

**'BF' AND
'BR' HUBS**

FORMERLY
KNOWN AS
LBF
AND LBR
TYPES

FEATURES. These are single speed hubs fitted with the same internal-expanding, hand-operated brake as used in our "K.B." hub.

The "B.F." is for the front wheel; the "B.R." for the rear. These symbols were originally "L.B.F." and "L.B.R."

A special drainage arrangement prevents oil leaking from the wheel bearings, from reaching the brake linings.

The brake is particularly smooth yet powerful and is not affected by wet weather as are rim brakes.

WEIGHT.

"B.F." hub only.....	1 lb. 13 ozs.
"B.F." Cable Control	7 ozs.
"B.R." hub only.....	2 lbs. 6 ozs.
"B.R." Cable Control	8 ozs.

ADAPTABILITY. "B.F." shells are drilled for 32 or 36 spokes; "B.R." for 36 or 40 spokes up to 13 gauge.

Our "K" pattern sprocket can be fitted to the "B.R." in sizes 16, 17, 18, 19, 20, and 22 teeth, giving a fixed gear, or a standard free wheel may be used. We can supply free wheels in 16T and 18T sizes for $\frac{1}{2}$ in. x $\frac{1}{2}$ in. chain offset (standard) or central teeth.

Either Cable or Rod operation is offered, but in the latter case we cannot supply the handlebar fittings.

For tandem cycles a cable-cum-rod type control is recommended.

ADJUSTMENTS. (1) See Brake Control notes for "K.B." hub.

