

Specification

Gear Ratios:

- Super Low Gear - decrease of 33 1/3%
- Low Gear - decrease of 21.1%
- Normal Gear - direct drive
- High Gear - increase of 26.6%
- Super High Gear - increase of 50%

Axle Lengths:

- 5 9/16" x 3/8" (148mm x 9mm);
- 6 1/8" x 3/8" (154 x 9mm);
- 6 5/8" x 3/8" (160 x 9mm)

Spoke Holes:

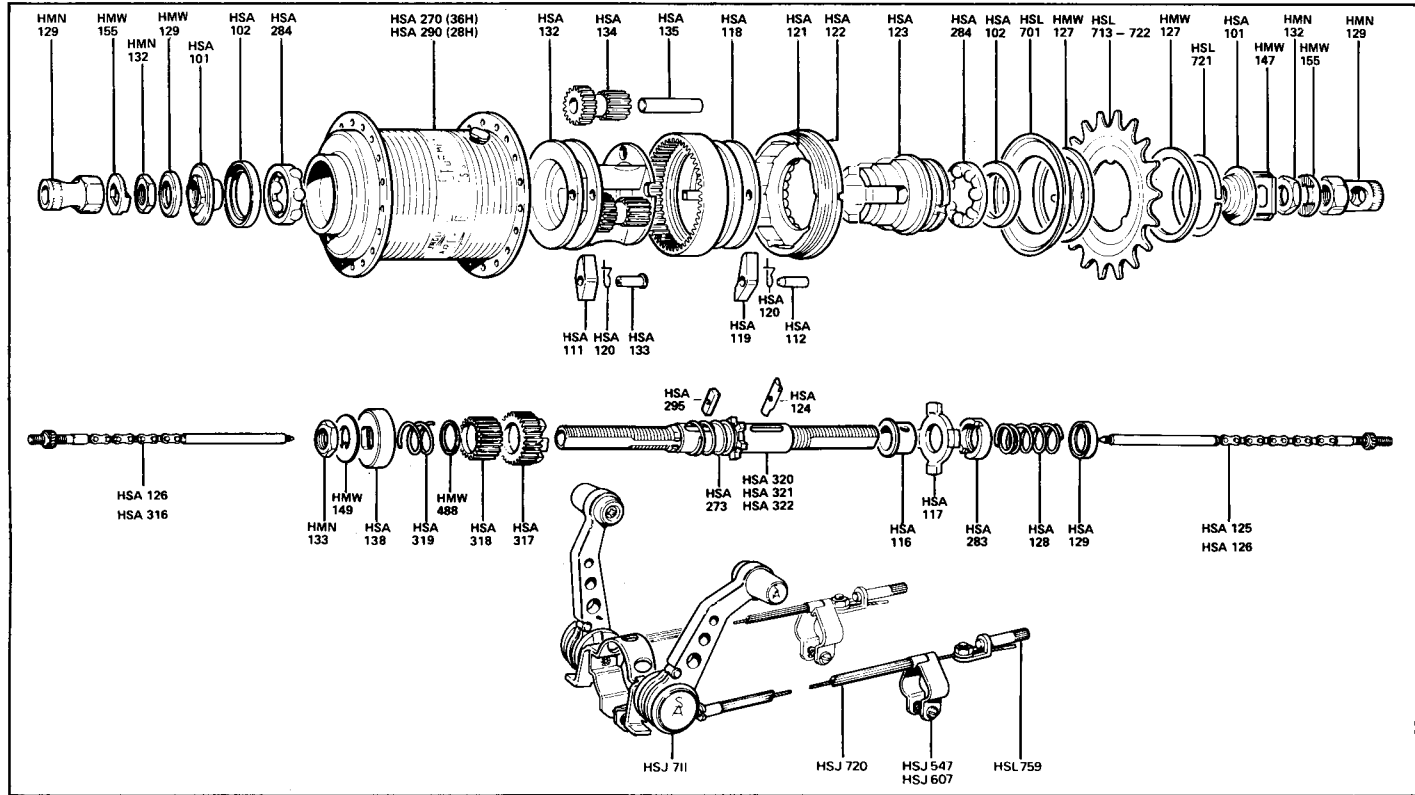
28 : 36

Sprockets:

