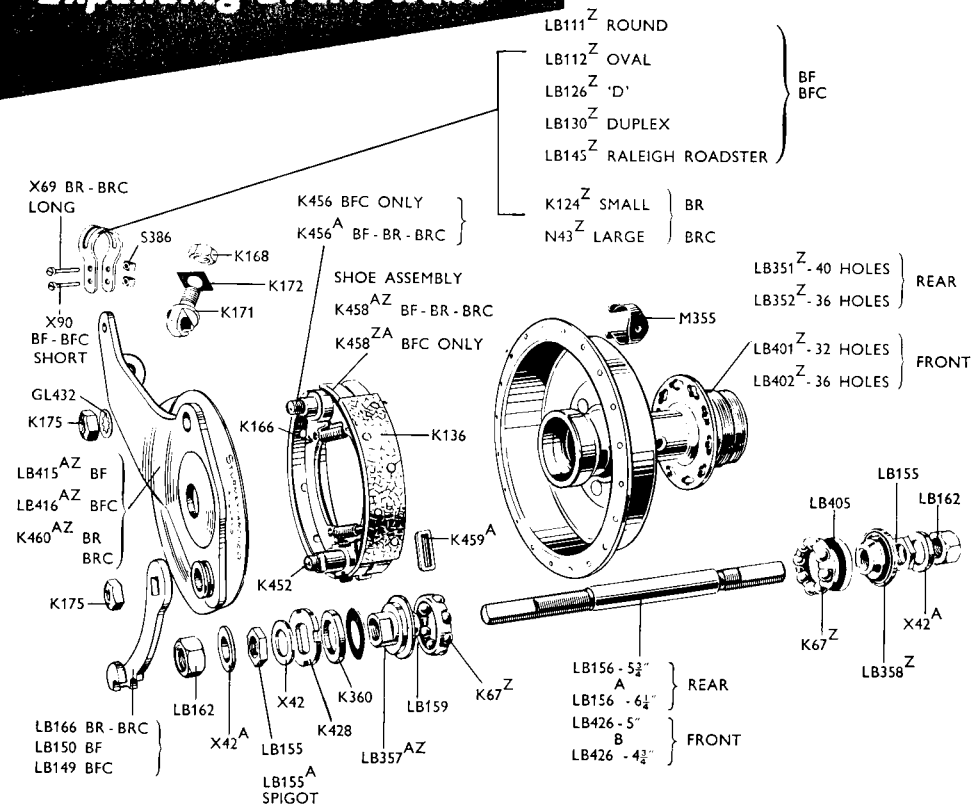


BF and BR Internal Expanding Brake Hubs



CODE No.

DESCRIPTION

K456	Fulcrum Sleeve—for cable operation only
K456A	Fulcrum Pin—for rod operation only
K166	Brake Shoe Spring
K452	Brake Operating Cam
K175	Cam Lever Nut—also used with K456A
GL432	Lock Washer } Rod operation only
LB150	Cam Lever }
K171	Wire Guide } Cable operation only
LB149	Cam Lever }
LB111Z	Brake Arm Clip complete, round
LB112Z	Brake Arm Clip complete, oval
LB126Z	Brake Arm Clip complete, 'D'
LB130Z	Brake Arm Clip complete, Humber Duplex
LB145Z	Brake Arm Clip complete, Raleigh Roadster
X90	Clip Screw
S386	Clip Nut
K360	Spacing Washer
K428	Notched Cone Adjuster
X42A	Axle Washer, $\frac{1}{8}$ " thick
X42	Axle Washer, $\frac{1}{16}$ " thick
LB155	Cone Locknut
LB155A	Cone Locknut with spigot
LB162	Axle Nut
LB351Z	Hub Shell, 40 holes
LB352Z	Hub Shell, 36 holes
M355	Lubricator
K67Z	Ball Cage with 8 $\frac{1}{4}$ " diam. balls
LB405	Outer Dust Cap
LB156	Spindle, 5 $\frac{1}{2}$ " long
LB156A	Spindle, 6 $\frac{1}{4}$ " long
LB358Z	R.H. Cone with Dust Cap
LB357AZ	L.H. Cone with Dust Cap
LB159	Packing Washer
K460AZ	Brake Plate and Arm
K458AZ	Brake Shoes complete less Cam
K456A	Fulcrum Pin
K459A	Shoe End Cap
K136	Brake Linings (per pair with rivets)
K166	Brake Shoe Spring
K452	Brake Operating Cam
K175	Cam Nut or Fulcrum Pin Nut
GL432	Lock Washer
LB166	Cam Lever
K171	Wire Guide } Fitted on Brake Arm
K172	Lock Washer } for
K168	Guide Nut } Cable Operation only
N43Z	Brake Arm Clip complete for oval tubing
K124Z	Brake Arm Clip complete for round tubing
X69	Clip Screw
S386	Clip Nut
K360	Spacing Washer
K428	Notched Cone Adjuster
X42A	Axle Washer, $\frac{1}{8}$ " thick
X42	Axle Washer, $\frac{1}{16}$ " thick
LB155	Cone Locknut
LB162	Axle Nut

