



PROTEA TURF EQUIPMENT
Manufacturers of Industrial Lawnmowers, Scarifiers & Sodcutters

Reg. No. CK 1989/023716/23
Vat Reg. No. 4830119907

PROTEA SI GREENS CLICK CYLINDER MOWER SI510GC & SI630GC



OPERATING INSTRUCTIONS AND SPARE PARTS MANUAL

P.O. Box 1673
Bedfordview
2008

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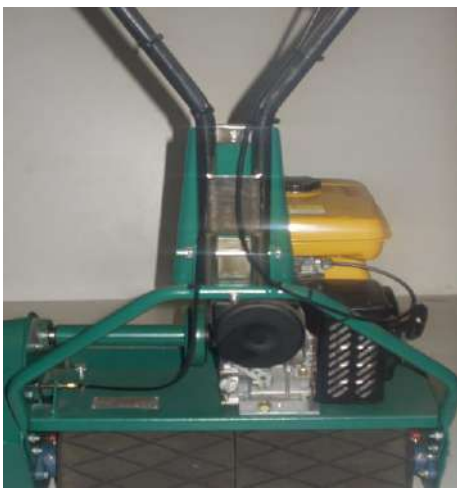
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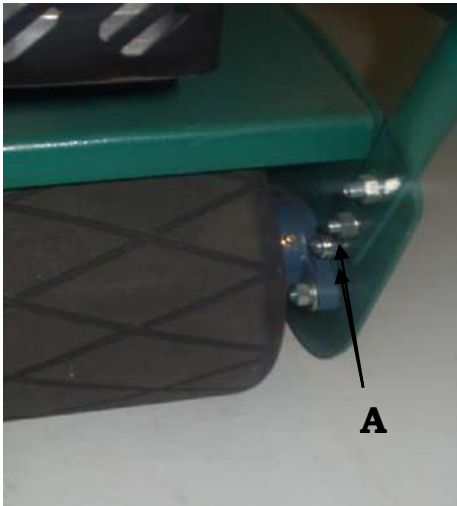
LAWNMOWER SAFETY PRECAUTIONS

1. Know your controls. Read the owner's manual carefully. Learn how to stop engine quickly in the event of an emergency.
2. Ensure the lawn is clear of sticks, stones, wire and debris. They could be thrown by the blade.
3. Stop the engine and disconnect the spark plug wire before checking or working on the mower.
4. Before use, always visually inspect to see that the blade bolts and cutter assembly are not worn or damaged. Replace worn or damaged blades and bolts in sets to preserve balance.
Damaged blades and worn bolts are a major hazard.
5. Check all nuts, bolts and screws often. Always ensure the mower is in a safe operating condition. Use only replacement parts made and guaranteed by the original manufacturer of your mower.
6. Add fuel **BEFORE** starting engine. Avoid spilling gasoline and do not fill the tank while the engine is running or while you are smoking.
7. Do not mow whilst people, especially children or pets, are in the mowing area.
8. Never use the mower unless the grass catcher, or guards provided by the manufacturer, are in position.
9. Do not mow barefoot or in open sandals. Wear long trousers and heavy shoes.
10. Disengage all blade and drive clutches before starting.
11. Start the engine carefully with feet well away from the blades.
12. Do not operate the engine in a confined space where exhaust fumes (carbon monoxide) can collect.
13. Stop the engine whenever you leave the mower unattended, even for a moment.
14. Stop the engine before pushing the mower across gravel drives, walks or roads.
15. Do not allow children or people unfamiliar with these instructions operate the mower.
16. On slopes or wet grass, be extra careful of your footing.
17. Never cut grass by pulling the mower towards you.
18. Never use an electrically powered mower in the rain or when the grass is wet.
19. Be extremely careful when using a ride on mower on slopes.
20. Never leave wind-up starters in a wound condition.
21. Do not over speed the engine or alter governor settings. Excessive speed is dangerous and shortens mower life.
22. It is advisable to wear suitable eye protection when operating a mower.
23. Turn the fuel off at the conclusion of mowing and reduce the throttle setting during engine run-out.
24. Store fuel in a cool place in a container specifically designed for the purpose.
25. Never pick up or carry a mower when it is operating.