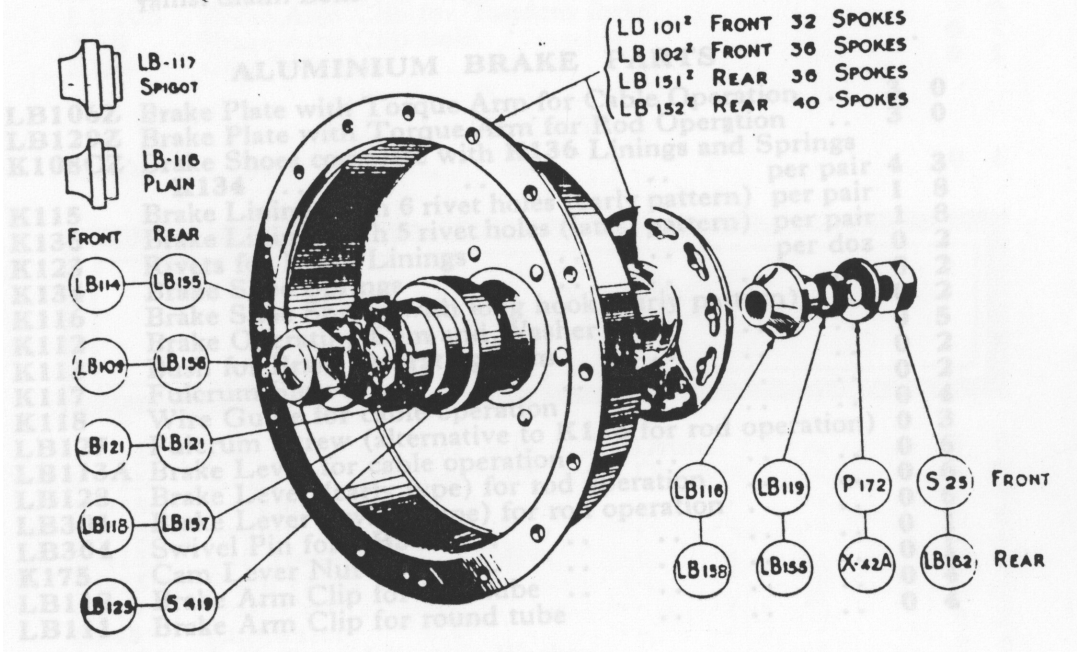
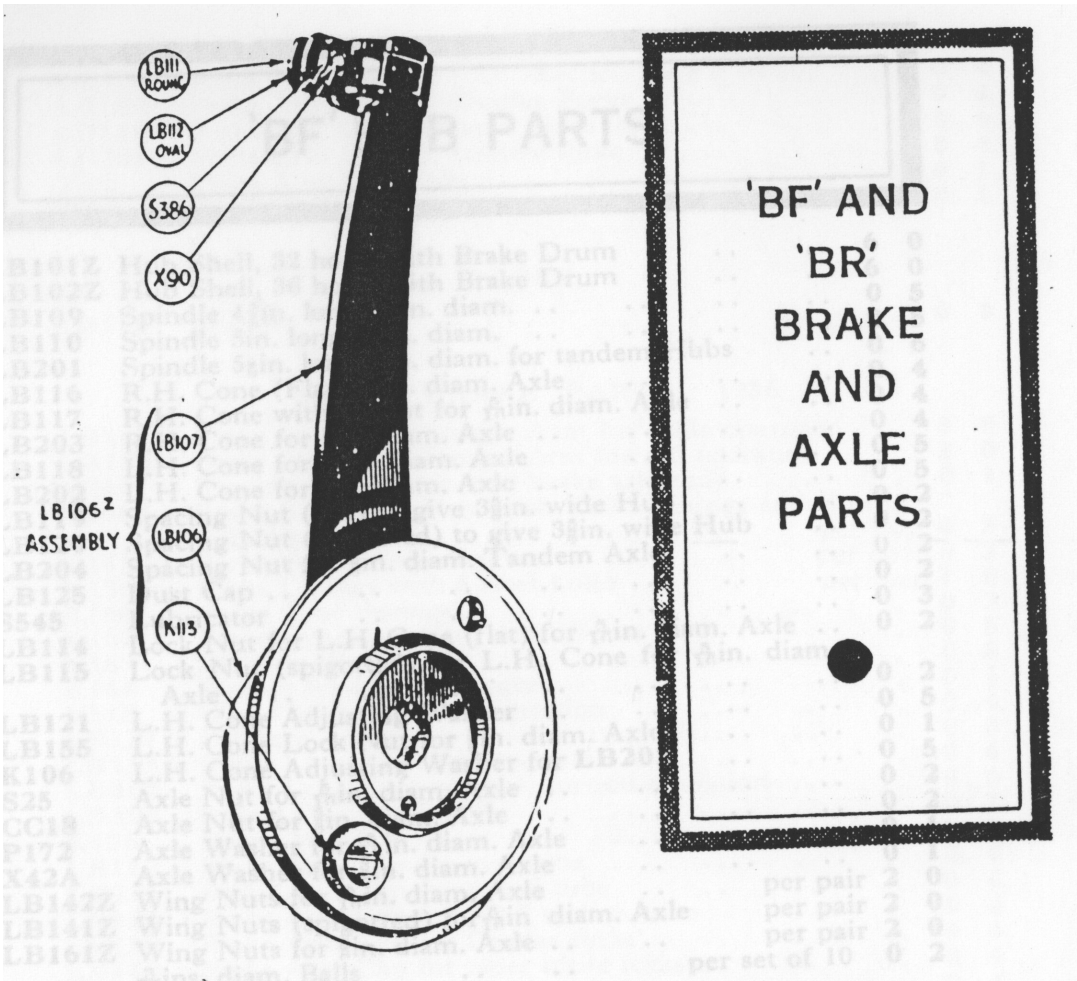
(2) **Bearings.** Slack off the lock nut on the brake side and rotate the slotted cone adjusting washer up against the brake arm. This washer is fitted over the flattened end of the left-hand cone. The R.H. cone is a fixture and should not be moved.

(3) **Brake Parts.** It is important to ensure correct alignment of the shoes in the drum. When the lock nut is secured to the left-hand cone the brake arm will automatically assume its correct setting and it should never have to be strained to engage with its anchor clip.

In the case of front hubs the steel arm should be "set" so as to slide easily into this clip but it must be a good fit. Any slackness will cause a click each time the brake is applied.

The aluminium Brake Arm of the rear hubs cannot be bent. In this case the clip must be bent to meet the end of the arm.

