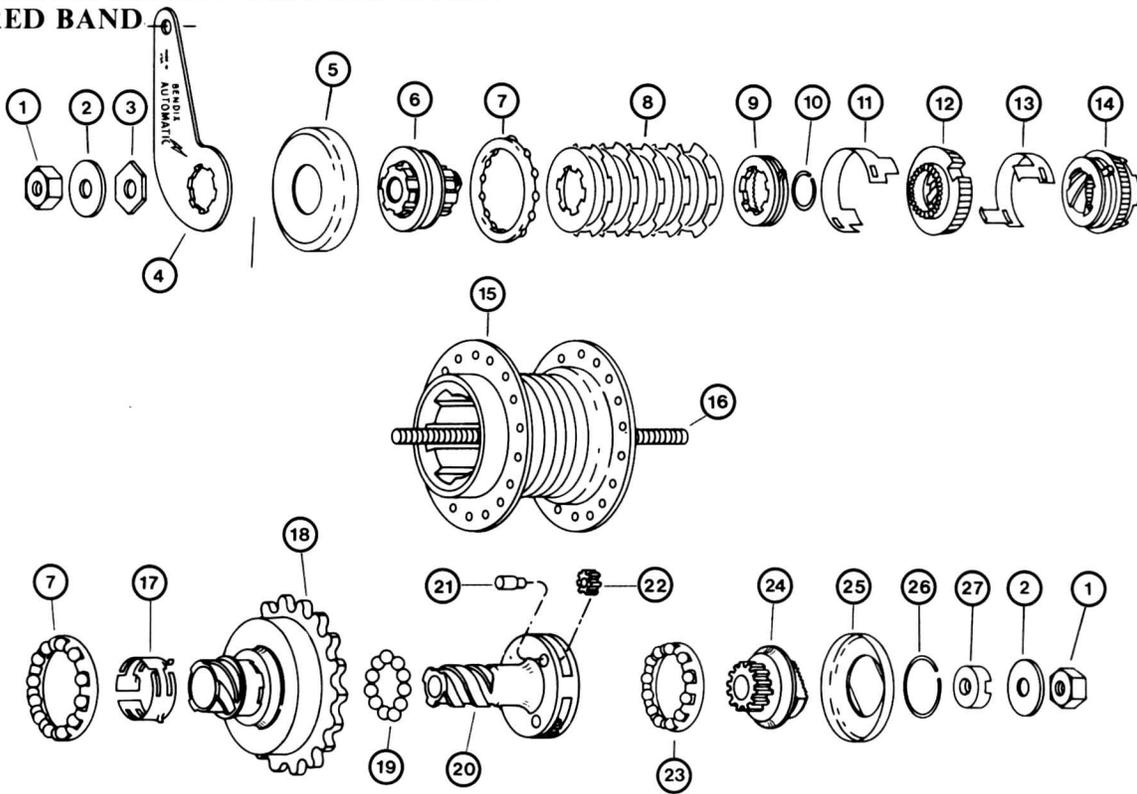
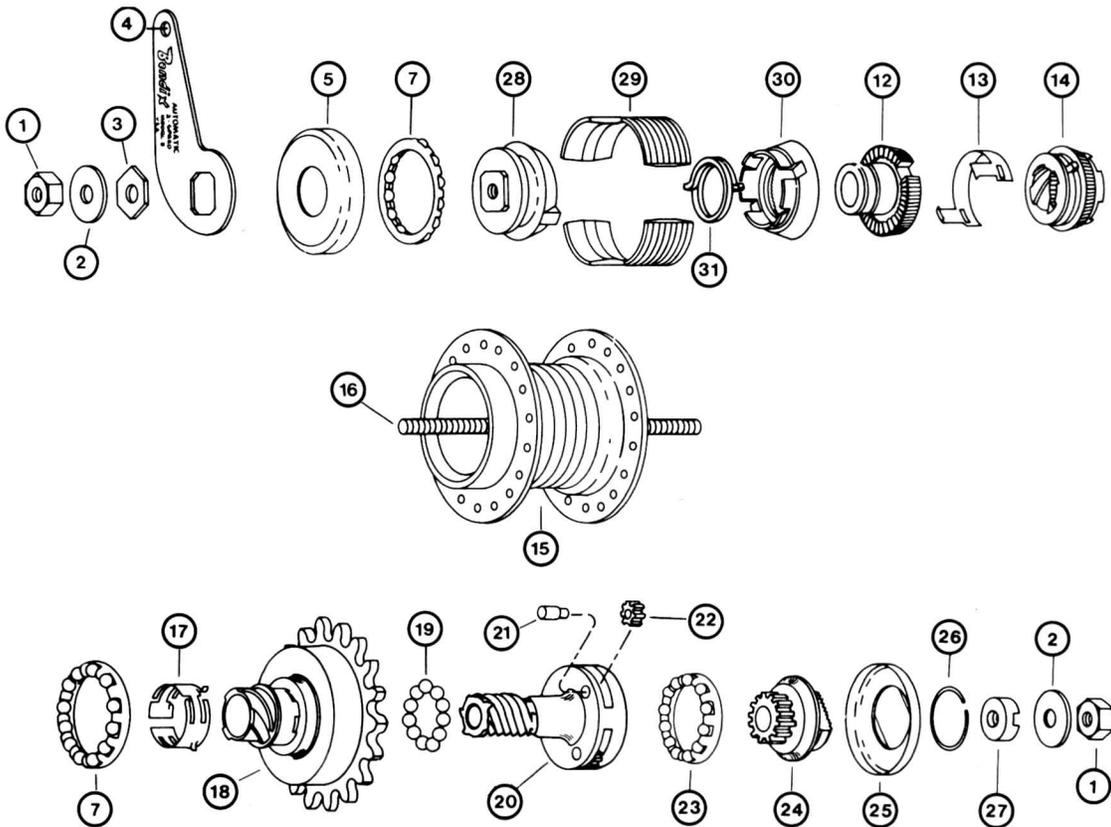