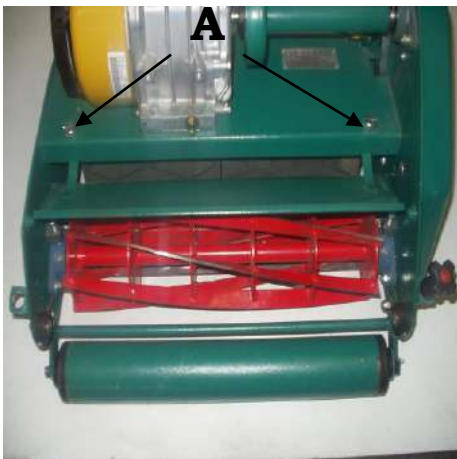
BEFORE USE

When the mower is removed from the carton the upper handle will be in a folded position, therefore it will be necessary to pivot the handle into the upright position. Secure the handle in this position with the clamp screw & nut provided. When folding handle for storage, use extreme care not to permanently bend clutch and throttle cables.



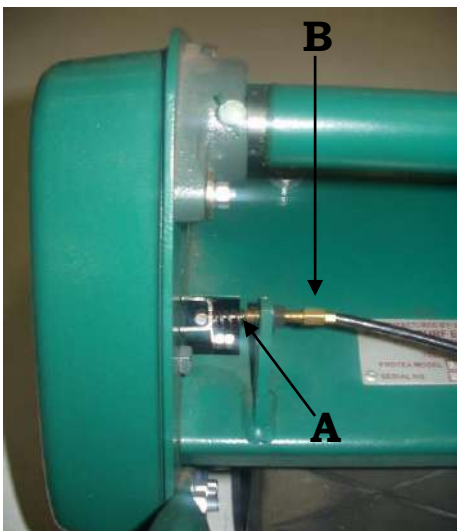
HANDLE ADJUSTMENT

Slacken 4 nuts (A) sufficiently to allow handle to be moved up and down. Re-tighten with handle in selected position.



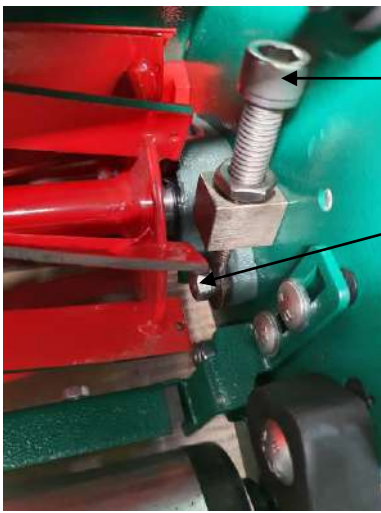
DEFLECTOR

Depending on cutting conditions – for example wet grass, dry grass, high wind velocity etc. it may be necessary to alter the angle of deflection into the grass box. This is affected by loosening the thumb screws (A) on each side of the machine and moving the deflector plate in the desired direction – move upwards to throw the grass higher and longer, or downwards to throw the grass lower and shorter. Be sure to re-tighten the screws after adjustment.



CLUTCH CABLE ADJUSTMENT

The clutch operating pressure can be increased by releasing the lock nut (A) and screwing the threaded adjuster (B) outwards a few turns and re-tightening lock nut. This is necessary only in the unlikely event that clutch slippage with loss of propulsion should occur.



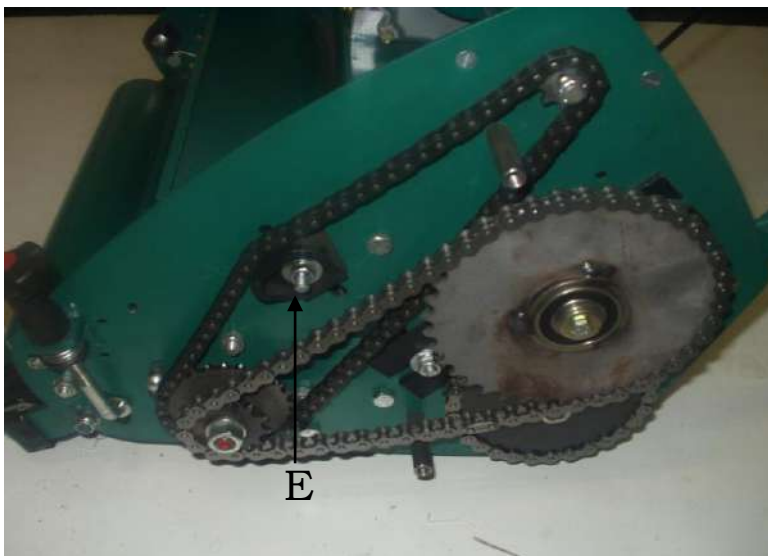
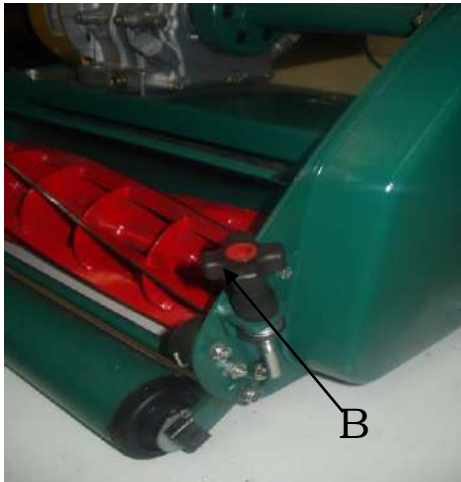
CUTTER SETTING

