SERVICE.

In the interests of good service, a scheme has been incorporated to exchange Brake Shoes complete for an inclusive charge, Tandem 2/6, Solo 2/-. This will eliminate difficulties that arise through relining. Return the old shoes to us and we will send a relined pair by return.

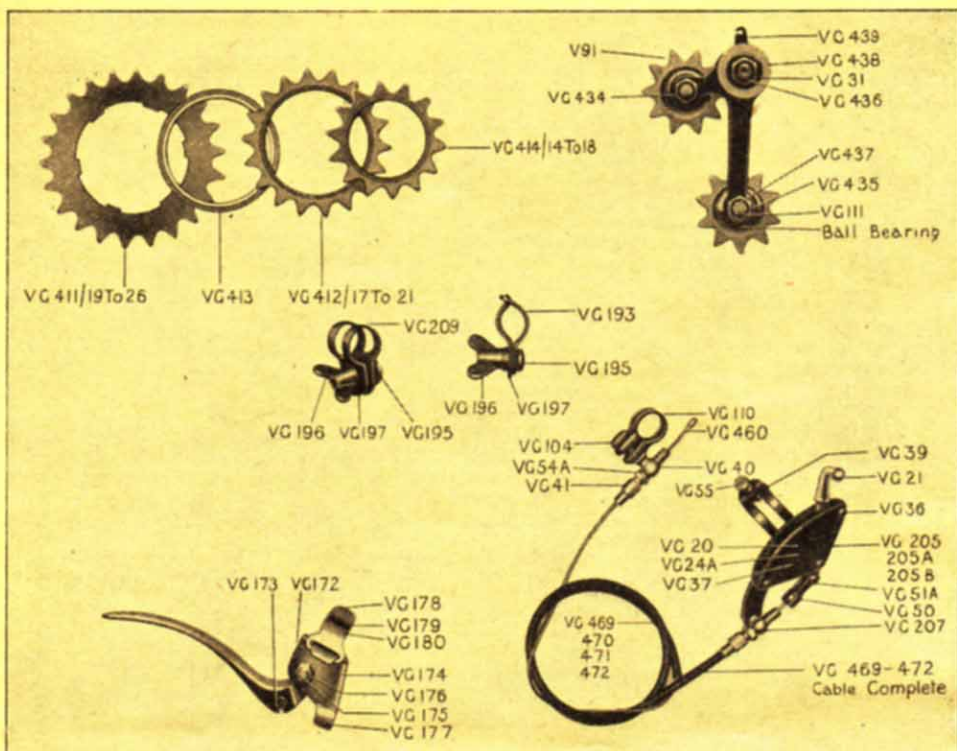


PLATE 3.

Part No.	Description	Price £ s. d.
VG.183	Anchor Plate, Cam Assembly...	1 4
VG.184	" " " Lever ...	4
VG.185	" " " " Felt ...	1
VG.187	" " " " Washer ...	1
*VG.188	Brake Shoe Assembly (for 5" Brake Drum)	pair 4 6
VG.191	" " " Pad ...	1
VG.192	" " " Spring ...	2
VG.193	" " " Clip— $\frac{3}{8}$ " diam. stay ...	4
VG.195	" " " Screw ...	2
VG.196	" " " Wing Nut ...	6
VG.197	" " " Spring Washer ...	1
VG.205	Change Speed Quadrant Assembly (1" Clip)	5 0
VG.205A	" " " " (1 $\frac{1}{8}$ " Clip) } with " "	5 0
VG.205B	" " " " (1 $\frac{1}{8}$ " Clip) } Buttress,, "	5 0
VG.206	" " " " (1 $\frac{1}{8}$ " Clip) } attached,, "	5 0
VG.207	" " " Extension ...	6
VG.208	" " " Eye ...	4
VG.208A	Control Wire Assembly (Solo) ...	2 4
VG.208B	" " " (Tandem) ...	3 10
VG.209	" " " (Enfield Tandem) ...	3 10
VG.210	Brake Anchor Plate Stay Clip, complete ...	10
	Free Wheel Assembly (1935 pattern only sprockets) ...	13 6