LUBRICATION. The hub must be oiled **only** through the lubricator in the shell—never through the hole in the brake arm. This hole is provided solely as an "oil drain" for any leakage from the wheel bearings.



'BF' HUB PARTS

LB101Z	Hub Shell, 32 holes with Brake Drum	.. ..	6	0
LB102Z	Hub Shell, 36 holes with Brake Drum	.. ..	6	0
LB109	Spindle 4 $\frac{1}{2}$ in. long, $\frac{1}{2}$ in. diam.	.. ..	0	5
LB110	Spindle 5in. long, $\frac{1}{2}$ in. diam.	.. ..	0	5
LB201	Spindle 5 $\frac{1}{2}$ in. long, $\frac{1}{2}$ in. diam. for tandem Hubs	.. ..	0	6
LB116	R.H. Cone (Flat) $\frac{1}{2}$ in. diam. Axle	.. ..	0	4
LB117	R.H. Cone with Spigot for $\frac{1}{2}$ in. diam. Axle	.. ..	0	4
LB203	R.H. Cone for $\frac{1}{2}$ in. diam. Axle	.. ..	0	5
LB118	L.H. Cone for $\frac{1}{2}$ in. diam. Axle	.. ..	0	5
LB202	L.H. Cone for $\frac{1}{2}$ in. diam. Axle	.. ..	0	2
LB119	Spacing Nut (flat) to give 3 $\frac{1}{2}$ in. wide Hub	.. ..	0	2
LB120	Spacing Nut (spigotted) to give 3 $\frac{1}{2}$ in. wide Hub	.. ..	0	2
LB204	Spacing Nut for $\frac{1}{2}$ in. diam. Tandem Axle	.. ..	0	2
LB125	Dust Cap .. ..	.. ..	0	3
S545	Lubricator .. ..	.. ..	0	2
LB114	Lock Nut for L.H. Cone (flat) for $\frac{1}{2}$ in. diam. Axle	.. ..	0	2
LB115	Lock Nut (spigotted) for L.H. Cone for $\frac{1}{2}$ in. diam. Axle	.. ..	0	2
LB121	L.H. Cone Adjusting Washer .. ..	.. ..	0	5
LB155	L.H. Cone Lock Nut for $\frac{1}{2}$ in. diam. Axle	.. ..	0	1
K106	L.H. Cone Adjusting Washer for LB202	.. ..	0	5
S25	Axle Nut for $\frac{1}{2}$ in. diam. Axle	.. ..	0	2
CC18	Axle Nut for $\frac{1}{2}$ in. diam. Axle	.. ..	0	2
P172	Axle Washer for $\frac{1}{2}$ in. diam. Axle	.. ..	0	1
X42A	Axle Washer for $\frac{1}{2}$ in. diam. Axle	.. ..	0	1
LB142Z	Wing Nuts for $\frac{1}{2}$ in. diam. Axle	per pair	2	0
LB141Z	Wing Nuts (spigotted) for $\frac{1}{2}$ in. diam. Axle	per pair	2	0
LB161Z	Wing Nuts for $\frac{1}{2}$ in. diam. Axle	per pair	2	0
	$\frac{1}{2}$ ins. diam. Balls	per set of 10	0	2

ALUMINIUM BRAKE PARTS

LB106Z	Brake Plate with Torque Arm for Cable Operation	.. ..	3	0
LB129Z	Brake Plate with Torque Arm for Rod Operation	.. ..	3	0
K108CZ	Brake Shoes complete with K136 Linings and Springs	per pair	4	3
	K134	per pair	1	8
K115	Brake Linings with 6 rivet holes (early pattern)	per pair	1	8
K136	Brake Linings with 5 rivet holes (latest pattern)	per pair	0	2
K123	Rivets for Brake Linings	per doz	0	2
K134	Brake Shoe Springs	.. ..	0	2
K116	Brake Shoe Spring with long hook (early pattern)	.. ..	0	5
K112	Brake Operating Cam and Washer	.. ..	0	2
K113	Bush for Brake Operating Cam	.. ..	0	2
K117	Fulcrum Sleeve	.. ..	0	4
K118	Wire Guide for cable operation	.. ..	0	3
LB127	Fulcrum Screw (alternative to K118 for rod operation)	.. ..	0	6
LB113A	Brake Lever for cable operation	.. ..	0	6
LB128	Brake Lever (early type) for rod operation	.. ..	0	6
LB301	Brake Lever (swivel type) for rod operation	.. ..	0	1
LB304	Swivel Pin for LB301	.. ..	0	1
K175	Cam Lever Nut	.. ..	0	4
LB112	Brake Arm Clip for oval tube	.. ..	0	4
LB111	Brake Arm Clip for round tube	.. ..	0	4

