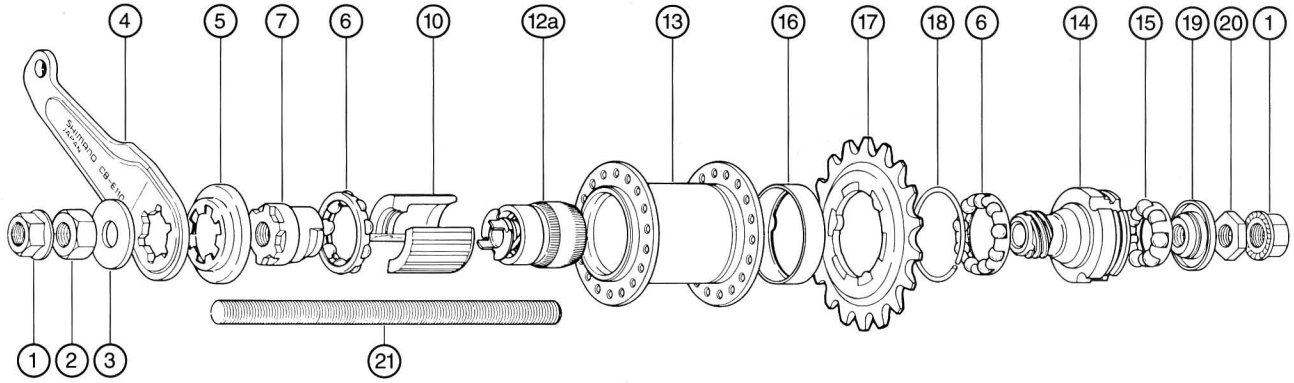
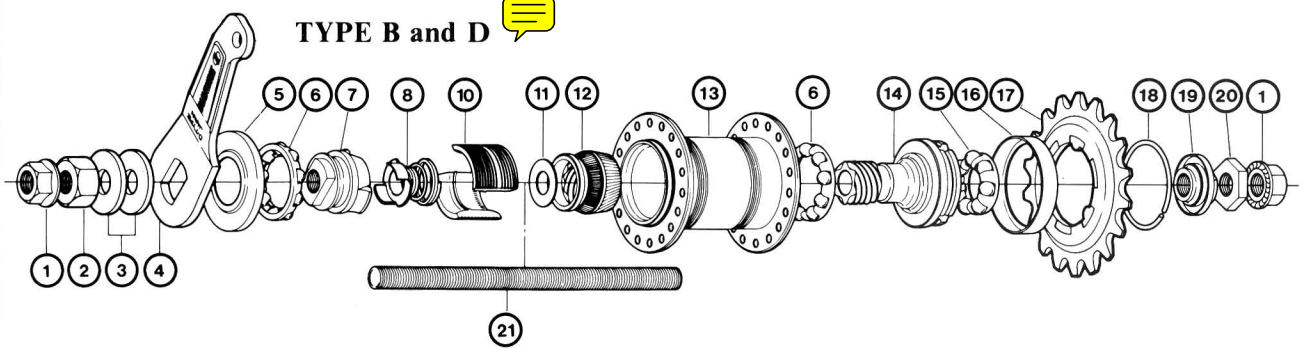


# HUBS

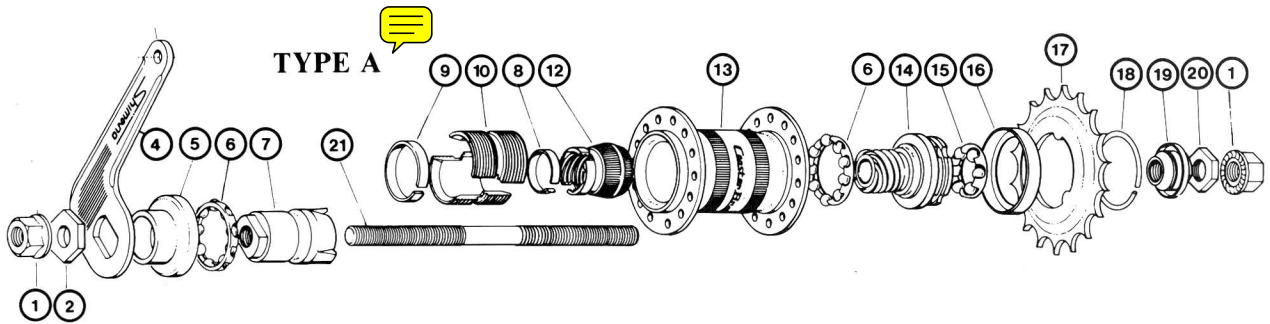
TYPE E



TYPE B and D



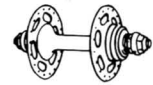
TYPE A



**SHIMANO COASTER BRAKE  
PARTS INTERCHANGEABILITY**



**HUBS**



SUTHERLAND'S HANDBOOK OF COASTER BRAKES AND INTERNALLY-GEARED HUBS

Vertical line between numbers indicate parts are not interchangeable.