The cutter is set correctly when it is lightly touching the bottom blade along its **FULL** length. Hard bearing of uneven setting causes excessive or uneven wear on cutting edges and also places undue load on the engine. Before adjusting, lay the machine back with the handles on the ground; making sure the petrol tap is “off”. To adjust the cutting cylinder, release clamp nuts (C), on both sides of the mower. Cutter is set closer to the bottom blade by turning down (clockwise) the adjusting screws on each side of the cutter (D) until the cutter blades make light contact with the bottom blade. If the cutter bears too hard on the bottom blade turn the adjusting screws back at least a full turn and again carefully screw down until correctly adjusted. Be sure to re-tighten the clamping nuts.

HEIGHT OF CUT

The cutting height is raised by turning the adjusting knob (B) in a clockwise direction. To cut lower, reverse procedure. When adjusting for low cutting, do not set mower so low that the weight of the machine is resting on the bottom blade instead of the front roller. This would affect cutting as well as creating excessive load on the engine.

WARNING: Before carrying out adjustments to the cutter or chains, remove spark plug cable to avoid accidentally starting the engine.

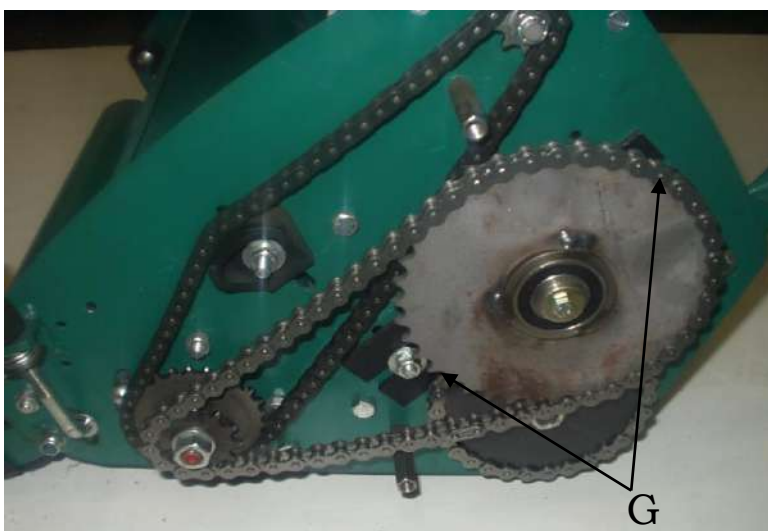


CUTTER CHAIN ADJUSTMENT

Slacken nut (E). Move nylon chain adjuster to give correct chain tension and retighten nut. When correctly adjusted chain should be slightly slack and not tightly stretched.

IMPORTANT: Check the chain tensioner every time the cutting cylinder gets adjusted.