LB126	Brake Arm Clip for "D" Section tube	.. ..	0	4
LB130	Brake Arm Clip for Duplex Forks	.. ..	0	4
LB140	Brake Arm Clip for taper blade forks	.. ..	0	4
LB205	Brake Arm Clip for tandem forks	0	4
X90	Brake Arm Clip Bolt	0	1
S386	Clip Bolt Nut	0	1

TOOLS

LB122	Spanner	0	6
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STEEL BRAKE PARTS · 1936

LB147Z	Brake Plate with Torque A4m for cable operation	3	0
LB138Z	Brake Plate with Torque Arm for rod operation	.. ..	3	0
K360	Spacing Washer for steel brake arm only	.. ..	0	1
K158Z	Brake Shoes complete with K136 Linings and Spring	.. ..	4	3
	K166	.. ..	per pair	4
K173	Rivets for brake linings	.. ..	per doz.	0
K136	Brake Linings with 5 rivet holes	.. ..	per pair	1
K166	Brake Shoe Springs	.. ..	.. ..	0
K162	Brake Operating Cam and Washer	.. ..	.. ..	0
K167	Fulcrum Sleeve	.. ..	.. ..	0
K164	Washer for fulcrum sleeve	.. ..	.. ..	0
K118	Wire Guide for cable operation	.. ..	.. ..	0
LB127	Fulcrum Screw	.. ..	.. ..	0
LB113A	Brake Lever for cable operation	.. ..	.. ..	0
LB301	Brake Lever (swivel type) for rod operation	.. ..	.. ..	0
LB304	Swivel Pin for LB301	.. ..	.. ..	0
K175	Cam Lever Nut	.. ..	.. ..	0
LB112	Brake Arm Clip for oval tube	.. ..	.. ..	0
LB111	Brake Arm Clip for round tube	.. ..	.. ..	0
LB126	Brake Arm Clip for "D" section tube	.. ..	.. ..	0
LB130	Brake Arm Clip for Duplex forks	.. ..	.. ..	0
LB140	Brake Arm Clip for taper blade forks	.. ..	.. ..	0
LB205	Brake Arm Clip for Tandem forks	0
X90	Brake Arm Clip Bolt	0
S386	Clip Bolt Nut	0

TOOLS

K44A	Spanner	0	6
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'BR' HUB PARTS

LB151Z	Hub Shell, 36 holes, with Brake Drum	7	0
LB152	Hub Shell, 40 holes, with Brake Drum	7	0
LB156	Spindle 5½ in. long	.. ..	0	6
LB156A	Spindle 6½ in. long	.. ..	0	6
LB157	Left Hand Cone	.. ..	0	5
LB158A	Right Hand Cone	.. ..	0	4
S419	Dust Cap	.. ..	0	2
S545	Lubricator	.. ..	0	3
LB121	L.H. Cone Adjusting Washer	.. ..	0	5

LB155	L.H. Cone Lock Nut	..	..	..	..	..	0	1
LB162	Axle Nut	..	..	..	..	..	0	2
X42	Axle Washer	..	..	..	..	..	0	1
LB161Z	Wing Nuts	..	..	..	..	per pair	2	0
CC28	Step	..	..	..	..	..	0	9
	$\frac{1}{2}$ in. diam. Balls	..	..	..	..	per set of 8	0	2
LB164	Spindle $6\frac{1}{8}$ in. long for Derailleur Gear	..	..	..	..	..	0	6
LB165	Distance Piece for Derailleur Gear	..	..	..	..	..	0	5

Brake parts in BR hubs are identical with those fitted to KB hubs. See pages 9 and 10 for details.