See separate pages for Brake Control parts

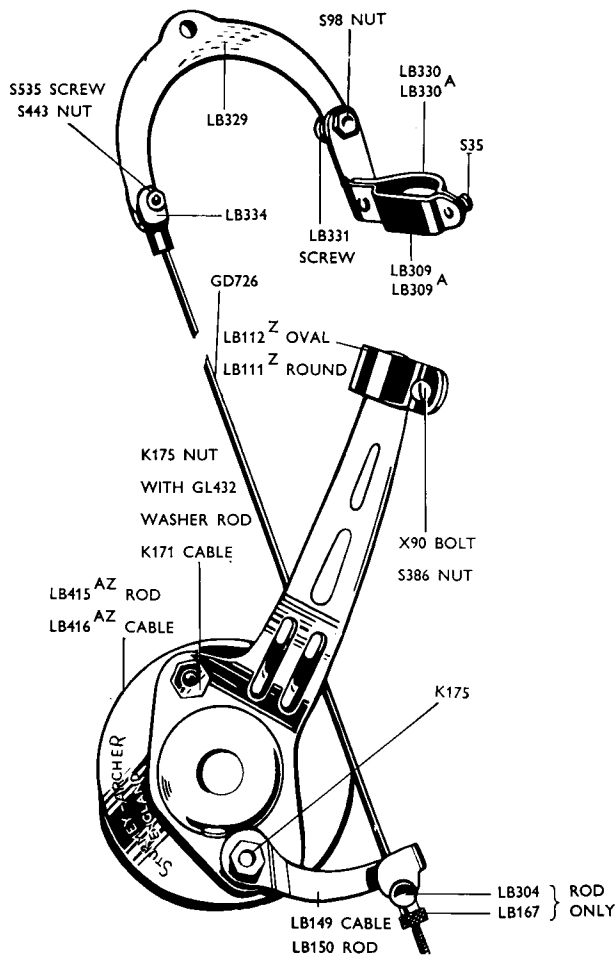
CODE No.

DESCRIPTION

LB401Z	Hub Shell, 32 holes
LB402Z	Hub Shell, 36 holes
M355	Lubricator
K67Z	Ball Cage with 8 $\frac{1}{4}$ " diam. balls
LB405	Outer Dust Cap
LB426	Spindle, 5" long
LB426B	Spindle, 4 $\frac{3}{4}$ " long
LB358Z	R.H. Cone with Dust Cap
LB357AZ	L.H. Cone with Dust Cap
LB159	Packing Washer
LB416AZ	Brake Plate and Arm for Cable operation
LB415AZ	Brake Plate and arm for rod operation
K458AZ	Brake Shoes complete less Cam, Pin type for [rod operation
K458ZA	Brake Shoes complete less Cam, Sleeve type for cable [operation
K459A	Shoe End Cap
K136	Brake Linings (per pair with rivets)