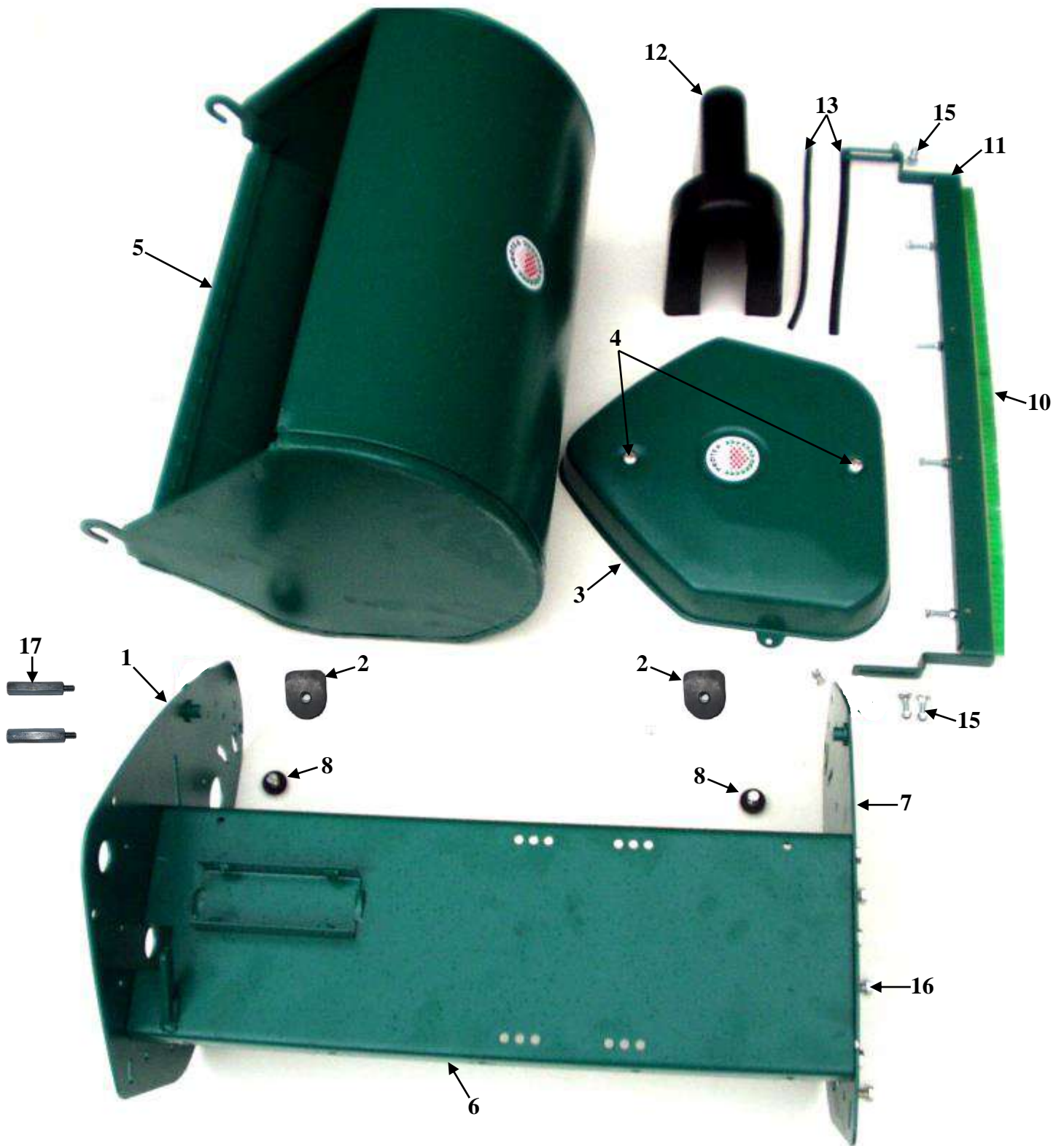
Please Note: This does not apply to newer machines that feature the Automatic Cutter Chain Adjuster (as per Fig. 4 of the Manual), as the chain will automatically adjust to the correct tension.



CLUTCH AND DRUM CHAINS

Both chains are adjusted by loosening two nuts (G) and moving the 41T sprocket upwards which tightens both chains simultaneously. After re-tightening nuts, some slackness should be felt in each chain.