Part No.	Description	Price	
		£	s. d.
MODEL "A" ONLY FROM 1936 ONWARDS.			
VG.401	Hub Shell, 1 1/2" chain line with brake	} See VG. 440 to 443	
VG.402	" " 1 1/2" and 1 3/4" chain line without brake		
VG.403	" " 1 3/4" chain line with brake		
VG.404	" Spoke Flange (20 Holes) ...		1 4
VG.405	" Cup (Screwed) ...		1 6
VG.406	" (Plain) ...		1 0
VG.407	Free Wheel Body ...		3 0
VG.408	" Ratchet Ring ...		2 0
VG.409	" Top Gear Adaptor ...		1 4
VG.410	" Lock Ring ...		1 0
VG.411	Low Gear Sprocket, 20T to 26T, A. & C Models ...		2 0
VG.412	Middle Gear Sprocket, 17T to 21T, A & C Models ...		2 0
VG.413	Sprocket Distance Ring, A & C. Models ...		10
VG.414	Top Gear Sprocket, 14T to 18T, A & C. Models ...		2 0
VG.415	Spindle 1 1/2" Chain Line ...		3 6
VG.416	" Collar ...		3 6
VG.417	" Draw Bolt Cotter ...		2
VG.418	Selector Spring Thrust Washer ...		4
VG.419	Return Spring ...		4
VG.420	" Collar ...		2
VG.421	Hub Sliding Sleeve ...		10
VG.422	" Key ...		4
VG.423	Thrust Washer (Plain) ...		2
VG.424	Hub Sliding Sleeve Bush ...		10
VG.425	Gear Control Draw Bolt ...		4
VG.426	" " " " Extension ...		4
VG.427	" " " " Chain (Toggle Chain) ...		6
VG.428	" " " " Connecting Piece ...		4
VG.429	" " " " and Chain Assembly ...		1 6
VG.430	" " Connecting Sleeve ...		6
VG.431	Spindle Nut (Extended) ...		4
VG.432	Jockey Sprocket Peg ...		8
VG.433	" " Cone ...		4
VG.434	" " Arm Pivot Pin ...		1 0
VG.435	" " Peg Nut ...		2
VG.436	" " Arm Spacing Collar ...		6
VG.437	" " Sprocket Swivel Arm ...		1 6
VG.438	Hub Shell Assembly, 1 1/2" Chain Line without brake ...		12 0
VG.439	" " " " " " with " ...		14 0
VG.440	" " " " " " without " ...		12 0
VG.441	" " " " " " with " ...		16 0
VG.442	Gear Control Chain Rivet (Two per set) ...		pair 1
VG.443	Rear Fork End—Solo (Gear Side) ...	} Sold in sets only	set 1 8
VG.444	" " " (L.H. Side) ...		
VG.445	" " " Ferrule—Solo (Seat Stay) ...	} Sold in sets only	set 1 8
VG.446	" " " (Chain Stay) ...		
VG.447	Rear Fork End Ferrule—Tandem Seat Stay ...	} Sold in sets only	set 1 8
VG.448	" " " Chain Stay ...		
VG.449	" " " Tandem—(Gear Side) ...	} Sold in sets only	set 1 8
VG.450	" " " (L.H. Side) ...		
VG.451	Jockey Support Arm (TriVelox Fork End) 1935 ...		1 0
VG.452	" Swivel Arm Bracket (Conversion) ...	} State Solo or Tandem	} See also VG.492 and VG.493
VG.453	" " " Nut ...		
VG.454	" " " Clip Assembly ...		
VG.455	" " " Clip ...		
VG.456	" " " Screw ...		
VG.457	" Support Arm Screw ...		2
VG.458	Nipple for Gear End of Cable ...		2

MODEL "A" ONLY FROM 1936 ONWARDS.