BRAKE CONTROLS

ROD - FRONT
CABLE - FRONT
AND REAR

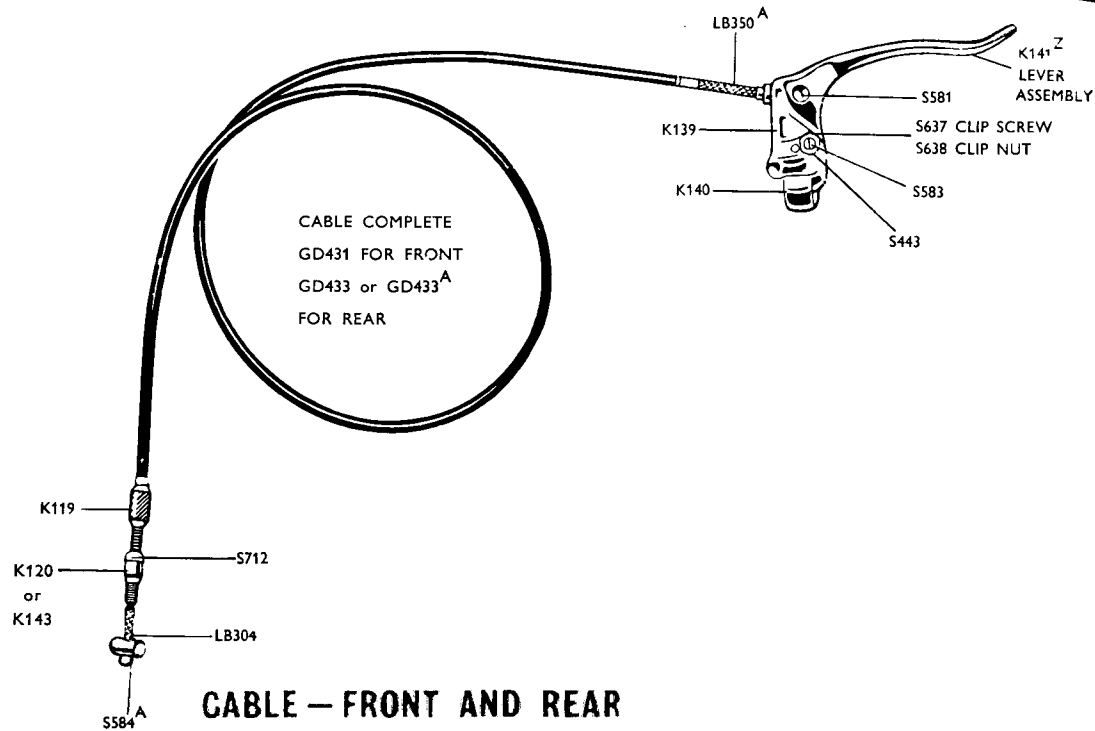


ROD - FRONT

CODE No.

DESCRIPTION

BC2	Front Rod fittings complete from Stirrup to Hub
LB329	Front Brake Stirrup
LB309	Inner Clip for 'D' or Duplex Forks
LB309A	Inner Clip for Oval Forks
LB330	Outer Clip for 'D' or Oval Forks
LB330A	Outer Clip for Duplex Forks only.
S35	Clip Screw
LB331	Fulcrum Screw
S98	Nut for Fulcrum Bolt
LB334	Rod Connection
S535	Connection Screw
S433	Connection Nut
GD 726	Brake Rod with top connection
LB304	Swivel Pin
LB167	Adjusting Nut



CABLE - FRONT AND REAR

CODE No.