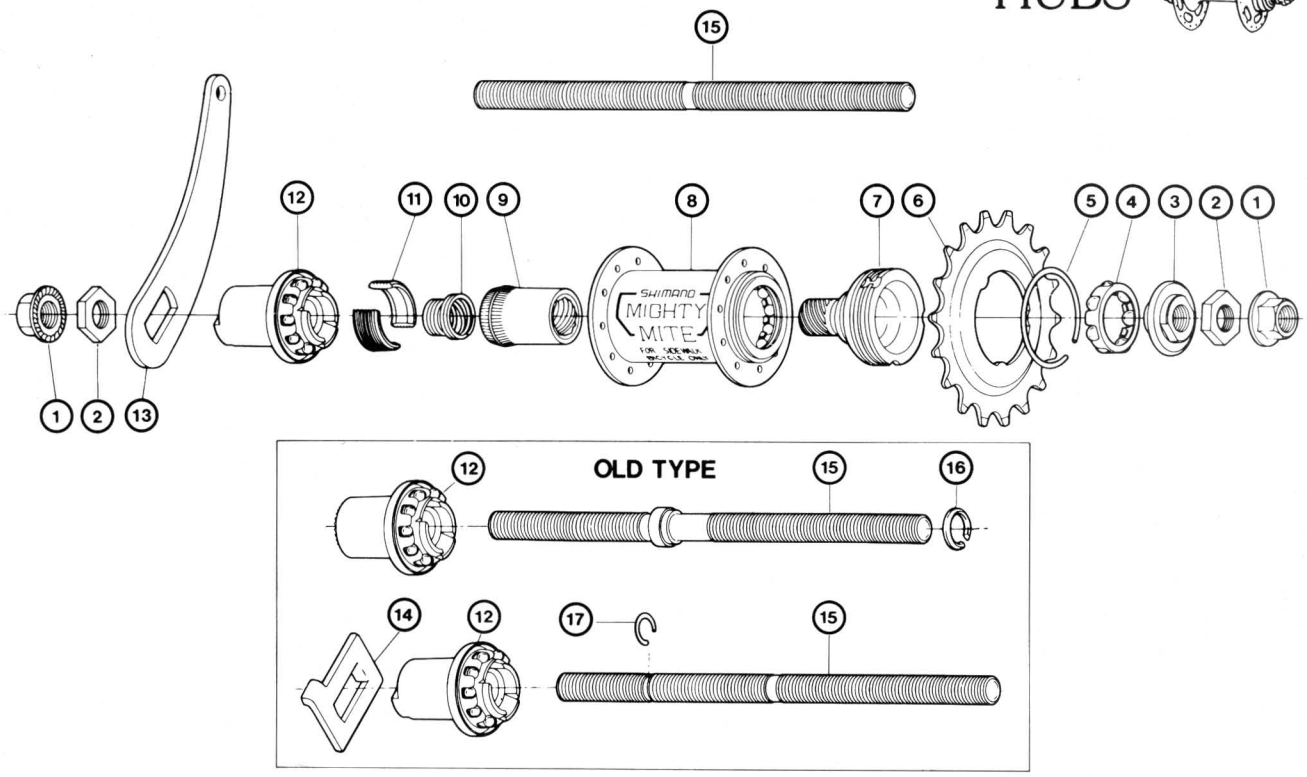
	E Type		D Type		B Type		A Type	
							Model 42 <sup>1</sup>	Model 45 <sup>1</sup>
1. Flange Nut	286	1500	282	3000	282	3000	282	3000
2. Arm Nut	283	0900-1	283	0900-1	283	0900	282	2400
3. Arm Washer	283	1600-1	283	1600-1	283	1600		282 2400
4. Brake Arm	286	1400	283	1405-1	283	1400	282	2100
5. Left-Hand Dust Cap	286	1100	283	1300-1	283	1300	282	1900
6. Ball Retainer C	282	9005	282	9005	282	9005	282	9005
7. Brake Cone	286	0800	283	1100	283	1100	282	1600
8. Clutch Spring			283	9033	283	0600	282	2500
9. Shoe Spring						282	2300	282 2500
10. Brake Shoes (2 pieces)	286	9806	283	1000	283	1000	282	1500
11. Clutch Washer			283	1500	283	1500		282 1500
12. Clutch Cone			283	1200	283	1200	282	1400-1
12a. Clutch Cone Unit	286	9805	283	9801				282 1400-1
13. Hub Shell 24 holes @ 2.5 mm			283	9012	283	9012		
28 holes @ 2.8 mm			283	9003	283	9003	282	9001
28 holes @ 3.2 mm			283	9004	283	9004		282 9001
36 holes @ 2.8 mm			283	9005	283	9005	282	9003
20 holes							282	9002
14. Driver	286	0400	283	0700	283	0700	282	1300-1 <sup>1</sup>
15. Ball Retainer A	321	9022	321	9022	321	9022	321	9022
16. Right-Hand Dust Cap	286	1000	282	2000	282	2000	282	0510 <sup>1</sup>
17. Sprocket <sup>2</sup> 14T	321	0300	321	0300	321	0300	321	0300
15T	321	0311	321	0311	321	0311	321	0310
		flat		flat		flat		dished
16T	321	0320	321	0320	321	0320	321	0320
17T	321	0330	321	0330	321	0330	321	0330
18T	322	0340	322	0340	322	0340	321	0340
19T	322	0350	322	0350	322	0350	321	0350
20T	322	0360	322	0360	322	0360	321	0360
18. Snap Ring <sup>2</sup>	321	2000	321	2000	321	2000	321	2000
19. Cone with Dust Cap	286	9807	281	9013	281	9013	281	9013
20. Locknut	281	2100	281	2100	281	2100	281	2100
21. Hub Axle 150 mm (5.90")							282	1203
158 mm (6 <sup>1</sup> / <sub>2</sub> ")			283	0504	283	0504		282 1203
163 mm (6 <sup>1</sup> / <sub>2</sub> ")	283	0501	283	0501	283	0501	282	1200
165 mm (6 <sup>1</sup> / <sub>2</sub> ")	286	0130						282 1200
170 mm (6 <sup>1</sup> / <sub>6</sub> ")	283	0503	283	0503	283	0503	282	1202
Internal Kit 163 mm (6 <sup>1</sup> / <sub>2</sub> ")			281	9024				282 1202
165 mm (6 <sup>1</sup> / <sub>2</sub> ")	286	9801						
170 mm (6 <sup>1</sup> / <sub>6</sub> ")			281	9025				