# HUBS

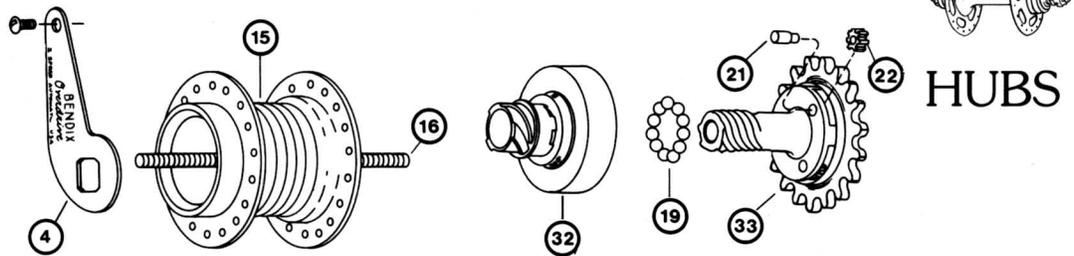
## BENDIX 2 SPEED COASTER BRAKE RED BAND



## YELLOW BAND



**BLUE BAND OVERDRIVE (Parts not interchangeable with Yellow Band)**

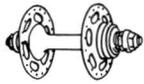


**BENDIX 2 SPEED COASTER BRAKE PARTS INTERCHANGEABILITY**

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.