DESCRIPTION

BC1F	Brake Control complete for Front Hub
BC1R	Brake Control complete for Rear Hub
K141Z	Brake Lever complete
K139	Lever Fulcrum
S583	Fulcrum Bolt
S443	Fulcrum Nut
K140	Fulcrum Clip
S637	Clip Screw
S638	Clip Nut
LB350A	Cable Guide
S581	Wire Nipple
GD431	Front Brake Cable complete
GD433	Rear Brake Cable complete to 1956 only
GD433A	Rear Brake Cable from 1957
K119	Cable Adjuster
K120	Adjuster Nut (Rear Cables to 1956 only) and all front cables
K143	Cable Adjuster for Rear Cables from 1957
S712	Locknut
LB304	Swivel for Cam Lever
S584A	Nipple (hub end)

ROD-BRAKE CONTROLS — REAR

REAR

CLIP-ON PATTERN

LB326^{AZ} LH

LB326^{BZ} RH

LB327^A CLIP

LB332 BOLT

S443 NUT

BOLT-ON PATTERN

S98 NUT

LB336

S558

S154 BOLT

P1183 RH
LB325 LH

S535 SCREW
S433 NUT

LB334

S35 SCREW
S98 NUT

LB321

S98 NUT
LB322 SCREW

GD728

S433

LB324

LB320

LB334

S535 SCREW

N43^Z LARGE
K124^Z SMALL

S386 NUT