<sup>1</sup>Model 45 was used by Ross (Chain Bike Corporation).

45 indicates the chainline in millimeters from hub center to sprocket center.

<sup>2</sup>See Sproket Interchangeability at beginning of Hub section.





**SHIMANO MIGHTY MITE COASTER BRAKE PARTS INTERCHANGEABILITY**

Vertical line between numbers indicates parts are not interchangeable.

Parts are interchangeable only if they are on the same line and they do not have a vertical line between them.

Item #		New Type	Old Type with brake plate	Old Type with serrated brake plate
1.	Flange Nut	282 3000 <sup>1</sup>	282 3000 <sup>1</sup>	282 3000 <sup>1</sup>
2.	Locknut	281 2100 <sup>1</sup>	281 2100 <sup>1</sup>	281 2100 <sup>1</sup>
3.	Cone with Dust Cap	284 9005	284 9005	284 9005
4.	Ball Retainer	321 9022 <sup>1</sup>	321 9022 <sup>1</sup>	321 9022 <sup>1</sup>
5.	Snap Ring <sup>2</sup>			
6.	Sprockets <sup>2</sup>			
7.	Driver	284 1500	284 1500	284 1500
8.	Hub Shell 24 holes	284 9003	284 9003	284 9003
9.	Clutch Cone	284 1300	284 1300	284 1300
10.	Clutch Spring	284 1101	284 1100	284 1100
11.	Brake Shoe	284 1200	284 1200	284 1200
12.	Brake Cone with Ball Retainer	284 9020	284 9002	284 9004
13.	Brake Arm	284 2100		
14.	Brake Plate		284 0601	
15.	Hub Axle 155 mm	284 0511		
	163 mm	284 0512	284 0501	284 0506
	187 mm	284 0513	284 0502	284 0507
16.	Lock Ring			284 1600
17.	Snap Ring B		284 0700	

<sup>1</sup> Interchangeable with Shimano B and D type.  
<sup>2</sup> See Sprocket Interchangeability at beginning of Hub section.

