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BRAMPTON 3-SPEED HUB—GEAR RATIO TABLE

The following table shows the ratio obtainable with 26" and 28" wheels, and 16 to 20 tooth hub sprockets. (The Brampton 3-Speed Hub is fitted with an 18T Sprocket.)

No. of Teeth on Bracket Chain Wheel		26" Wheels			28" Wheels		
on Hub Sprocket		Low	Normal	High	Low	Normal	High
40	16	48.8	65	86.7	52.5	70	93.3
	17	45.9	61.2	81.6	49.4	65.9	87.9
	18	43.4	57.8	77.1	46.6	62.2	82.9
	19	41	54.7	72.9	44.2	58.9	78.5
	20	39	52	69.3	42	56	74.7
42	16	51.2	68.2	90.9	55.1	73.5	98
	17	48.2	64.2	85.6	51.9	69.2	92.3
	18	45.5	60.7	80.9	49	65.3	87.1
	19	43.1	57.5	76.7	46.4	61.9	82.5
	20	41	54.6	72.8	44.1	58.8	78.4
44	16	53.6	71.5	95.3	57.8	77	102.7
	17	50.5	67.3	89.8	54.4	72.5	96.7
	18	47.7	63.6	84.8	51.3	68.4	91.2
	19	45.2	60.2	80.3	48.6	64.8	86.4
	20	42.9	57.2	76.3	46.2	61.6	82.1
46	16	56	74.7	99.6	60.4	80.5	107.3
	17	52.7	70.3	93.7	56.9	75.8	101.1
	18	49.8	66.4	88.5	53.6	71.5	95.3
	19	47.2	62.9	83.9	50.9	67.8	90.4
	20	44.9	59.8	79.7	48.3	64.4	85.9
48	16	58.5	78	104	63	84	112
	17	55.1	73.5	98	59.3	79.1	105.5
	18	52	69.3	92.4	56	74.7	99.6
	19	49.3	65.7	87.6	53	70.7	94.3
	20	46.8	62.4	83.2	50.4	67.2	89.6
50	16	61	81.3	108.4	65.6	87.5	116.7
	17	57.4	76.5	102	61.8	82.4	109.9
	18	54.2	72.2	96.3	58.4	77.8	103.7
	19	51.3	68.4	91.2	55.3	73.7	98.3
	20	48.8	65	86.7	52.5	70	93.3

BRAMPTON

3-SPEED HUB



BRAMPTON FITTINGS LTD
Birmingham - - - England

WE DON'T MAKE BICYCLES—WE MAKE BICYCLES POSSIBLE

The Brampton 3-Speed Hub has been produced to fulfil the ever-increasing demand by discriminating cyclists for effort-free cycling in all conditions, including hill climbing and against head winds. Made from the finest combination of suitable high grade materials and machined with precision skill, its features are manifold. Built on the principle of an enclosed epicyclic gear, dust and waterproof, it requires no technique to operate, in fact gear changing is an added pleasure.

The unit has undergone the most rigorous tests and is giving satisfaction to the many cyclists who are proud to own a bicycle incorporating the Brampton 3-Speed Hub.

"SPECIFY 'BRAMPTON' FITTINGS ON YOUR BICYCLE"

MAINTENANCE OF THE BRAMPTON 3-SPEED HUB

Fitment

Before fitting a wheel with 3-speed hub into a cycle frame, it is important to see that the frame is checked for alignment, also that the rear chainstay ends are parallel and square. The width between chainstay ends should be $4\frac{1}{4}$ " in the case of the Roadster model, and $4\frac{3}{8}$ " for Tourist or Racing cycles. In the case of the latter models, where drop-out chainstay ends are fitted it will be necessary to fit a distance collar in front of the cone lock nuts on both ends of the spindle.

When assembling the wheel to the frame it is important that the spindle is not allowed to rotate. This can be avoided by putting the special washer on the left hand side of the hub, on the inside of the chainstay on models fitted with drop-out chainstay end or on the outside of the chainstay in the case of Roadster models.