[illegible]

See VG.
440 to 443

1	4
1	6
3	0
2	0
1	4
1	0
2	0
2	0
	10
2	0
3	6
3	2
	4
	4
	2
	10
	4
	2
	4
1	6
	4
	8
	4
1	0
	2
	6
1	0
12	0
14	0
12	0
16	1
1	8
1	8
1	0
	6
	4
	6
	4
	2
	2

VG49
 VG187 VG48 VG197 VG139 VG171 VG176 VG39 SI-7 VG162 VG163

VG28 VG31A VG179 VG170 VG30 VG185 VG175 VG195 VG180 VG134

VG119



VG116

VG115

VG140

SI-7

VG120

VG121



VG88



VG169



VG196



VG34



VG167



VG117



VG168



VG173

VG33

VG27



VG47



VG192



VG137



VG138



VG125



VG191



VG122



VG123



VG29



VG32



VG111



VG26



VG2



VG1



VG184



VG161



VG178



VG177



VG174



VG124



VG113



VG114



VG133



VG160



VG183



VG159



VG165

VG164



VG4



VG189

VG188



VG182

Part No.	Description	Price		
		£	s.	d.
VG.469	Control Wire Assembly—Solo Gent's	2	0	
VG.470	" " " " Lady's, with $1\frac{1}{8}$ " Clip	2	0	
VG.471	" " " " Tandem	2	10	
VG.472	" " " " Lady Back Tandem, with $1\frac{1}{8}$ " Clip	2	10	
VG.473	Hub General Assembly $1\frac{1}{2}$ " Chain Line less brake, complete with free wheel	1	0	0
VG.474	" " " " but with hub brake	1	6	10
VG.475	" " " " without hub brake, $1\frac{3}{8}$ " chain line	1	1	0
VG.476	" " " " with hub brake, $1\frac{3}{8}$ " chain line	1	14	0
VG.477	Free Wheel Assembly, less sprockets	8	4	
VG.477A	" " complete with sprockets	15	0	
VG.478	Jockey Sprocket Assembly (2 sprockets and arm)	6	6	
VG.479	Brake Control Wire Adjuster	2		
VG.480	" " " " complete with lock nut	4		
VG.481 to 484	See VG.473 to 476 (36 Hole Hubs)			
VG.485	Hub Spindle Collar	2		
VG.486	Gear Control Draw Bolt Assembly	1	10	
VG.487	Spindle Assembly (including VG.486 Tandem)	5	10	
VG.488	" " " " (Solo)	5	10	
VG.491	Spherical Washer for VG.489 and 490	1		
VG.492	Conversion Clip complete—Solo	1	4	
VG.493	" " " " Tandem	1	4	
VG.494	Cable Buttress Eye—similar to VG.54A, but without slot	4		
VG.495	Conversion Plate Complete	1	4	
Nos. FOR SMALL PARTS—NOT VG.				
S.70-3	$\frac{1}{4}$ " Balls for Hub Bearings —18 per set	per set	4	
S.34-23	Rivets for Hub Flanges —4 " (one flange)	"	4	
KF.731	" " Brake Flanges —4 " " " "	"	4	
S.70-6	$\frac{1}{8}$ " Ball Bearings (Free Wheel)—80 " " " "	"	4	
NW.85	Rivets for Quadrant ... —2 " " " "	"	1	
QS.250	Nipple for Control End of Cable	each	1	
LG.24A	Thimble to Casing	"	2	
S.I.7	Washer (5" Brake Drum)	"	1	

COMPLETE LIST OF SPARE PARTS FOR MODEL "B" INCLUDING CONTROL SYSTEM FOR MODEL "C"