	Blue Band Overdrive	Yellow Band Shoe Type Regular	Red Band Disc Type Regular
1. Axle nut	BB-13A	BB-13A	BB-13A
2. Axle washer	BB-14A	BB-14A	BB-14A
3. Locknut, arm side	BB-15	BB-15	BB-15
4. Brake arm	AB-410	AB-310	AB-10
5. Dust cap, arm side	AB-331	AB-331	AB-31
6. Cone, arm, disc support			AB-33
7. Retainer	AB-16	AB-16	AB-16
8. Disc set			AB-22
9. Pressure plate assembly			AB-6
10. Retaining ring			AB-9
11. Low speed retarder coupling			AB-12
12. Low speed driving clutch	AB-303	AB-303	AB-3
13. High speed retarder coupling	AB-21	AB-21	AB-21
14. High speed clutch assembly	AB-23	AB-23	AB-23
15. Hub shell	AB-401	AB-301	
16. Axle	AB-304	AB-304	BB-4
17. Indexing spring	AB-26	AB-26	AB-26
18. Sprocket, high speed drive, sleeve assembly, 18 T		AB-318	AB-18
Sprocket, high speed drive, sleeve assembly, 19 T		AB-319	AB-19
19. 1/4" balls, 11 used			
20. Low speed driving screw		AB-302	AB-2
Low speed screw assembly (includes driver, gears and pins)		AB-328	AB-28
21. Planet gear pin, 3 used	AB-30	AB-30	AB-30
22. Planet gear, 3 used	AB-37	AB-37	AB-37
23. Retainer	AB-20	AB-20	AB-20
24. Adjusting cone sun gear	AB-7	AB-7	AB-7
25. Dust cap, sprocket side	AB-32	AB-32	AB-32
26. Retaining ring, dust cap	AB-41	AB-41	AB-41
27. Locknut, adjusting cone	AB-35	AB-35	AB-35
28. Expander, anchor end	AB-333	AB-333	
29. Shoes, 4 used	AB-322	AB-322	
30. Expander, drive end	AB-306	AB-306	
31. Retarder spring clutch	AB-312	AB-312	
32. Driving screw, high speed	AB-418		
33. Sprocket, driving screw, low speed, 20 T	AB-402		
Sprocket, low speed driving screw assembly, 20 T (with gears and pins)	AB-428		
Clutch pack assembly			AB-45
Retarder subassembly	AB-345	AB-345	
Retarder spring	AB-23A	AB-23A	AB-23A
Offset brake arm for automatic	AB-310A	AB-310A	

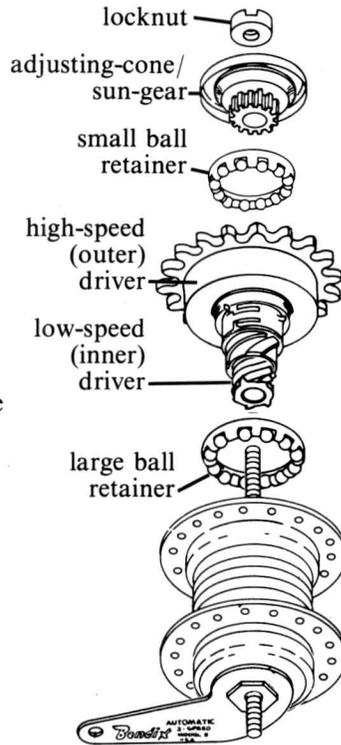


# HUBS

## BENDIX BLUE AND YELLOW BAND 2-SPEED COASTER BRAKES DISASSEMBLY AND ASSEMBLY

### 1 DISASSEMBLY

If possible, put hub in low gear. Remove adjusting cone locknut with Bendix wrench.<sup>1</sup> On underdrive<sup>2</sup> (yellow band) models, turn sprocket clockwise while unscrewing adjusting-cone/sun-gear. On overdrive (blue band) models, hold sprocket stationary. *Coupling can be damaged if sun gear is unscrewed with hub in overdrive.* Thread cone off axle. Lift out small ball retainer. Remove both drivers together to avoid spilling loose balls. Lift out large ball retainer.



Invert assembly, holding brake arm and hub shell together. Install large ball retainer *ball side down*. Install both drivers as a unit, turning clockwise until seated. Install small ball retainer *ball side down*. Thread on sun gear until it touches planet gears. Continue turning sun gear clockwise seeing that high-speed (outer) driver rotates counter-clockwise and low speed (inner) driver remains stationary. Install locknut and adjust bearing so that there is just a trace of side play at wheel rim.