Gear Adjustment

1. When the Wheel is fitted to the cycle, screw the indicator draw bar to its stop. This is readily checked as the

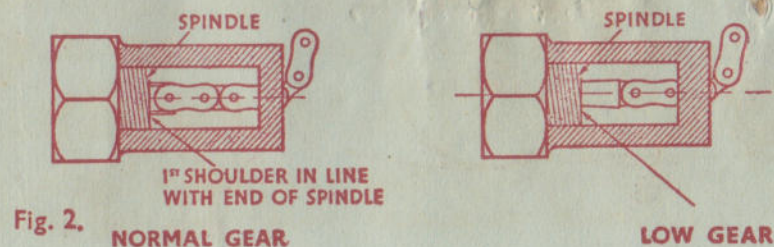
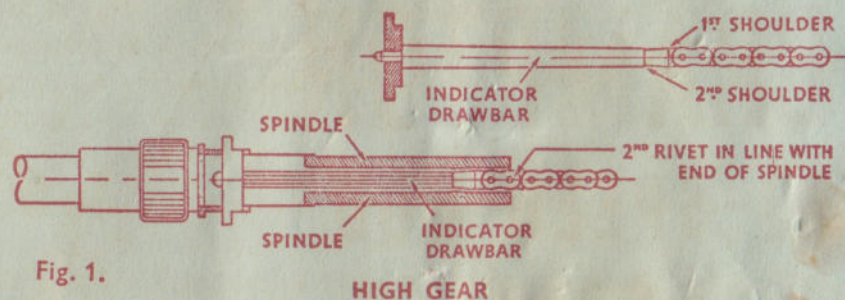
second rivet should be level with the spindle end (see Fig. 1). It should not be necessary to turn the indicator more than half a turn so that the chain will turn on itself, up or down.

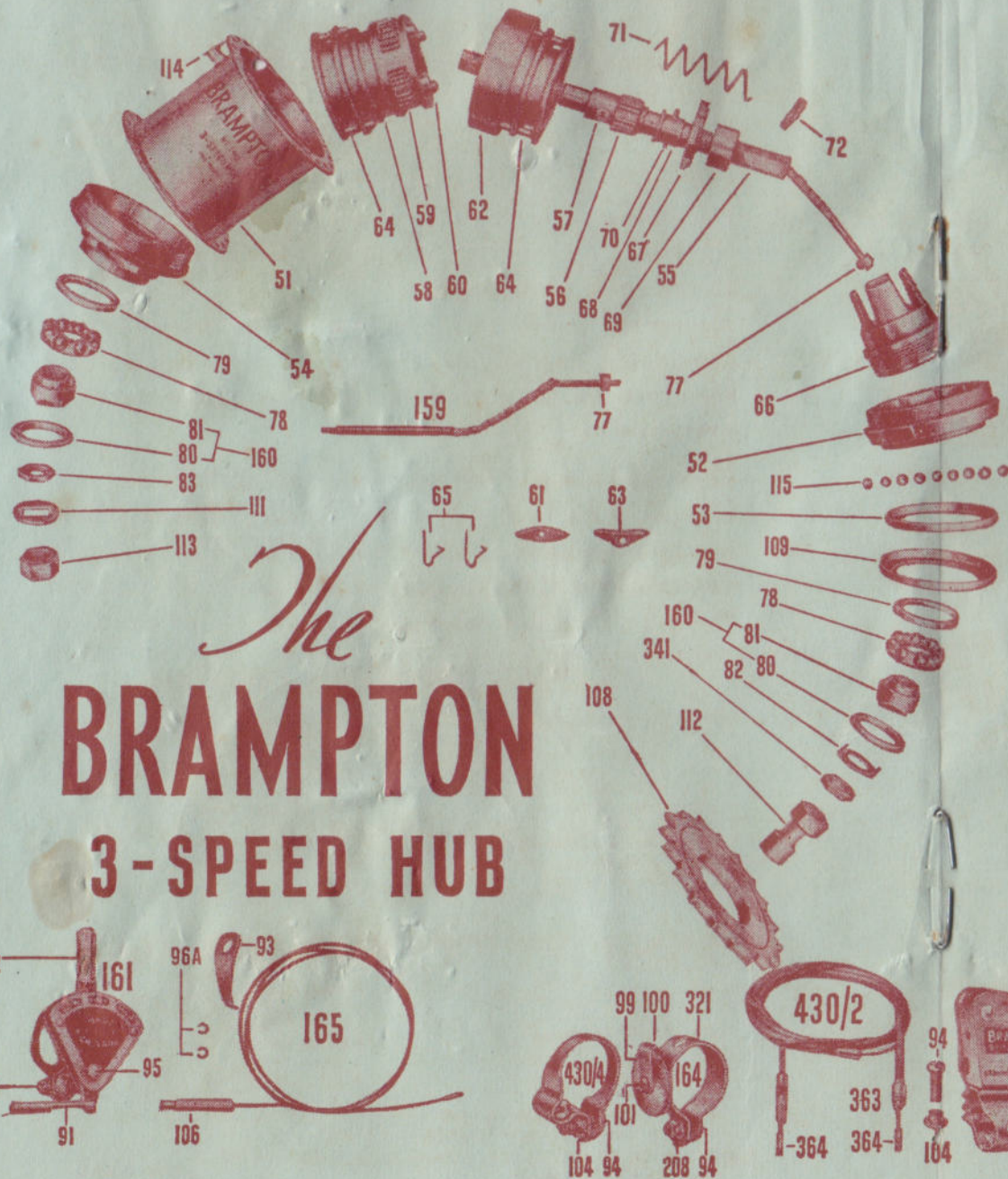
Note.—It will be impossible to adjust the gears if more unscrewing is carried out.