Part No.	Description	Price each s. d.
SX.1	Hub Shell (Model "B")	5 6
SX.2	Pawl Ring Washer	2
SX.3	"	2
SX.4	" Spring	1 6
SX.5	" Ring	3 3
SX.6	Free Wheel Shell	10
SX.7	Ratchet Ring	1
SX.8	Dust Cap—Sprocket Side	4
SX.9	Extended Ball Cup	6
SX.10	Chain Guide—Bottom Jockey Sprocket	1
SX.11	Adjusting Shim. .003, .005, .010, .036, .040 thick	2 0
SX.12	12 to 16 tooth Top Gear Sprocket	2 0
SX.14	13 to 28 tooth Middle and Low Gear Sprocket	0
SX.15	Control Wire (Solo length)	1 1
SX.16	" (Tandem length)	6
SX.17	Pivot Split Pin	1
SX.18	Pulley complete	9
SX.19	Sprocket Distance Ring (Wide)	2
SX.19a	" (Narrow)	2
SX.19b	Special Distance Ring for Hubs with 12 tooth sprocket	4
SX.21	Universal Conversion Plate for Jockey Sprocket	1 4
SX.22	Brazed on Lug (Manufacturers only)	4
SX.23	Support Plate (Bolt on)	8
SX.24	Bell Crank Lever Housing	1 0
SX.25	" Nuts	2
SX.26	Jockey Arm Slide Pin	6
SX.27	" " Spring	4
SX.28	" " Screw	2
SX.29	Bell Crank Lever	4
SX.30	" Swivel, Pin	2
SX.32	Dust Cap—Near Side	1
SX.34	Gear Control Connecting Piece	4
SX.35	" " Sleeve	6
SX.37	" " Nipple	2
VG.1	Jockey Sprocket, complete with cones	2 6
VG.18	Quadrant Plate	3
VG.20	Cover Plate	6
VG.21	Control Lever	4
VG.24a	Quadrant Lever Spring	6
VG.31	Spindle Washers	1 0
VG.34	Tension Spring (complete)	1
VG.36	Cover Plate Screw	1
VG.37	Lever Bush	1
VG.39	Nut for Pulley Screw and Support Plate	1
VG.47	Tension Spring Clip	1
VG.48	" " Screw	1
VG.49	" " Nut	1
VG.50	Cable Eye	1
VG.51a	" " Pivot Pin	1
VG.55	Pulley Screw	2
VG.62	Spindle	6
VG.65	" Cone	4
VG.80	Quadrant Clip Packing (for $\frac{3}{8}$ " Top Tube)	No charge
VG.86	Solo Quadrant (Assembly)	3 6
VG.87	Tandem Quadrant (Assembly)	3 6
VG.87a	Special $\frac{3}{8}$ " Quadrant (Assembly)	4 0
VG.111	Lubricator	2
VG.134	Plate Screw	1
VG.434	Jockey Peg	8
VG.435	" Cones	4
VG.437	" Peg Locknut	2
VG.439a	" Arm	1 6
TUB.5	Ball Cup	4
TUB.16	Spindle Nuts	2
VG.407c	Screw for "C" Model Sprockets (see VG. list 411-414)	3 0

JOCKEY SPROCKET PARTS

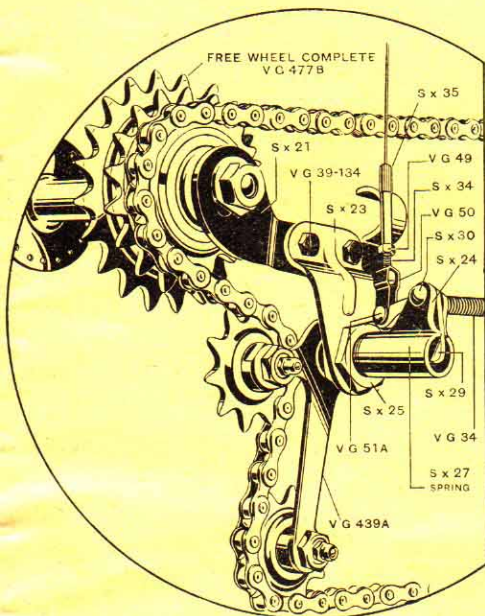
NOT ILLUSTRATED.

MODEL "C" ONLY.
VG.477B Free Wheel complete.
 (Please state size of Sprockets required).