- Pitch - 1/2" x 1/8" (13 x 3mm)
- Teeth - 13 : 14 : 15 : 16 : 17 : 18 : 19 : 20 : 22

Over Locknut Dimension:

4 1/2" (114.3mm) (Note - this dimension can be varied to suit customers' requirements)



SALES NO.	DESCRIPTION	SALES NO.	DESCRIPTION
HMN 129	Axle Nut	HSA 273	Low Gear Spring
HMN 132	Cone Locknut	HSA 283	Thrust Ring
HMN 133	Locknut for Dog Ring	HSA 284	Ball Cage
HMN 134	Indicator Connector Lock Nut	HSA 290	Shell with Ball Cup - 28 Holes
HMW 127	Sprocket Spacing Washer	HSA 295	Low Gear Axle Key
HMW 129	Spacing Pin 1/8" (3.2mm)	HSA 316	Gear Indicator L.H. for 6 5/8" Axle (160mm)
HMW 147	Cone Lockwasher	HSA 317	Primary Sun Pinion
HMW 149	Lockwasher for Dog Ring	HSA 318	Secondary Sun Pinion
HMW 155	Serrated Lockwasher	HSA 319	Pinion Return Spring
HMW 488	Washer for Pinion Return Spring	HSA 320	Axle 5 9/16" (148mm)
HSA 101	Cone	HSA 321	Axle 6 1/8" (154mm)
HSA 102	Outer Dust Cap	HSA 322	Axle 6 5/8" (160mm)
HSA 111	Low Gear Pawl	HSJ 547	Fulcrum Clip 5/8" dia. (15.8mm) Chainstay Fitting
HSA 112	Pawl Pin for Gear Ring	HSJ 607	Fulcrum Clip 1/2" dia. (12.7mm) Backstay Fitting
HSA 116	Clutch Sleeve	HSJ 711	Dual Levers complete with two cables and anchorages - clip dia. 1" & 1 1/8" (25.4 & 28.6mm)
HSA 117	Clutch	HSJ 720	Cable complete with anchorage - 36" x 30" (914 x 762mm) Black/White/Silver
HSA 118	Gear Ring	HSJ 773	Dual Levers complete with two cables and anchorages - clip dia. 7/8" (22.2mm) - stem fitting, not illustrated
HSA 119	Pawl for Gear Ring	HSJ 774	Cable complete with anchorage - 53" x 47" (1346 x 1194mm) for stem fittings
HSA 120	Pawl Spring	HSL 701	Sprocket Dustcap
HSA 121	Ball Ring R.H.	HSL 713	Sprocket 13 Teeth
HSA 122	Inner Dust Cap	HSL 714	Sprocket 14 Teeth
HSA 123	Driver	HSL 715	Sprocket 15 Teeth
HSA 124	Axle Key	HSL 716	Sprocket 16 Teeth
HSA 125	Gear Indicator R.H. for 5 9/16" Axle (148mm)	HSL 717	Sprocket 17 Teeth
	Gear Indicator R.H. for 6 1/8" Axle (154mm) and 6 5/8" Axle (160mm)	HSL 718	Sprocket 18 Teeth
HSA 126	Gear Indicator L.H. for 5 9/16" Axle (148mm) and 6 1/8" Axle (154mm)	HSL 719	Sprocket 19 Teeth
HSA 128	Clutch Spring	HSL 720	Sprocket 20 Teeth
HSA 129	Cap for Clutch Spring	HSL 721	Sprocket Circlip
HSA 132	Planet Cage	HSL 722	Sprocket 22 Teeth
HSA 133	Pawl Pin for Planet Cage	HSL 759	Cable Anchorage
HSA 134	Planet Pinion		
HSA 135	Pinion Pin		
HSA 138	Dog Ring		
HSA 270	Shell with Ball Cup - 36 Holes		

General Notes

By observance of simple maintenance instructions, the S5 gear will give satisfactory service throughout the life-time of the bicycle.