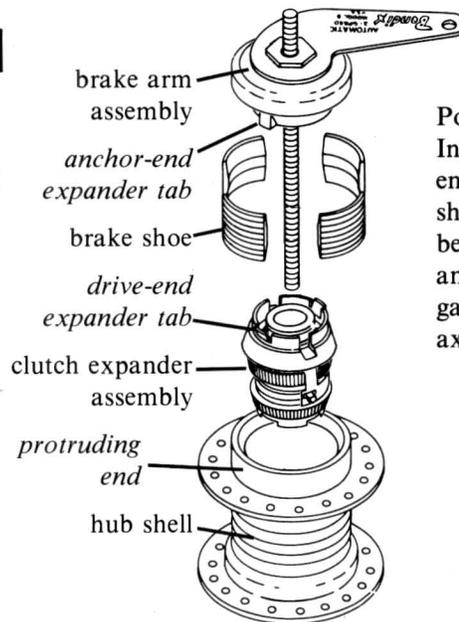
### ASSEMBLY 2

Next Step



### 2 DISASSEMBLY

*Do not invert assembly.* Catch brake shoes as hub shell is lifted off remaining parts. Remove clutch expander assembly.



Next Step



Position hub shell protruding end up. Insert clutch expander assembly small end first. Stick brake shoes into hub shell with grease so that they seat between drive end expander tabs. Line anchor-end expander tabs up with the gaps between brake shoes and insert axle brake arm assembly.

### ASSEMBLY 1

<sup>1</sup> A serviceable substitute can be fashioned from a spark plug by chipping out the center electrode and cutting back the side electrode so that the stub engages locknut slots.

<sup>2</sup> Underdrive models have sprocket on high-speed (outer) driver and should be built up in hub shells with yellow bands, overdrive models have sprocket on low-speed (inner) driver and should only be installed in hub shells marked with blue bands. See driver illustrations on following page.

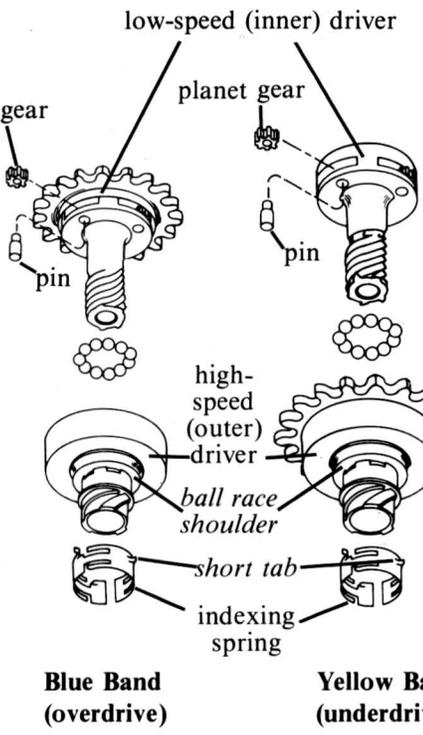
**BENDIX BLUE AND YELLOW BAND  
2-SPEED COASTER BRAKES  
DISASSEMBLY AND ASSEMBLY (cont.)  
SUBASSEMBLIES**



**DISASSEMBLY**

**Drivers**

Separate drivers and catch loose balls. Drive out pins and remove planet gears from low-speed driver. Remove indexing spring from high-speed driver.



**Drivers**

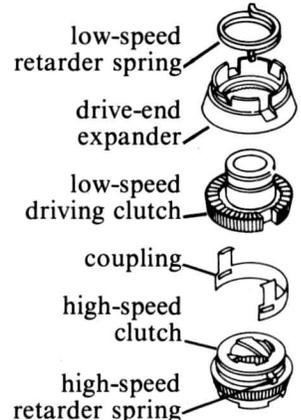
Slip indexing spring over sleeve of high-speed driver with *short* tabs against ball race shoulder. Position planet gears and drive in pins. Stick the 11 loose balls in place and insert low-speed driver so that planet gears engage gear ring.