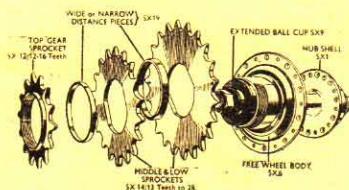
11/-

**Complete Jockey System, with
 Conversion Plate,
 Control Quadrant and Cable,**

14/-



SX.22	Brazed-on Lug.
SX.26	Jockey Arm Slide
SX.27	" " " Spring.
SX.28	" " " Screw.
SX.17	Split Pin.
VG.1	Jockey Sprockets.
VG.47	Tension Spring Clip.
VG.48	" " " Screw.
VG.49	" " " Nut.
VG.435	Jockey Cones.
VG.434	" " " Pegs.
SX.31	Chain Guide. Top Jockey Sprocket.
VG.437	Jockey Peg Locknut.
VG.111	Lubricator.
SX.10	Chain Guide. Bottom Jockey Sprocket.
VG.86	Solo Quadrant.
VG.87	Tandem Quadrant.
VG.87a	Special $\frac{3}{8}$ " Quadrant.
VG.20	Cover Plate.
VG.21	Control Lever.
VG.18	Quadrant Plate.
VG.36	Cover Plate Screw.
VG.37	Lever Bush.
VG.24a	Quadrant Lever Spring.
SX.15	Solo Length Cable.
SX.16	Tandem Length Cable.
SX.18	Pulley complete.
VG.55	" " " Screw.
VG.39	" " " Nut.



Model "B"
INTEGRAL HUB,
Complete, 13/6

(Please state size of Sprockets).

Hub Parts, not marked on illustration.

SX.2	Pawl Ring Washer.
SX.3	" " " Spring
SX.4	" " " Housing Ring.
SX.5	Ratchet Ring.
SX.7	Dust Cap. Sprocket Side.
SX.8	Adjusting Shims. Sizes: .003, .005, .010, .032, .036, .040
SX.11	Sprocket Distance Ring (Wide).
SX.19	" " " (Narrow).
SX.19a	" " " Special for 12" Sprockets only.
SX.19b	Dust Cap (near side).
SX.32	Ball Cup.
TUB.5	Spindle Nuts.
TUB.16	Cones.
VG.65	Spindle Washer.
VG.31	Lubricator.
VG.111	

BALL BEARINGS.

Free Wheel	-	-	$\frac{1}{8}$ "
Hub	-	-	$\frac{1}{4}$ "
Jockey Sprockets	-	-	$\frac{3}{16}$ "

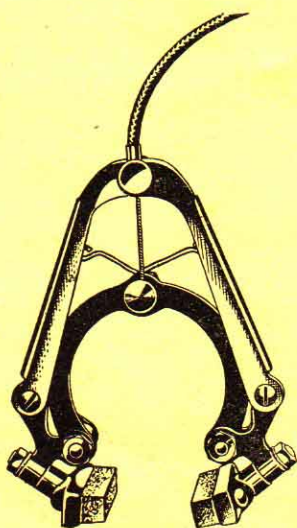
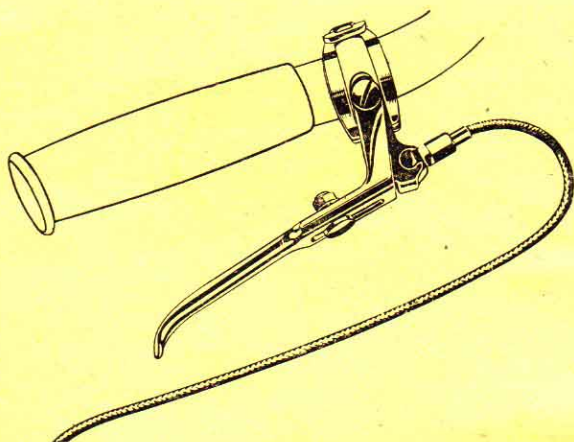
ANOTHER TRIVELOX PRODUCTION

THE "WHITMILL" BRAKE

Patent Nos. 435208, 412379, 412346.

The Brake that is different—the Whitmill—brought into being by the insistent demands of the public—and a clever inventor—designed to give the maximum of leverage with the minimum of pressure—each brake shoe is adjusted independently—fitting clips may be had to suit most size forks or seat stays and, there is no difficulty in fitting—the fitting clips being so designed to suit front forks or seat stays from 3" to 4" wide. No soldered nipples or rivetted joints are used in the manufacture—the whole assembly bristling with parts of first class design—and manufactured by a firm who

specialise in first class cycle productions. One more exclusive feature to convince you that this is the brake for you. The lever—covered by an independent patent enables you to adjust both the brake and the lever itself to the particular handlebar you use. Here then is the brake for you—you may have it fitted on your new machine, or your dealer will supply you with them to suit your existing cycle.