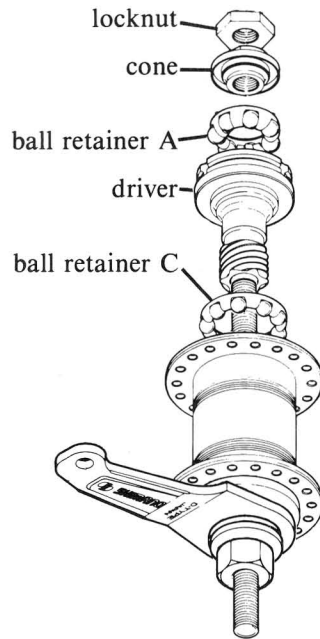
# HUBS

## SHIMANO TYPE A, B, D AND E COASTER BRAKES DISASSEMBLY AND ASSEMBLY (cont.)

### 1 DISASSEMBLY

Note the distance that axle protrudes at each end of hub. Remove locknut, cone, small ball retainer (A), driver and large ball retainer (C).<sup>1</sup>

Next Step



Replace large ball retainer (C)<sup>1</sup> flat side up. Install driver and small ball retainer (A) flat side up. Install cone and locknut and adjust bearing.

### ASSEMBLY 3

Next Step

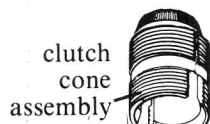
### 2 DISASSEMBLY

#### Type A, Type D and Type E Only

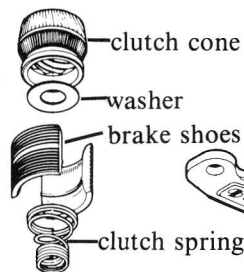
Lift off hub shell. Remove brake shoes and clutch cone assembly.

#### Type B Only<sup>2</sup>

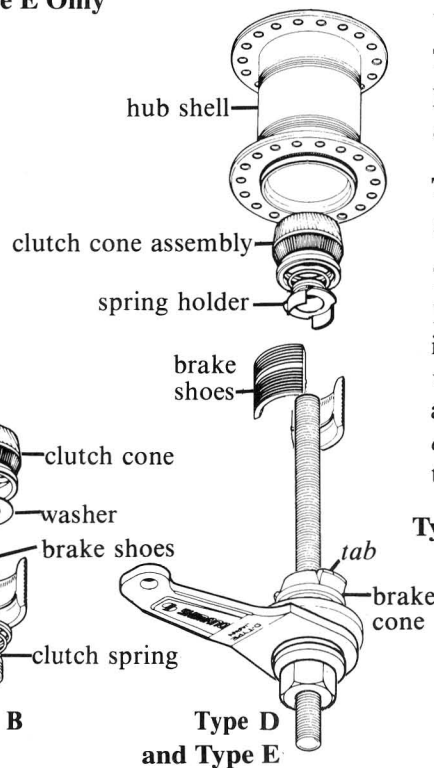
Lift off hub shell. To remove clutch cone, washer and clutch spring, pull cone while turning counter-clockwise. To remove cone and washer without spring, pull and turn clockwise.



Type A



Type B



Type D and Type E

Seat greased brake shoes between brake cone tabs. Position hub shell straight-sided opening down and slip over assembly.

#### Type E Only

Place large ball retainer C flat side down on brake core.

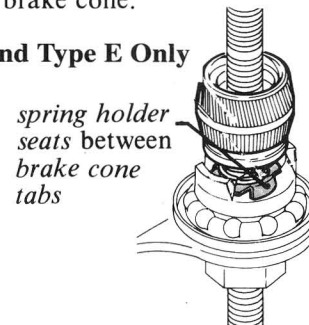
#### Type A Only

Slip clutch cone assembly over axle.

#### Type B Only

Insert clutch washer and large end of spring in smooth end of clutch cone with a clockwise turning motion. Advance spring along axle, push clutch cone and turn assembly counter-clockwise. Continue until spring touches brake cone.

#### Type D and Type E Only



spring holder seats between brake cone tabs

#### Type E Only

Remove large ball retainer C (not shown).

Next Step  
Next Page

Slip clutch cone assembly over axle seating spring holder between brake cone tabs as shown above.

### ASSEMBLY 2

<sup>1</sup> On Mighty Mite coaster brake large ball retainer is installed under a press-fit dust cover (not shown). Remove carefully with a thin-bladed screwdriver. To install, start straight by hand and tap home with a soft hammer.