X90 SCREW

K175 NUT
WITH GL432
WASHER

K460^{AZ}

K175

LB166

GD727 - 20 $\frac{1}{4}$ " } ROD
GD729 - 22 $\frac{1}{4}$ " }

LB304 } ROD
LB167 } ONLY

FOR REAR HUB BRAKE:

Code No.

Description

BC3BR	Rear Rod fittings, Bolt-on Bell-crank, right-hand operated
BC3BL	Rear Rod fittings, Bolt-on Bell-crank, left-hand operated
BC3CR	Rear Rod fittings, Clip-on Bell-crank, right-hand operated
BC3CL	Rear Rod fittings, Clip-on Bell-crank, left-hand operated

BOLT-ON BELL-CRANK FITTINGS:

Code No.

Description

P1183	Right-hand Bell-crank
LB325	Left-hand Bell-crank
S154	Fulcrum Bolt
S558	Bush for Bell-crank
LB336	Washer
S98	Securing Nut

CLIP-ON BELL CRANK FITTINGS:

Code No.

Description

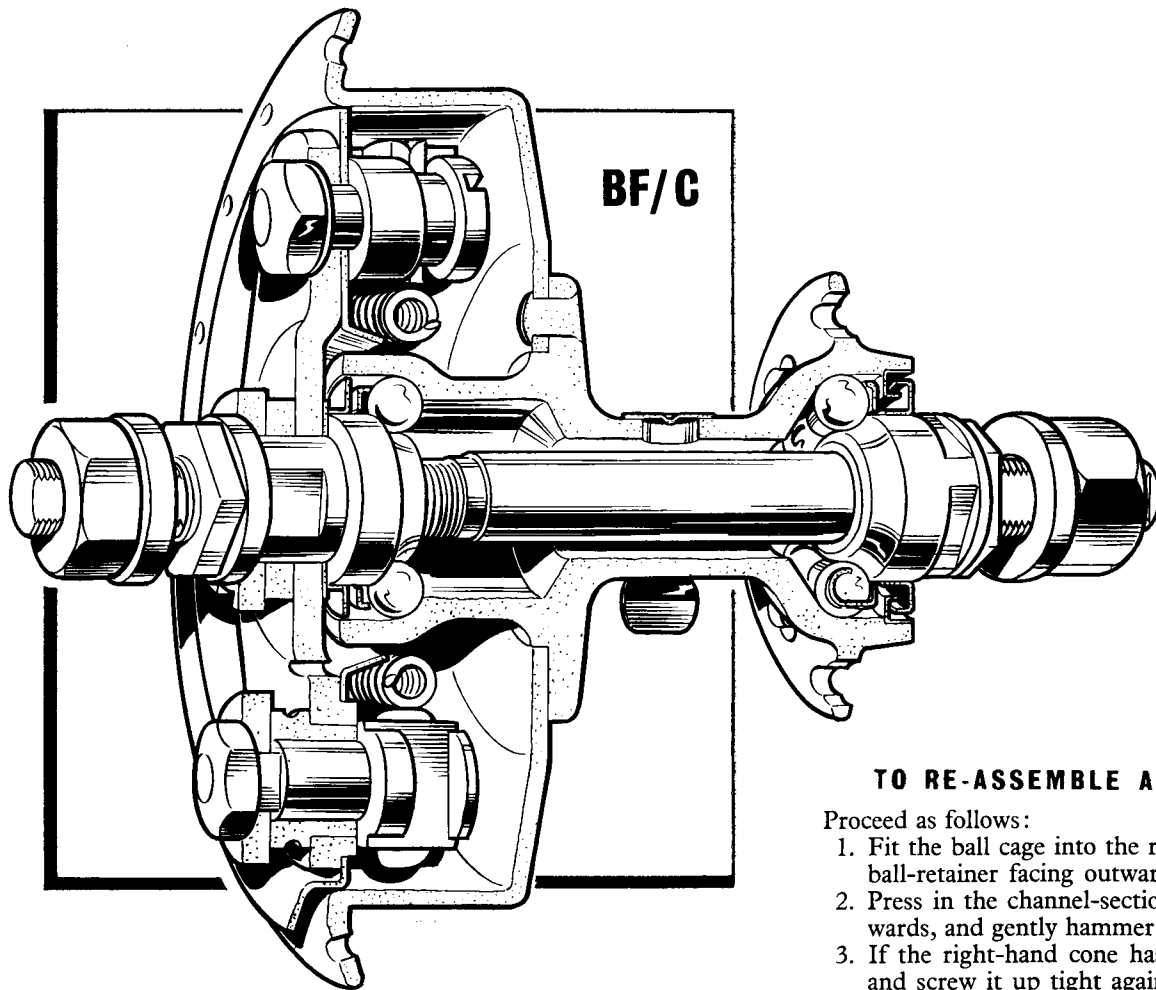
LB326AZ	Left-hand Bell-crank with fulcrum	} <i>Not illustrated</i>
LB326BZ	Right-hand Bell-crank with fulcrum	
LB327A	Fulcrum Clip	
LB332	Fulcrum Bolt	
S443	Fulcrum Nut	