2. Place the gear lever to the 'normal' position and screw the knurled connector which is fitted to the wire on to the chain connection.

Adjust the knurled connector until the first indicator shoulder is in line with the spindle end. This will be seen through the slots in the right hand nut as shown in illustration Fig. 2.

3. Lock the knurled connector with the small locking nut. It is necessary in high gear that the control wire should not be tensioned, as faulty positioning of the engaging dog could result in damaged mechanism. In this position the gear indicator is within spindle as indicated on illustration, Fig. 1.





The BRAMPTON 3-SPEED HUB

THE BRAMPTON 3-SPEED HUB

When ordering, the parts numbers illustrated should be prefixed with the letter 'B' as listed below.

- | | | | |
|-------|---|--------|---|
| B.140 | 3-Speed Hub, complete with "Speedy Switch" or Top Tube Control. | B.71 | Clutch Spring. |
| B.51 | Shell, 40 or 36 Holes for 14G Spokes. | B.72 | Cap for Clutch Spring. |
| B.52 | R.H. Ball Ring. | B.77 | Connection Locknut. |
| B.53 | R.H. Inner Ball Retainer. | B.78 | Ball Retainer for Axle Cones with Balls fitted. |
| B.54 | L.H. Ball Cup. | B.79 | Dust Cap for L.H. Ball Cup or Driver. |
| B.55 | Spindle, Standard. | B.80 | Cone Dust Cap. |
| B.55A | Spindle 6 1/2". | B.81 | Cones, R.H. and L.H. |
| B.56 | Pinion (Sun Pinion). | B.82 | R.H. Locking Washer. |
| B.57 | Sun Pinion Rivet. | B.83 | Cone Locknut. |
| B.58 | Planet Cage. | B.108 | 18T Sprocket. |
| B.59 | Planet Pinion. | B.109 | Inner R.H. Dust Cap. |
| B.60 | Planet Pin. | B.111 | Axle Lock Washer. |
| B.61 | Planet Cage Pawl. | B.112 | R.H. Nut. |
| B.62 | Gear Ring. | B.113 | L.H. Nut. |
| B.63 | Gear Ring Pawl. | B.114 | Lubricator. |
| B.64 | Gear Ring Pawl Pin. | B.115 | 3/4" Steel Balls. |
| B.65 | Pawl Spring. | B.159 | Indicator Spindle with Chain and Connection. |
| B.66 | Driver. | B.159A | Iditto for 6 1/2" spindle. |
| B.67 | Sliding Clutch. | B.160 | Cones, R.H. and L.H. with Dust Cap fitted. |
| B.68 | Sleeve. | B.341 | Spacing Collar. |
| B.69 | Thrust Ring (Cap for Axle Key). | | |
| B.70 | Axle Key. | | |

3-SPEED TOP TUBE CONTROL

- | | | | |
|-------|-------------------------|-------|---|
| B.91 | Quadrant Connector. | B.164 | Pulley Complete. |
| B.93 | Quadrant Lever Spring. | B.165 | Top Tube Wire with Nipples and Connections, 36" or 32". |
| B.95 | Quadrant Lever Pivot. | B.166 | Top Tube Control c/w Quadrant, wire pulley, etc. |
| B.96A | Spring Washer. | B.321 | Pulley Clip. |
| B.99 | Pulley Wheel. | B.94 | Screw for Pulley, Stop and Control Clip. |
| B.100 | Pulley Wheel Arm. | B.208 | Pulley Clip Nut. |
| B.101 | Pulley Wheel Screw. | | |
| B.106 | Control Cable Adjuster. | | |
| B.161 | Quadrant 1" Tube. | | |
| B.162 | Quadrant Lever. | | |

"SPEEDY SWITCH" HANDLEBAR CONTROL

- | | | | |
|-------|---|---------|---|
| B.104 | Stop Clip and Control Clip "D" Nut. | B.430/1 | Speedy Switch Control complete with Cable, Stop Clip and Pulley Clip. |
| B.364 | Cable End Nipple. | B.430/2 | Control Cable Complete. |
| B.430 | Speedy Switch Control without Cable Assembly. | B.430/4 | Stop Clip Complete, 1" or 3/4". |
| | | B.363 | Cable Bush. |

The following parts, already listed under Top Tube Control, are also used in connection with the "Speedy Switch" Control.