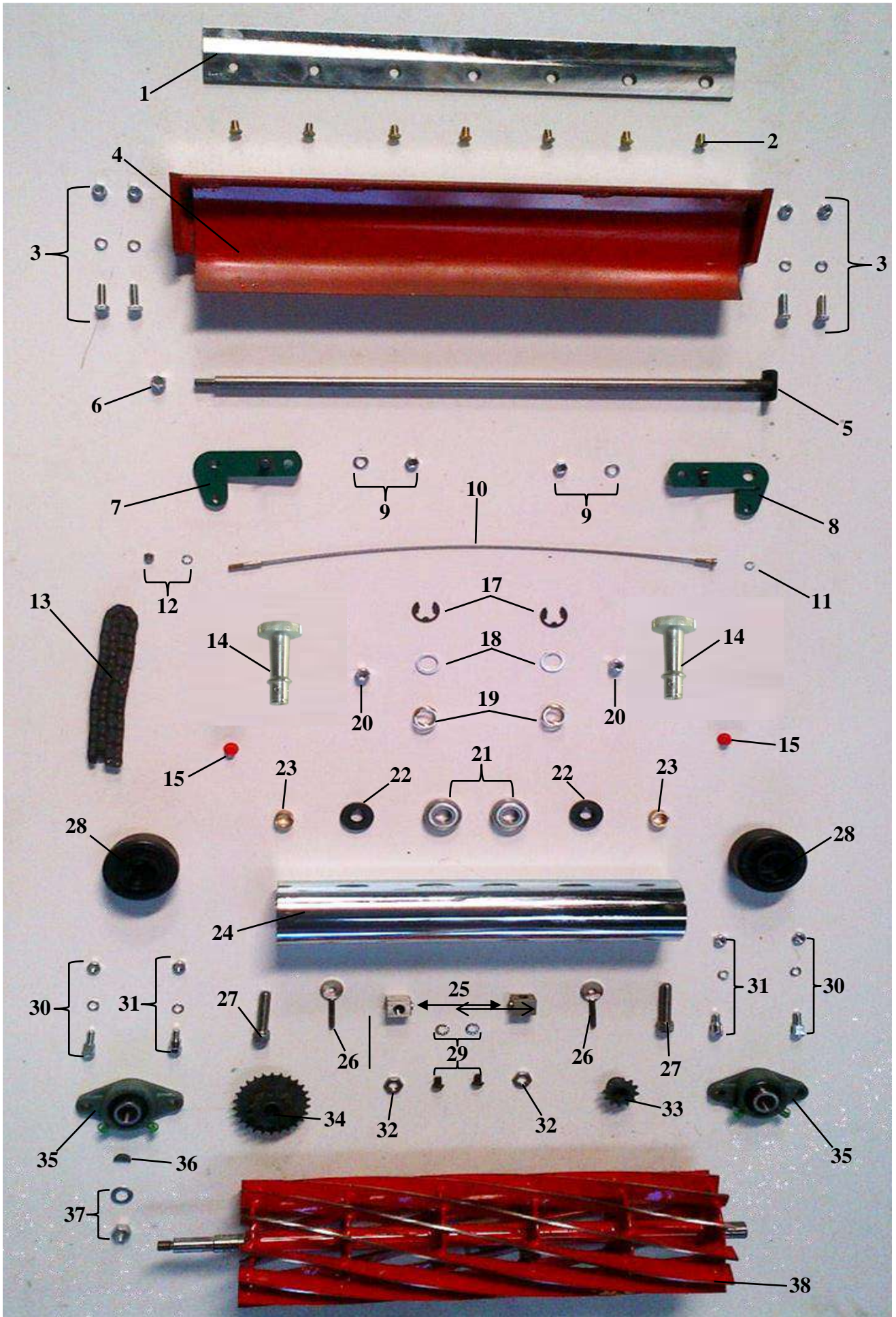
FIGURE 1



REFER FIG. 1

<u>ILLUS. NO</u>	<u>DESCRIPTION</u>	<u>PART NO</u>
1	GREENS CLICK TYPE MOWER FRAME LH	459308
2	GRASSBOX SUPPORT RUBBER	453085
3	CHAIN COVER	455777
4	CHAIN CASE MOUNTING SCREWS	1191908
5	SI630 GRASSBOX ASSY	458065
5	SI510 GRASSBOX ASSY	451290
6	SI630 ENGINE TABLE	458056
6	SI510 ENGINE TABLE	451338
7	GREENS CLICK TYPE MOWER FRAME RH	459307
8	GRASSBOX ANTIVIBRATION MOUNTS	458085
10	SI630 TEASING BRUSH	458142
10	SI510 TEASING BRUSH	458141
11	SI630 TEASING BRUSH BRACKET	458108
11	SI510 TEASING BRUSH BRACKET	458109
12	CLUTCH COVER (optional extra)	3500500
13	CLUTCH COVER SEAL (optional extra)	458150
14	TEASING BRUSH - M6x25 CSK SCREWS + M6 NUTS	STANDARD
15	TEASING BRUSH BRKT. - M6x20 CUP SQUARE BOLTS + M6 NYLOK NUTS	STANDARD
16	FRAME - M8x20 SCREWS + M8 NUTS	STANDARD
17	CHAIN COVER STUD	458170