**ASSEMBLY**

**DISASSEMBLY**

**Clutch Expander**

Unhook coupling from high-speed clutch retarder spring and from low-speed clutch. Remove high-speed clutch retarder spring only if necessary. Remove low-speed clutch retarder spring and lift off drive-end expander.



**Clutch Expander**

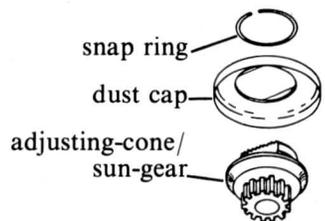
Slip large end of drive-end expander over small end of low-speed driving clutch and replace low-speed retarder spring. Support driving clutch on low-speed driver for this step if necessary. Replace high-speed driving clutch retarder spring if it was removed. Hook coupling over high-speed clutch. *Low* window of coupling engages *low* retarder spring hook. Hook other end of coupling into low-speed driving clutch slots.

**ASSEMBLY**

**DISASSEMBLY**

**Adjusting-Cone/Sun-Gear**

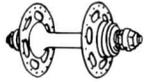
Remove snap ring and lift off dust cover.



**Adjusting-Cone/Sun-Gear**

Install dust cover and replace snap ring.

**ASSEMBLY**



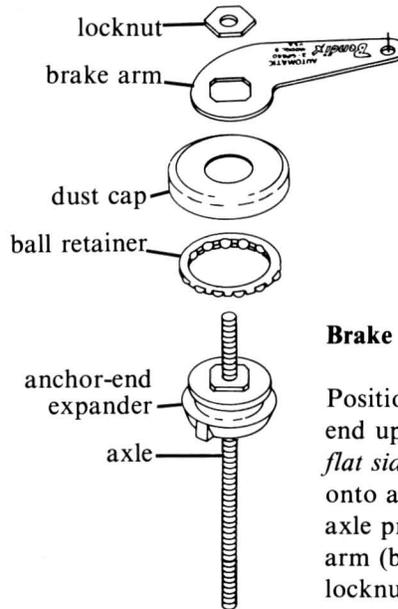
## HUBS

### BENDIX BLUE AND YELLOW BAND 2-SPEED COASTER BRAKES DISASSEMBLY AND ASSEMBLY SUBASSEMBLIES (cont.)

#### DISASSEMBLY

##### Brake Arm

Remove locknut, brake arm, dust cap and anchor-end expander. Pop retainer over small end of expander with even pressure.



##### Brake Arm

Position anchor end expander square end up. Use dust cap to pop on retainer *flat side up*. Thread anchor-end expander onto axle with about  $1\frac{1}{8}$ " (29 mm) of axle protruding. Install dust cap, brake arm (brand name facing out) and tighten locknut.

#### ASSEMBLY

#### 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

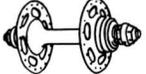
Numbers in parenthesis refer to parts chart and exploded drawing.

1. Retarder springs (31) (14) and indexing spring (17) for shape and tension
2. Driving clutches (12) (14) for worn teeth or serrations
3. Braking surfaces (29) (15) for wear, glazing and burring
4. Drivers (18) (20) and driving clutches (12) (14) for worn threads
5. Sun gear (24), gear ring (18) and planet gears (22) for worn or chipped teeth
6. Bearing surfaces of both drivers (18) (20), adjusting cone (24), left-hand cone (6) and hub shell (15) for wear and pitting. Replace balls and ball retainers at overhaul.