<sup>2</sup> Mighty Mite is similar to Type B.

# SHIMANO TYPE A, B, D, AND E COASTER BRAKES DISASSEMBLY AND ASSEMBLY

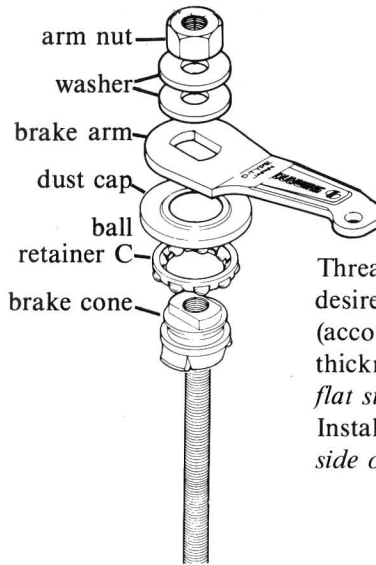


## 3 DISASSEMBLY

To remove ball retainer C, remove arm nut, arm washer and brake arm. Push off dust cap and ease ball retainer over small end of brake cone. If required, brake cone may be threaded off axle.<sup>1</sup>

### Type E Only

Ball retainer C was removed in previous step.



Next Step  
Preceding Page

### Type A, B and D Only

Thread brake cone onto axle until desired length of axle protrudes<sup>1</sup> (account for arm nut and washer thickness). Ease large ball retainer (C) *flat side up* over small end of cone. Install dust cap, brake arm (*imprinted side out*), washers and arm nut.

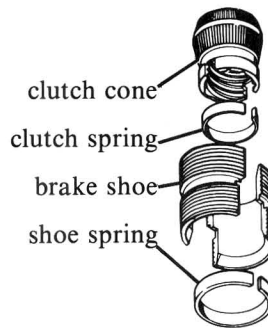
## ASSEMBLY 1

## DISASSEMBLY

### SUBASSEMBLIES

#### Type A Only Clutch Cone

Pull brake shoe assembly off clutch cone. Remove shoe spring or clutch spring only if it is to be replaced.



#### Type A Only Clutch Cone

Assemble brake shoes and shoe spring. Rotate gap in spring away from gap between shoes. Ease clutch spring over small end of clutch cone with hooked end of spring *clockwise from spring gap*. Incorrect installation will cause excessive drag and wear.

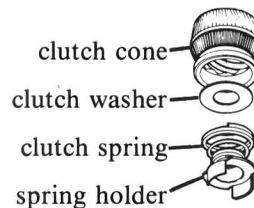
Insert small end of clutch cone into narrow-slot end of brake shoe assembly. Hooked end of clutch spring engages one of the narrow slots between brake shoes.

## ASSEMBLY

## DISASSEMBLY

#### Type D Only Clutch Cone

Pull *spring holder* free with a *counter-clockwise* turning motion. Pull *clutch cone* free with a *clockwise* turning motion. Remove clutch washer.

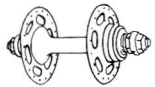


#### Type D Only Clutch Cone

Insert washer and large end of clutch spring into smooth end of clutch cone with a *clockwise* turning motion. Push spring holder into small end of clutch spring with a *counter-clockwise* turning motion.

## ASSEMBLY

<sup>1</sup>On old type Mighty Mite with a snap ring on the axle, cone is tightened against the snap ring. To remove, loosen by threading cone inward 1/2 turn, remove snap ring and thread cone off axle. To install, thread cone past snap ring groove, install snap ring and turn cone back until tightened against ring.



## HUBS

### SHIMANO TYPE A, B, D AND E COASTER BRAKES DISASSEMBLY AND ASSEMBLY (cont.)

#### CLEANING

Clean all parts, including outside of hub shell, in a suitable solvent. Be very careful not to introduce dirt or grit after cleaning.

#### POINTS TO CHECK

Numbers in parenthesis refer to parts chart and exploded drawing.

1. Mating threads of clutch cone (12) and driver (14) for wear and chipping
2. Conical surface of inside of hub shell and outside of clutch cone (12) for wear and burring
3. Clutch spring (8) for shape and tension
4. Brake shoe (10) and hub shell mating surfaces for wear or glazing
5. All threaded parts for damaged or stripped threads
6. Dustcaps and bearing retainers for straightness
7. All bearing races and balls for wear or pitting

#### LUBRICATION

Lubricate ball retainers by filling the spaces between balls with grease. Lubricate hub shell and brake shoes liberally with a high-temperature grease. Grease other internal parts.