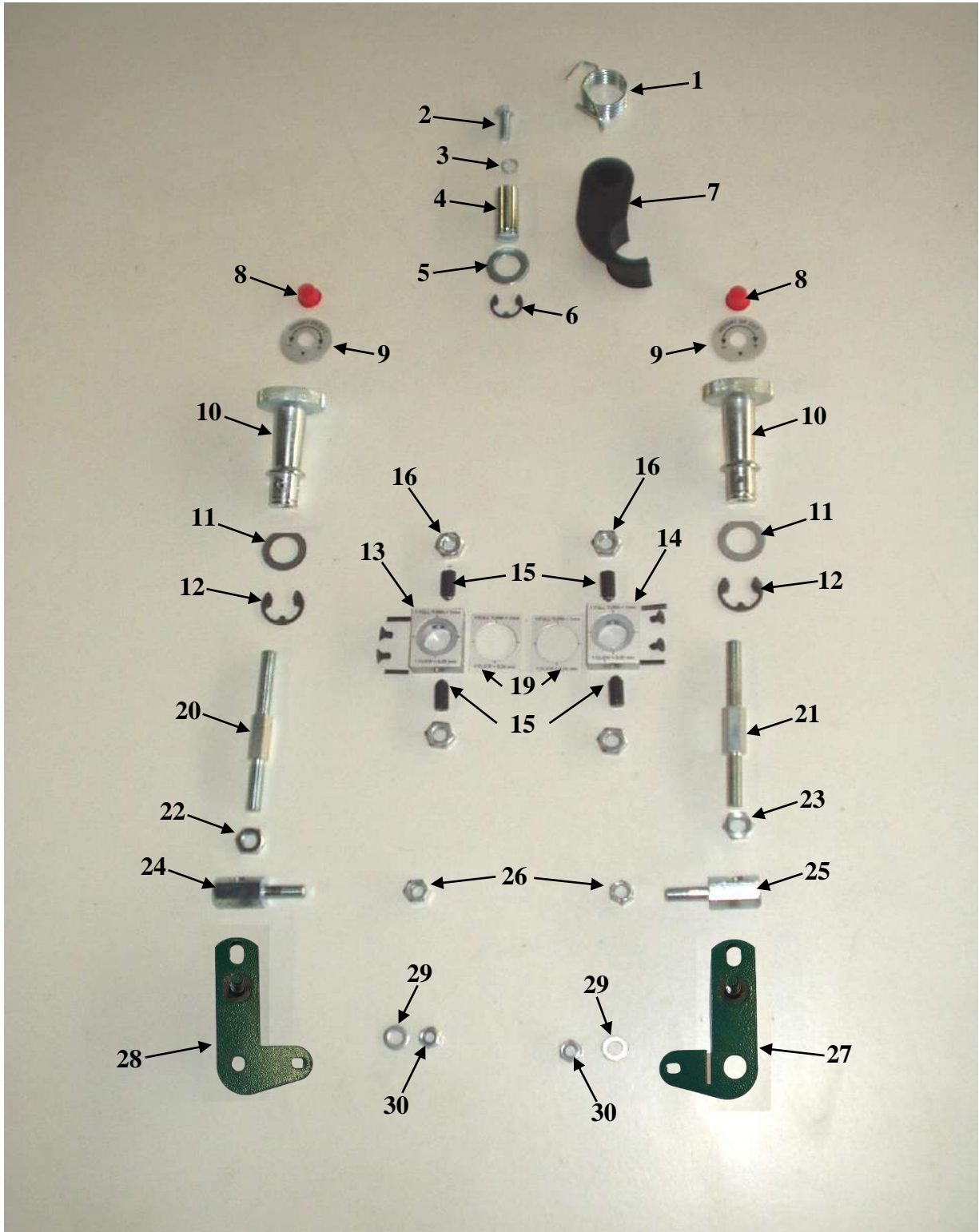
FIGURE 2



REFER FIG. 2

ILLUS. NO	DESCRIPTION	PART NO
1	SI510 LOW CUT BOTTOM BLADE (7 HOLES)	392041
1	SI510 HIGH CUT BOTTOM BLADE (7 HOLES)	392042
1	SI630 LOW CUT BOTTOM BLADE (9 HOLES)	458092
1	SI630 HIGH CUT BOTTOM BLADE (9 HOLES)	458093
2	BOTTOM BLADE SCREWS	2071924
3	SET SCREW M8x25 + M8 NUT + M8 SPRING WASHER	STANDARD
4	SI510 GREENS SOLEPLATE WITH DEFLECTOR	459459
4	SI630 GREENS SOLEPLATE WITH DEFLECTOR	459461
5	SI510 FRONT ROLLER SHAFT	451048
5	SI630 FRONT ROLLER SHAFT	458098
6	3/8" UNF NYLOK NUT	STANDARD
7	FRONT ROLLER BRACKET: RH (NO SLOT)	457303
8	FRONT ROLLER BRACKET: LH (WITH SLOT)	457307
9	M8 NYLOK NUT + M8 FLAT WASHER	STANDARD
10	SI510 FRONT ROLLER WIRE SCRAPER	659538
10	SI630 FRONT ROLLER WIRE SCRAPER	459125
11	M6 STAR WASHER	STANDARD
12	M6 NYLOK NUT + M6 STAR WASHER	STANDARD
13	CUTTER CHAIN 3/8" 06B 81 ROLLERS 12/26 T.	2984806
14	SI GREENS CLICK HAND NUT	454695
15	DUST PROTECTION CAP FOR HAND NUT	2721960
17	HAND NUT CIRCLIP	454723