TOOLS

K44A	Spanner	0	6
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BRAKE CONTROLS

CABLE BRAKE CONTROL

P1156A	Handlebar Brake Lever (N.R. Upturned or Inverted Bar)	1	6
P1053A	Ditto. (Drop Bar)	..	..	..	..	..	1	6
P1203	Ditto. (Standard Upturned Bar)	..	..	..	..	..	1	6
P1055	Handlebar Lever Fulcrum	..	..	..	..	..	1	0
S637	Handlebar Clip Bolt for $\frac{1}{2}$ in. bar	..	..	..	..	..	0	2
S638	Clip Nut for S637	..	..	..	..	..	0	1
P1054	H.B. Lever Fulcrum Clip $\frac{1}{2}$ in. bar	..	..	..	..	..	0	4
P1193	Ditto, lin. bar	..	..	..	..	..	0	4
S583	Fulcrum Clip Bolt	..	..	..	..	..	0	2
S443	Handlebar Fulcrum Nut	..	..	..	..	..	0	1
K131	Handlebar Clip Bolt, lin. bar	..	..	..	..	..	0	2
S69	Ditto. (Celluloid Bar)	..	..	..	..	..	0	2
X111	Handlebar Clip Nut for K131	..	..	..	..	..	0	2
M112	Cable Ferrule (Standard)	..	..	..	..	..	0	1
M157	Ditto. (Tandem)	..	..	..	..	..	0	1
S581	Roller Nipple (for lever end) (standard)	..	..	..	..	..	0	1
K129	Ditto. (Tandem)	..	..	..	..	..	0	1
LB350	Cable Guide (fits in P1055)	..	..	..	..	..	0	1
K119	Wire Stop Screw	..	..	..	..	..	0	3
K120	Ditto Adjuster Nut	..	..	..	..	..	0	2
S93	Control Wire Stop Screw Lock Nut	..	..	..	..	..	0	1
K121Z	Coupling Piece connecting brake lever to wire	..	..	..	..	..	0	4
K130	Wire Nipple for Brake Arm End	..	..	..	..	per doz	0	6
K127	Outer Cable (Standard) Front	..	..	..	..	..	1	6
	Ditto, Rear	..	..	..	..	..	1	10
K128	Inner Wire, fitted with roller nipple S581 (standard)	..	..	..	..	..	0	8
	Rear	..	..	..	..	..	0	8
K128A	Ditto, Front	..	..	..	..	..	0	6
K132	Outer Cable (Tandem)	..	..	..	..	..	2	2
P1151	Frame Cable Clip (spring type) for lin. or $1\frac{1}{2}$ ins. tube	..	..	..	..	..	0	2
K133	Inner Wire fitted with roller nipple K129 (Tandem)	..	..	..	..	..	0	10
	Rear	..	..	..	..	..	0	10
K133A	Ditto, Front	..	..	..	..	..	0	6

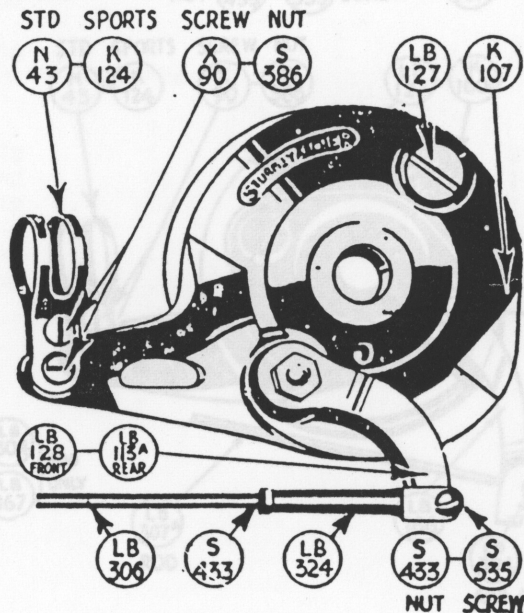
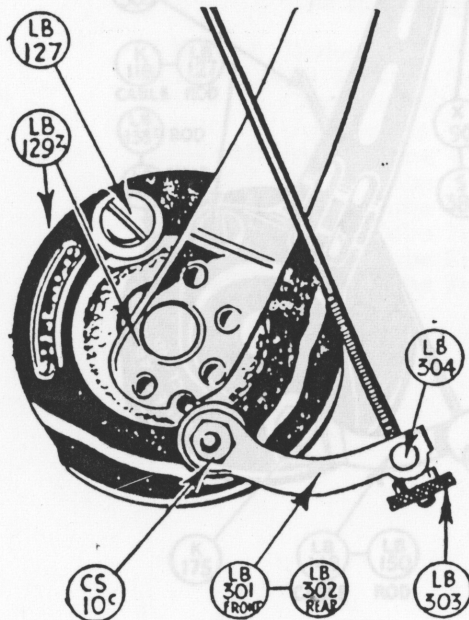
Inner and Outer Brake Wires complete with Adjuster, etc :
For Aluminium Brake Arm with Coupling Piece :—