WHEN ORDERING

state whether front or rear and what size front forks or chain stays.

Finish : Black gun metal with main parts chromium plated.

Price :

6/- Front. 6/6 Rear.

GUARANTEE.

TriVelox Gears Limited (hereinafter called "The Company") hereby guarantee that all precautions which are usual and reasonable have been taken to secure excellence of materials and workmanship in their products. This guarantee is applicable only to new products, and is to be in force for a period of twelve months only from the date when the goods were delivered new from the Company's Works.

The Company only holds itself responsible under this guarantee for the replacement or repair of any part or parts which may have proved defective. They will not be responsible for any expense which the purchaser may incur in removing or having removed, or in replacing or having replaced, any part or parts which may have proved defective, or in fitting or having fitted any new parts supplied in lieu thereof. The liability of the Company is limited to the replacement (free at the Company's Works) of any part or parts found to be defective.

No guarantee is given in respect of alleged defects caused by wear and tear, accident, misuse or neglect.

The Company guarantee only products which are bought either direct from their Works, or from one of their Dealers.

CONDITIONS OF GUARANTEE.

If a defective part should be found in our products, it should be sent to the Company, carriage paid and accompanied by an intimation from the sender that he requires to have it repaired or exchanged free of charge under our guarantee and he must also furnish us at the same time with the name of the Dealer from whom he purchased, and the date of the purchase. Failing compliance with the above, no notice will be taken of anything which may arrive, but such article will lie here at the risk of the senders.

This guarantee is given in lieu and in exclusion of all other warranties, conditions and obligations imposed or implied by statute or otherwise, in respect of the Company's products, and no modification of the terms hereof is authorised, whether the purchaser at the time of purchase shall receive a copy of the Company's Guarantee or not.

TERMS OF BUSINESS.

Customers having no account with us should not fail to remit at the time of ordering. Remittances up to £1 in value should be made by Postal Order; over £1 by cheque. Stamps cannot be accepted for items over 1/- in value. Cheques and Postal Orders to be made payable to TriVelox Gears Ltd., and crossed "National Provincial Bank, Ltd."

When making remittance by Telegraph Money Order, the name and address of the sender must be included in space provided on the Post Office Requisition Form for a private message from Remitter to Payee, as unless this is done the Post Office do not give us this information in the telegram. Sufficient cash to cover the cost of Postage or Carriage must be included in remittance, if goods ordered are under £1 in value. ALL SPARE PARTS to the total value of £1 and over, ordered direct from our Head Office, Coventry, or from our London or Liverpool Service Department, will be forwarded Post and Carriage free.

SPARES BY C.O.D. SYSTEM.

Where it is convenient for the customer to order and pay for the goods on delivery, we bear the cost of postage on all such orders to the value of £1 and over, also the C.O.D. collecting charges.

The prices quoted in this Catalogue are current in Great Britain and Northern Ireland, and are subject to alteration without notice.

Coventry.

TRIVELOX GEARS LTD.

RULES TO BE OBSERVED.

1. As the Spares and Repair Departments are entirely separate, kindly address all letters, telegrams and goods either to the Spares or Repair Department as the case may be.
2. Parts sent us for repair, replacement, or as pattern, should bear distinctly the sender's full name and address, and explicit instructions should be sent with or under separate cover as to their disposal. In all cases quote make and type of machine for which the parts are required.
3. Bicycles fitted with the TriVelox Gear must be consigned to us "carriage paid," and if not sent in crate are returned by passenger train, Company's Risk, unless we have other instructions. Such fittings as lamps, bells, bags, saddles, cyclometers, etc. should be removed from the machine, otherwise we cannot hold ourselves responsible for their safe return.
4. When making enquiries respecting any part or repair, our ORDER NUMBER SHOULD BE QUOTED otherwise delay in replying is apt to occur.
5. To ensure prompt attention, when ordering parts it is essential that whenever possible a pattern or rough sketch of fitting desired should be sent, the former being preferred. If it is desired that pattern should be returned a special request to that effect should be made, as otherwise they are thrown away at the time the new fittings are supplied, and identification afterwards is impossible.