18	HAND NUT WASHER	459210
19	HAND NUT SPRING	454707
20	3/8" UNF NYLOK NUT	STANDARD
21	FRONT ROLLER BEARINGS 6202	1122225
22	FRONT ROLLER SEAL (Ø35 x Ø20 x 7)	2724501
23	FRONT ROLLER BRASS SPACER	459562
24	SI510 FRONT ROLLER TUBE	451040
24	SI630 FRONT ROLLER TUBE	458097
25	CUTTING CYLINDER ADJUSTER BLOCK	459480.1
26	CUTTING CYLINDER ADJUSTER STUD	459480.2
27	CUTTING CYLINDER ADJUSTER CAP SCREW	459480.3
28	FRONT ROLLER END CAP	451042
29	M8x12 BUTTON HEAD CAP SCREW + M8 STAR WASHER	STANDARD
30	CUTTER BEARING HOUSING CLAMPING BOLT + M8 SPRING WASHER + M8 NUT	457302
31	CUTTER BEARING HOUSING PIVOT BOLT + M8 SPRING WASHER + M8 NUT	457301
32	CAP SCREW LOCKNUT	459480.6
33	12T KEYWAYED ENGINE SPROCKET	453990
34	CUTTER SPROCKET	451485
35	CUTTING CYLINDER BEARING	1129100
36	WOODRUFF KEY NO.6	3802051
37	M12 NUT + M12 FLAT WASHER	STANDARD
38	SI510 12 BLADED CUTTING CYLINDER	456252
38	SI510 9 BLADED CUTTING CYLINDER	456253
38	SI630 12 BLADED CUTTING CYLINDER	458077
38	SI630 9 BLADED CUTTING CYLINDER	458076