GD331Z	Front Hub with 32ins. cable, 36ins. wire	3	0
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GD332Z	Gent's Rear, with 56ins. cable, 60ins. wire	3 6
GD333Z	Ladies' Rear with 70ins. cable, 74ins. wire	4 0
	For Steel Brake Arm with Roller Nipple both ends :—	
GD431Z	Front Hub, 32ins. cable, 36 $\frac{1}{2}$ ins. wire	3 0
GD433Z	Gent's Rear, 53 $\frac{1}{2}$ ins. cable, 60 $\frac{1}{2}$ ins. wire	3 6
	Ladies' Rear, same size	3 6
	Brake Controls complete (cable type) :—	
	For Aluminium Brakes :—	
KC3F	Front Solo	6 6
KC3G	Gent's Rear	7 0
KC3L	Ladies' Rear	7 6
	For Steel Brakes :—	
KC3AF	Front Solo	6 6
KC3AR	Rear Gent's or Ladies'	7 0

ROD CONTROL FOR B.F. HUB

LB329	Front Brake Stirrup	0 9
LB309A	Front Fork Inner Clip for oval tube	0 3
LB309	Front Fork Inner Clip for "D" shaped or Duplex fork blades	0 3
LB330	Front Fork Outer Clip for "D" or oval shaped tube	0 2
LB330A	Front Fork Outer Clip (Humber) Duplex forks only	0 2
S74	Front Fork Clip Bolt	0 1
LB331	Front Fork Fulcrum Bolt	0 2
P1056	Washer for Fulcrum Bolt (not used from 1936)	0 1
S98	Nut for Fulcrum Bolt	0 1
LB334	Top Connection for Front Brake Rod	0 4
S535	Brake Rod Connection Screw	0 1
S433	Brake Rod Connection Nut	0 1
S603	Brake Rod 14 $\frac{1}{2}$ ins. with Top Connection LB334 and Long Bottom Connection LB324 (early type)	1 2
LB324	Bottom Connection (long) (not used in latest type)	1 2
LB305	Brake Rod with Top Connection (16 $\frac{1}{2}$ ins. overall)	0 8
LB303	Adjusting Nut (1935 and 1936)	0 2
	Set of Front Rod Control Fittings (early pattern)	3 4
	Ditto (finger adjustment pattern)	2 9



ROD CONTROL FOR REAR HUBS B.R. AND K.B.