#### LUBRICATION

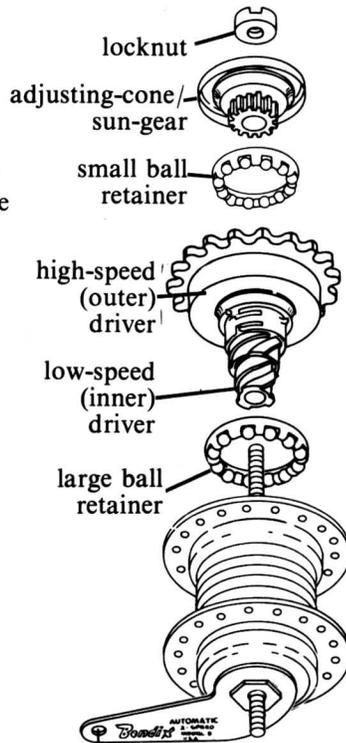
Lubricate ball bearings by filling the spaces between balls with grease. Lubricate hub shell and brake shoes liberally with a high-temperature grease. Coat other parts with grease.

**BENDIX RED BAND  
2-SPEED COASTER BRAKE  
DISASSEMBLY AND ASSEMBLY**

**HUBS** 

**1 DISASSEMBLY**

Remove adjusting cone locknut with Bendix wrench.<sup>1</sup> Turn sprocket clockwise while unscrewing adjusting-cone/sun-gear. (Hub can be made to remain stationary during this operation by shifting it into low gear.) Lift out small ball retainer. Remove both drivers together to avoid spilling loose balls. Rotate drivers counter-clockwise to disengage from clutch. Lift out large ball retainer.



Install large ball retainer *ball side down*. Install both drivers as a unit, turning clockwise until seated. Install small ball retainer *ball side down*. Thread on sun gear until it touches planet gears.

Continue turning cone *clockwise while turning sprocket counter-clockwise*. Install locknut and adjust bearing.

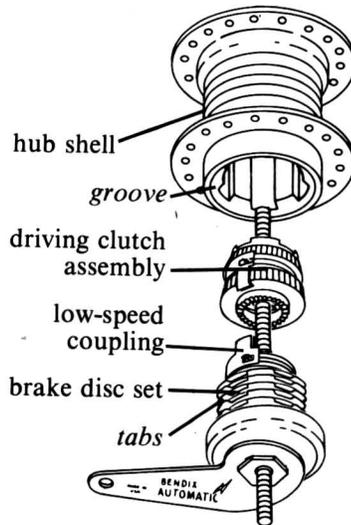
**ASSEMBLY 3**

Next Step



**2 DISASSEMBLY**

Lift off hub shell. Remove driving clutch assembly.



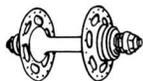
Align disc set tabs. Install driving clutch assembly *teeth down*. Slots in clutch engage low-speed coupling tabs. Lower hub shell over assembly being careful to align internal grooves with brake disc tabs. If hub shell will not seat, lift off, re-align tabs and try again.

**ASSEMBLY 2**

Next Step  
Next Page



<sup>1</sup> A serviceable substitute can be fashioned from a spark plug by removing the center electrode and cutting back the side electrode so that the stub engages locknut slots.



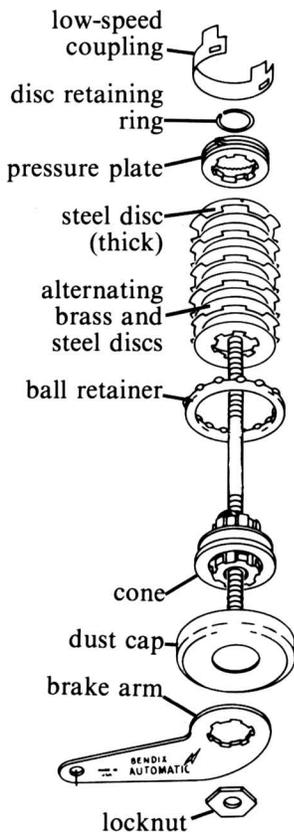
## HUBS

### BENDIX RED BAND 2-SPEED COASTER BRAKE DISASSEMBLY AND ASSEMBLY (cont.)

#### 3 DISASSEMBLY

Remove low-speed retarder coupling. Pry off disc retaining ring with a thin-bladed screwdriver. Lift off pressure plate, brake discs and ball retainer.

Remove locknut, brake arm and dust cap. Thread off left-hand cone.