Lubrication

Hub internals are lubricated before leaving the manufacturer. However, a new hub must be oiled before use, through the lubricator on the hub shell. Thereafter, add a few drops of Sturmey-Archer oil monthly. Do not use thick oil or grease as this may impair the free action of the driving pawls.

Axle Fitting

It is important that the axle is prevented from rotating in the bicycle chainstay slots. Flats on the axle are provided for this purpose. If the chainstay ends are too wide for the axle, special lock washers are supplied.

Gear Adjustment

Satisfactory engagement of gears is dependent upon correct gear adjustment. This is essential on both sides of the hub. Should gears slip – check and adjust immediately:—

Right Hand Side

1. Place the right hand control lever in the central position. Screw down gear indicator lock nut A.
2. The end of the indicator rod B can be seen through the circular 'window' in the axle nut. Screw down cable adjuster C until the last link of the chain is clear of the end of the axle.
3. Adjust cable until the end of the rod is exactly level with the outside end of the axle D.
4. Tighten lock nut A hard up to cable adjuster C.

Gear Lever Positions

Gear	Left Lever	Right Lever
1. Super Low	Forward	Backward
2. Low	Backward	Backward
3. Normal	Backward	Central
4. High	Backward	Forward
5. Super High	Forward	Forward

Gear Changing

Gear change is quick and easy and should be made smoothly. Continue pedalling but ease pressure on the pedals when changing gear.

Bearing Adjustment

Loosen cone lock nut HMN 132 on the left hand side and adjust cone HSA 101 suitably – then re-tighten the lock nut. A correctly adjusted wheel has slight play at the rim only – none at the hub.

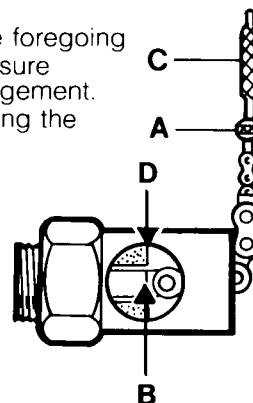
The right hand cone is fixed by the manufacturer and should not be disturbed.

Should it be necessary to re-adjust the right hand cone, screw the cone down finger-tight and then slacken half a turn and lock in this position. Note – turning it back more than this will affect the gear engagement.

Left Hand Side

1. Place the left hand control lever in the backward position.
2. Adjust in the same manner as for the right hand side.

Observance of the foregoing instructions will ensure correct gear engagement. Check before putting the bicycle into use.



Gear Correction Guide

Sluggish gear change or stiffness may be due to lack of oil. Oil the hub and cable inner wires before proceeding further. If the fault persists, the following correction guide should help to locate the trouble:—

SYMPTOM	CAUSE	REMEDY
Difficulty in engaging Super Low and Super High gears (1) and (5)	1. No lubricant inside cable 2. Faulty pinion return spring	1. Lubricate 2. Fit new spring
Slips in low (2) and super low gear (1)	1. Dog ring locknut loose 2. Weak pinion return spring 3. Dog ring teeth worn	1. Examine ring teeth. Tighten locknut 2. Fit new spring 3. Fit new dog ring
Slips in low (2) and high gear (4)	1. Overtight cable - left side	1. Re-adjust cable
Slips in normal gear (3)	1. Gear ring splines and sliding clutch worn	1. Fit new parts
Slips in high (4) and super high gear (5)	1. Planet cage dogs and clutch worn 2. Incorrect right-hand cone adjustment 3. Tight clutch spring	1. Fit new parts and re-adjust 2. Re-adjust 3. Clean hub and fit new spring
Hub runs stiffly, drag on pedals when free-wheeling	1. Too many balls fitted in ball ring 2. Incorrect cone adjustment 3. Corrosion due to lack of lubrication 4. Distorted dust caps	1. Fit 24 balls only 2. Adjust correctly 3. Clean hub thoroughly and oil 4. Check dust caps and replace if distorted
No gears	1. Pawls jammed by rust or grit	1. Clean and lubricate with Sturmey-Archer oil
Sluggish gear change	1. Distorted clutch spring 2. Bent axle 3. Worn gear indicator chain link 4. Rusty, distorted or frayed cables	1. Fit new spring 2. Replace axle 3. Replace indicator and chain 4. Lubricate cables or replace