- B.99, B.100, B.101, B.106, B.164, B.321, B.94, B.208.

Important.—If insufficient adjustment is obtained by the alteration of the chain connector, the cable stop can be moved along the top tube to suit.

If for any reason the wheel has been removed or the control wire disconnected, re-check that the indicator is screwed tightly home before readjusting the gear control.

A BRAND NEW CABLE WILL ELONGATE A LITTLE AFTER BEING USED FOR SEVERAL DAYS, AND A SLIGHT ADJUSTMENT MAY BE NECESSARY.

How to adjust the Bearings

NORMAL ADJUSTMENT IS OBTAINED BY SLACKING THE LOCK-NUTS AND TURNING THE LEFT HAND CONE. RE-LOCK THE LOCKNUT AFTER ADJUSTMENT.

The right hand cone is set and locked with the special washer in the course of assembly, and should not be interfered with. If this does come loose, you may adjust as follows:—

Screw the right hand cone with the fingers as tightly as possible, then slack off for a half turn and lock with the special washer. It will be found that correct alignment of the mechanism will result.

Lubrication

It is important, to ensure trouble-free running and long life, that the Hub be lubricated correctly.

We recommend that a regular supply of light machine oil be applied through the lubricator in the shell. For a new hub, which may have been stored for a period, approximately a half-teaspoonful of a good grade light machine oil should be injected from an oiler into the lubricator. A few applications from an oilcan after this at, say, fortnightly intervals, will be sufficient to keep the working parts free and in good running order.

At all times see that the oil and lubricator are clean and that the lubricator cap is closed afterwards.

Do not use a heavy oil or grease as the mechanism may stick and fail to function freely.

A slight smear of petroleum jelly is recommended on the gear control and pulleys.

To get the best service from your Brampton 3-speed hub:—

1. Check the gear regularly and keep correct adjustment.
2. Change gear smartly, delayed changes cause wear on the engaging dogs.
3. See that the left hand cone is adjusted so that free movement without excessive lateral play is obtained.
4. Do not dismantle the hub unless it is necessary.
5. Keep the hub lubricated with the recommended lubricant (see "Lubrication").

MAINTENANCE OF THE "SPEEDY SWITCH" GEAR CONTROL

The "Speedy Switch" Control is so designed that it should not normally require any attention other than an occasional light oiling. Removal of the outer cable from the stop clip enables the inner wire to be exposed for such oiling. This maintains easy action of the Control.

Control Cable Removal

Cable removal can be effected without taking the unit off the handlebars. The Control Cable Connector should be unscrewed from the Hub Toggle Chain Adjusting Pin and pulled forward through the Stop Clip, thus allowing free cable at the Control. The Cable Bush (A), refer to Fig. 3, is next unscrewed by pulling it outwards as it is rotated, in order that the screw threads may engage.

Now, with the Control set in Low Gear Position, push the inner cable wire into the Control to detach the cable nipple (B) from the ratchet (C), and by pulling the ratchet (C) forward with a pencil or small screwdriver (D), a space is formed between the pawl (E) and the ratchet (C) through which the cable can now be pulled, leaving the Control by the cable bush hole (F).

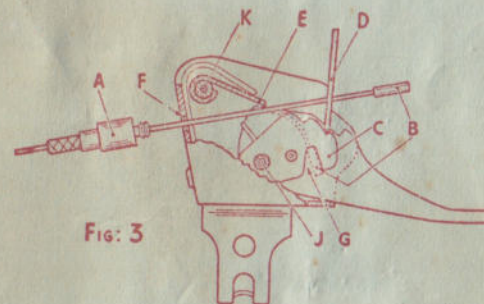


Fig: 3

Control Cable Fitment

The replacement of a cable is also made with the Control set in Low Gear. The cable nipple (B) is passed through the cable bush hole (F) and by holding back the ratchet (C) as before, the cable wire is threaded through the space between the pawl (E) and the ratchet (C). The nipple (B) is pulled forward and fitted into its notch (G) in the ratchet (C) and the cable bush (A) screwed back into position. Apply tension to the cable to keep the nipple in place and push the control lever into High Gear.

The re-connection of the cable to the hub can now be made. Adjustment must be carried out as directed each time.

IN CASE OF DOUBT APPLY IMMEDIATELY TO A QUALIFIED DEALER