LB334	Rear Rod Connection	0 4
S535	Rear Rod Bolt	0 1
S443	Rear Rod Nut	0 1
LB307A	Down-Tube Rod 20 $\frac{1}{4}$ ins. and two connections ..	1 2
LB320	Bottom Bracket Brake Link	0 4
LB321	Seat Tube Clip	0 2
S74	Seat Tube Clip Bolt	0 1
S98	Clip Bolt Nut	0 1
LB322	Brake Link Swivel Bolt	0 2
S98	Swivel Bolt Nut	0 1
LB323	Brake Link Spring	0 1
S604	Bottom Brake Rod 16ins. with front connection (early type)	0 8
LB324	Long Connection Joint for rear end of S604	0 6
LB306	Bottom Brake Rod 19 $\frac{1}{4}$ ins. with Connection (swivel type) ..	0 8
LB303	Adjusting Nut (swivel type)	0 2
P1183	R.H. Side Action Bell Crank	0 3
LB325	L.H. Side Action Bell Crank	0 3
	Bolt-on Fixing:—	
S154	Fulcrum Bolt	0 3
S558	Bell Crank Bush	0 1
P89	Bell Crank Washer	0 1
S98	Bell Crank Nut	0 1
	Bolt-on Bell Crank complete	0 8
	Clip-on Fixing:—	
LB326AZ	Bell Crank with fulcrum, left-hand	0 9
LB326BZ	Bell Crank with fulcrum, right-hand	0 9
LB327A	Half Clip	0 2
LB332	Fulcrum Bolt	0 2
S443	Fulcrum Bolt Nut	0 2
	Clip-on Bell Crank complete	1 3
KC6	Set of Rear Rod Control Fittings (early pattern) ..	5 0
KC6B	Ditto (finger adjustment pattern)	4 6

NOTE.—We can also supply Telescopic Tubes for connecting above rod fittings to Handlebar rods when required in the following lengths:—

LB343Z	Brake Tube 3ins. long	10
S533/S, 443/P1056,	Stud, Nut and Washer	0 2
S535	Connection Screw	0 1
S433	Connection Nut	0 1
LN344Z	Brake Tube 4ins. long	10
LB345Z	Brake Tube 5ins. long	10
LB346Z	Brake Tube 6ins. long	10
LB347Z	Brake Tube 7ins. long	1 0
LB348Z	Brake Tube 8ins. long	1 0
LB349Z	Brake Tube 9ins. long	1 0

CABLE-CUM-ROD BRAKE CONTROL FOR TANDEM CYCLES

P1156A	Handlebar Brake Lever, North Road Bars	.. ..	1	6
P1203	Handlebar Brake Lever, standard, upturned	.. ..	1	6
P1053A	Handlebar Brake Lever, Drop Bars	.. ..	1	6
P1055	Handlebar Lever Fulcrum	.. ..	1	0
P1054	Handlebar Fulcrum Clip, 7/8 in. Bar	.. ..	0	4
P1193	Handlebar Fulcrum Clip, 1 in. Bar	.. ..	0	4
S583	Handlebar Fulcrum Bolt	.. ..	0	2
S443	Fulcrum Nut	.. ..	0	1
K131	Handlebar Clip Bolt, 7/8 in. Bar	.. ..	0	2
X69	Handlebar Clip Bolt, 1 in. Bar	.. ..	0	2
X111	Handlebar Clip Bolt Nut	.. ..	0	2
LB350	Cable Guide	.. ..	0	1
CS191	Outer Cable Bowden, 53 ins. long	.. ..	1	9
K133	Inner Wire (19 strands) 56 1/2 ins. long	.. ..	0	8
M167	Cable Ferrule	.. ..	per pair	1 1/2
K129	Roller Nipple	.. ..	per pair	0 1
K119	Control Wire Stop	.. ..	0	3
LB312	Casing Cap	.. ..	0	3
LB315	Lock Nut	.. ..	0	2
LB313	Spring	.. ..	0	2
LB314	Frame Clip	.. ..	0	3
LB316	Frame Clip Bolt	.. ..	0	2
S98	Frame Clip Bolt Nut	.. ..	0	1
LB310	Cable Coupling Piece	.. ..	0	3
LB317A	Brake Rod, 42 ins. long with 5 ins. thread	.. ..	0	8
LB304	Brake Lever Swivel Pin	.. ..	0	1
LB303	Brake Rod Adjusting Nut	.. ..	0	2
P1152	Frame Cable Clip	.. ..	0	2
LB302	Brake Operating Lever	.. ..	0	6
LB311	Spring Casing	.. ..	0	4
GD334Z	Inner and Outer Wires complete (clip-on) 43 1/2 ins. Cable	.. ..	3	3
	Cable-cum-Rod Control complete	.. ..	7	6