Any machine or parts received by us without advice of any kind, remain here entirely at owner's responsibility.

6. Customers having no account with us should not fail to send cash to the value of goods at the time of ordering, and also to include Postage (if the order is under £1 in value). Do not enclose cash (whether in the form of coin or paper) with the parcel of goods. Remittances should be sent by letter post.

TRIVELOX GEARS LTD., Priory Street, Coventry.

Telephone : 5730

London Address :
4, Highbury Place,
Highbury Corner, London, N.5.
Telephone : Canonbury 2800

Liverpool Address :
2, Hardy Street,
Great George Street, Liverpool, 1
Telephone : Royal 42

FITTING INSTRUCTIONS MODEL B

Wheel Building :—Build the wheel with the Hub and Rim selected. We outline below two specimen wheels giving spoke sizes and gauges we recommend.

B1. Solo less brake.

$26 \times 1\frac{1}{4}"$ $11\frac{1}{4}"$ gear side, $11\frac{3}{8}"$ near side.

B2. Solo Hub Brake.

$26 \times 1\frac{1}{4}"$ $9\frac{7}{16}"$ gear side, $10\frac{5}{8}"$ brake side.

Be sure that the rim is central over the cones and not over flanges. This can be checked with the usual wheel builders' "wheel stick."

Remove old wheel and fit new Model "B" wheel into fork ends ; next place conversion plate (new pattern which varies from one shown on page 10) ; this has elongated spindle hole so that it is adaptable to any angle of fork ends as well as rear pull out ends. See that when it is pressed up tightly against fork end that the support loop on forward end fits snugly against chain stay ; this can be accomplished by increasing the offset as required. When conversion plate is properly fixed attach the jockey assembly by means of the two bolts supplied.

Assemble the control mechanism and fit wire to frame by means of control quadrant and pulley, and generally adjust wire until the correct tension is obtained. The wire should be just taut when the jockey sprockets are in the top gear position.

Now fit wheel into frame and get the correct alignment by means of the large hexagon nuts, always seeing that the whole of the jockey system is perfectly upright and parallel with the front chain wheel.

Make sure that the movement of the jockey system is correct by means of the quadrant lever and when this has been tried you may fit the chain and tension spring and with very slight adjustment the gear should run perfectly.

Chain Length :—It is important that it is long enough to allow the jockey arm to be well behind the upright position when in top gear, i.e., on the small sprocket.

It is most essential that the **Guide Sprocket is as near to the Top Gear Sprocket as possible and enough clearance maintained when the Low Gear Sprocket is engaged.** This point is most important, because the ease of changing Gears depends upon the Guide Sprockets being as close as possible to the main sprockets.

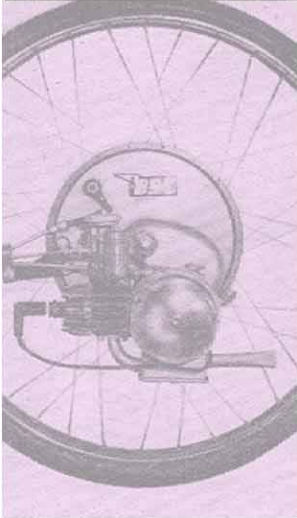
It is imperative that a new chain be used at the outset. This will ensure correct meshing with sprocket teeth, easy and even running, and the longest possible life both of sprockets and chain.

Experience has shown that when a new chain is fitted it is sometimes apt to jump the sprocket when starting off. This is caused by undue stiffness of the rivetted joints. After a very short time in use the chain will gain sufficient slackness and the gear will operate perfectly even under a heavy load.

When changing from the high gear to middle on a small combination of sprockets, it may be necessary to let the lever go a little further than the notch, and after the Gear has been selected, allow the lever to go back to the corresponding notch. This will help to make a quick and silent change.

We strongly recommend that any of the well known Wakefield cycle oils are used to lubricate the chain, sprockets, hub and free wheel. **Under no circumstances should grease be used for the free wheel except for assembling after dismantling.**

IceniCAM Information Service



www.icenicam.org.uk