ROD FITTINGS

Code No.

Description

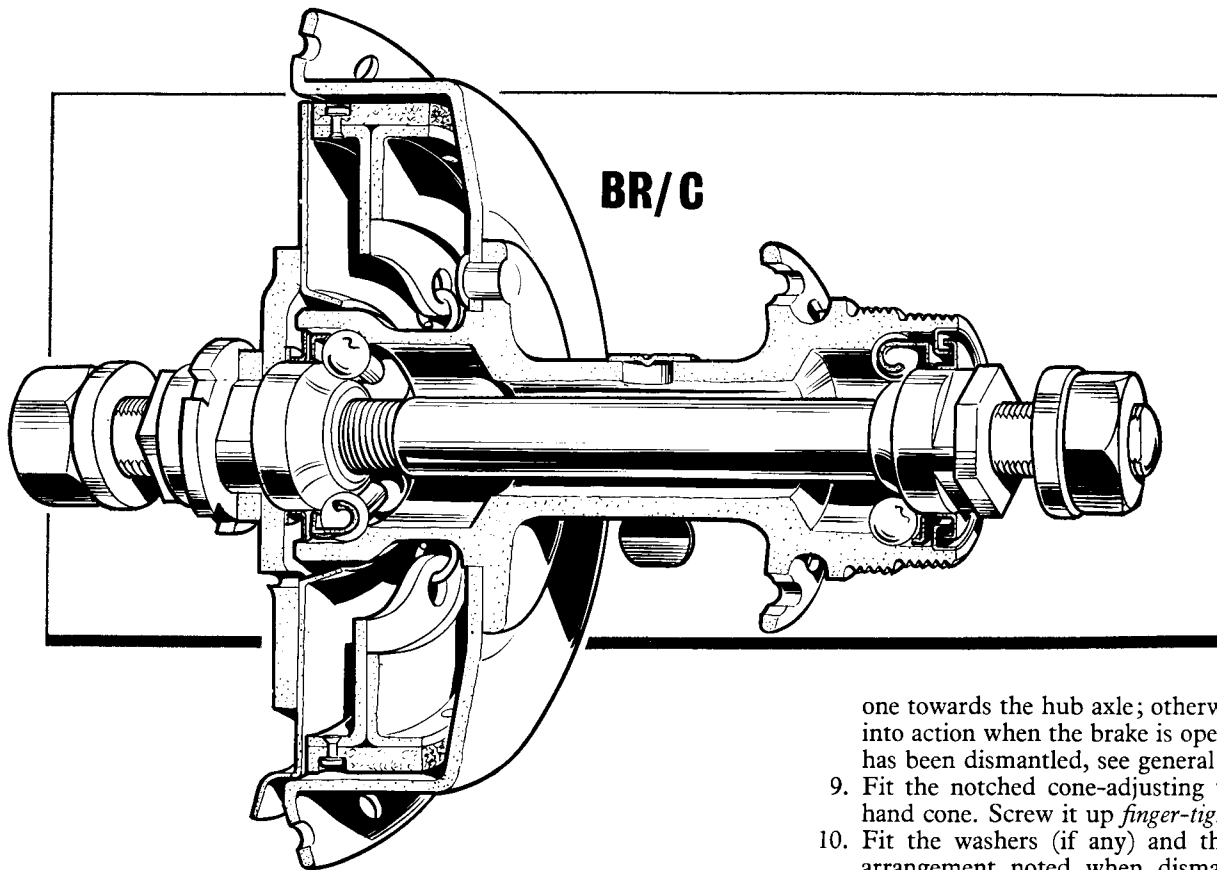
GD728	Down Tube Rod complete with connection each end
GD727	Bottom Rod complete with front connection (20 $\frac{1}{4}$ " rod)
GD729	Bottom Rod complete with front connection (22 $\frac{1}{4}$ " rod)
S535	Connection Screw
S433	Connection Nut
LB320	Brake Link
LB321	Brake Link Half-clip
LB323	Brake Link Spring
LB322	Swivel Bolt
S35	Brake Link Clip Screw
S98	Clip Screw Nut
LB304	Swivel Pin for Cam Lever
LB167	Adjusting Nut
LB334	Short Rod Connection
LB324	Long Rod Connection



TO RE-ASSEMBLE A BF, BFC, BR or BRC HUB

Proceed as follows:

1. Fit the ball cage into the right-hand hub cup with the ring of the ball-retainer facing outwards.
2. Press in the channel-section dust cap, with the recess facing outwards, and gently hammer it home.
3. If the right-hand cone has been removed, replace it on the axle and screw it up tight against the shoulder.
4. Fit the right-hand spacing washers (if any) and cone locknut.
5. Pass the spindle through the hub shell, from the right-hand side.
6. Fit the ball cage into the left-hand hub cup, with the ring of the ball-retainer facing outwards.
7. Fit the (left-hand) cone and spacing washers.
8. Replace the brake anchor plate, complete with shoes, over the end of the left-hand cone. (If the shoes have been removed, make sure when replacing them that the longer of the two short arms on the cam spindle is pointing towards the drum surface and the shorter



- one towards the hub axle; otherwise only one shoe will be brought into action when the brake is operated.) If the brake shoe assembly has been dismantled, see general instructions.
9. Fit the notched cone-adjusting washer over the flats of the left-hand cone. Screw it up *finger-tight* and then slacken it half a turn.
 10. Fit the washers (if any) and the left-hand cone locknut in the arrangement noted when dismantling the hub, adjust the hub bearing as described in 'The Fitting and Adjustment of Sturmey-Archer Hubs.'
 11. Replace the wheel in the cycle frame. The axle is flatted to prevent it from turning in the slots of the cycle frame—a very important point—and special lipped washers are supplied with BR/BRC hubs to engage in the frame slots. See that the brake plate of a rear brake is not strained when being connected to the anchor clip, which must be fixed so that it engages easily. The arm of a front brake must be a good fit in the clip. Brake arm clips must be tight on the frame or fork. If the machine is being laid up, put one or two drops of oil between the brake-plate and the cam lever, but not enough to penetrate into the brake drum.