▲  
Next Step  
Preceding Page

Thread left-hand cone onto axle until about 1/8" (29 mm) of axle protrudes. Install dust cap, brake arm and locknut.

Install large ball retainer *flat side toward brake arm*. Install brake disc set, alternating brass and steel discs. If disc set has two *thick steel* discs, use one at each end; if it has one only, install it last. Install pressure plate, disc retaining ring and low-speed retarder coupling.

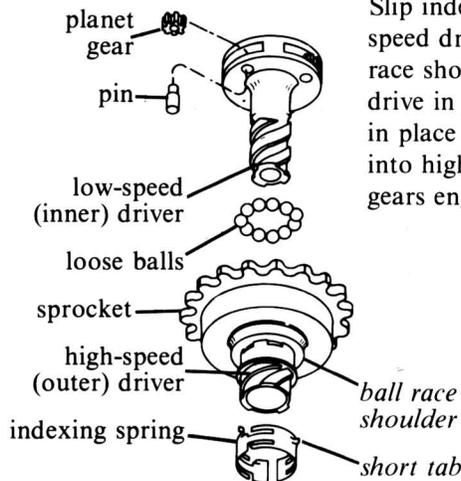
#### ASSEMBLY 1

### SUBASSEMBLIES

#### DISASSEMBLY

##### Drivers

Separate drivers and catch loose balls. Drive out pins and remove planet gears from low-speed driver. Remove indexing spring from high-speed driver.



##### Drivers

Slip indexing spring over sleeve of high-speed driver with *short* tabs against ball race shoulder. Position planet gears and drive in pins. Stick the 11 loose balls in place and insert low-speed driver into high-speed driver so that planet gears engage gear ring.

#### ASSEMBLY

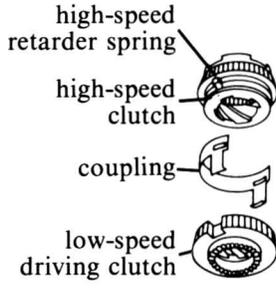
**BENDIX RED BAND  
2-SPEED COASTER BRAKE  
DISASSEMBLY AND ASSEMBLY  
SUBASSEMBLIES (cont.)**



**DISASSEMBLY**

**Driving Clutch**

Unhook coupling from high-speed clutch retarder spring and from low-speed clutch. Remove high-speed clutch retarder spring only if necessary.



**Driving Clutch**

Replace high-speed driving clutch retarder spring if it was removed. Hook coupling over high-speed clutch. *Low window of coupling engages low retarder spring hook.*

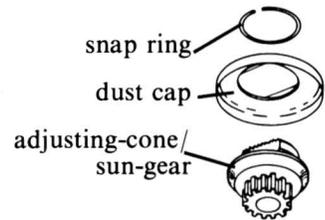
Orient low-speed driving clutch as shown and hook into coupling *with teeth facing out.*

**ASSEMBLY**

**DISASSEMBLY**

**Adjusting-Cone/Sun-Gear**

Remove snap ring and lift off dust cover.



**Adjusting-Cone/Sun-Gear**

Install dust cover and replace snap ring.

**ASSEMBLY**

**CLEANING**

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

**LUBRICATION**

Lubricate ball bearings by filling the spaces between balls with grease. Lubricate hub shell and brake disc set liberally with a high-temperature grease. Coat other parts with grease.

**POINTS TO CHECK**

Numbers in parenthesis refer to parts chart and exploded drawing.

1. Retarder springs (9) (14) and indexing spring (17) for shape and tension
2. Driving clutches (12) (14) for worn teeth or serrations
3. Braking surfaces (8) (9) for wear, glazing and burring
4. Drivers (18) (20) and driving clutches (12) (14) for worn threads
5. Sun gear (24), gear ring (18) and planet gears (22) for worn or chipped teeth
6. Bearing surfaces of both drivers (18) (20), adjusting cone (24), left-hand cone (6) and hub shell (15) for wear and pitting. Replace balls and ball retainers at overhaul.