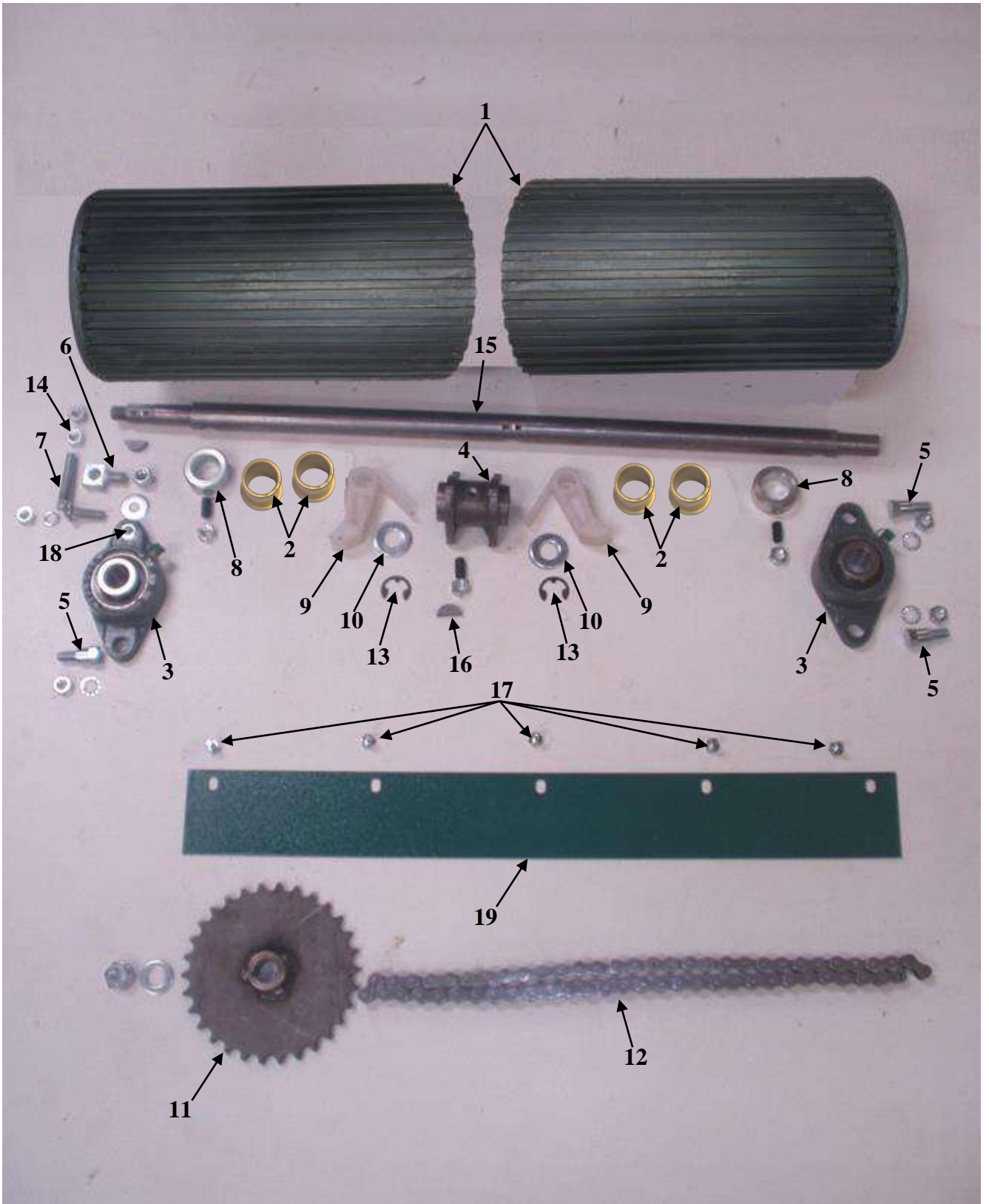
FIGURE 3



REFER FIG. 3

<u>ILLUS. NO</u>	<u>DESCRIPTION</u>	<u>PART NO</u>
1	CHAIN TENSIONER SPRING	459131
2	M8x20 SET SCREW	STANDARD
3	M8 SPRING WASHER	STANDARD
4	CHAIN TENSIONER PIN	459130
5	5/8" WASHER	143271
6	CIRCLIP	1502474
7	CHAIN TENSIONER	455770
8	HEIGHT ADJUSTER NUT DUST CAP	2721960
9	HEIGHT ADJUSTER NUT LABEL	2721961
10	FRONT ROLLER CLICK ADJUSTER NUT	454695
11	HEIGHT ADJUSTER SHIM WASHER	459210
12	HAND NUT CIRCLIP	454723
13	RH HEIGHT ADJUSTER BLOCK	455706.3
14	LH HEIGHT ADJUSTER BLOCK	455699.3
15	M10 SPRING PLUNGER	459045
16	M10 NUT	STANDARD
17	M3x16 SELLOCK PIN	STANDARD
18	M4x8 COUNTERSUNK SCREW	STANDARD
19	HEIGHT ADJUSTER BLOCK LABEL	2721962
20	RH FRONT ROLLER ADJUSTER ROD (3/8" UNF RH THREAD)	454680
21	LH FRONT ROLLER ADJUSTER ROD (M10 LH THREAD)	454681
22	3/8" UNF NUT	STANDARD
23	M10 LH LOCKNUT	459190
24	RH ADJUSTER ROD PIVOT (3/8" UNF RH THREAD)	459050
25	LH ADJUSTER ROD PIVOT (M10 LH THREAD)	459051
26	3/8" UNF NUYLOK NUT	STANDARD
27	LH CLICK ADJUSTER BRACKET	457309
28	RH CLICK ADJUSTER BRACKET	457308
29	M8 FLAT WASHER	STANDARD
30	M8 NYLOK NUT	STANDARD

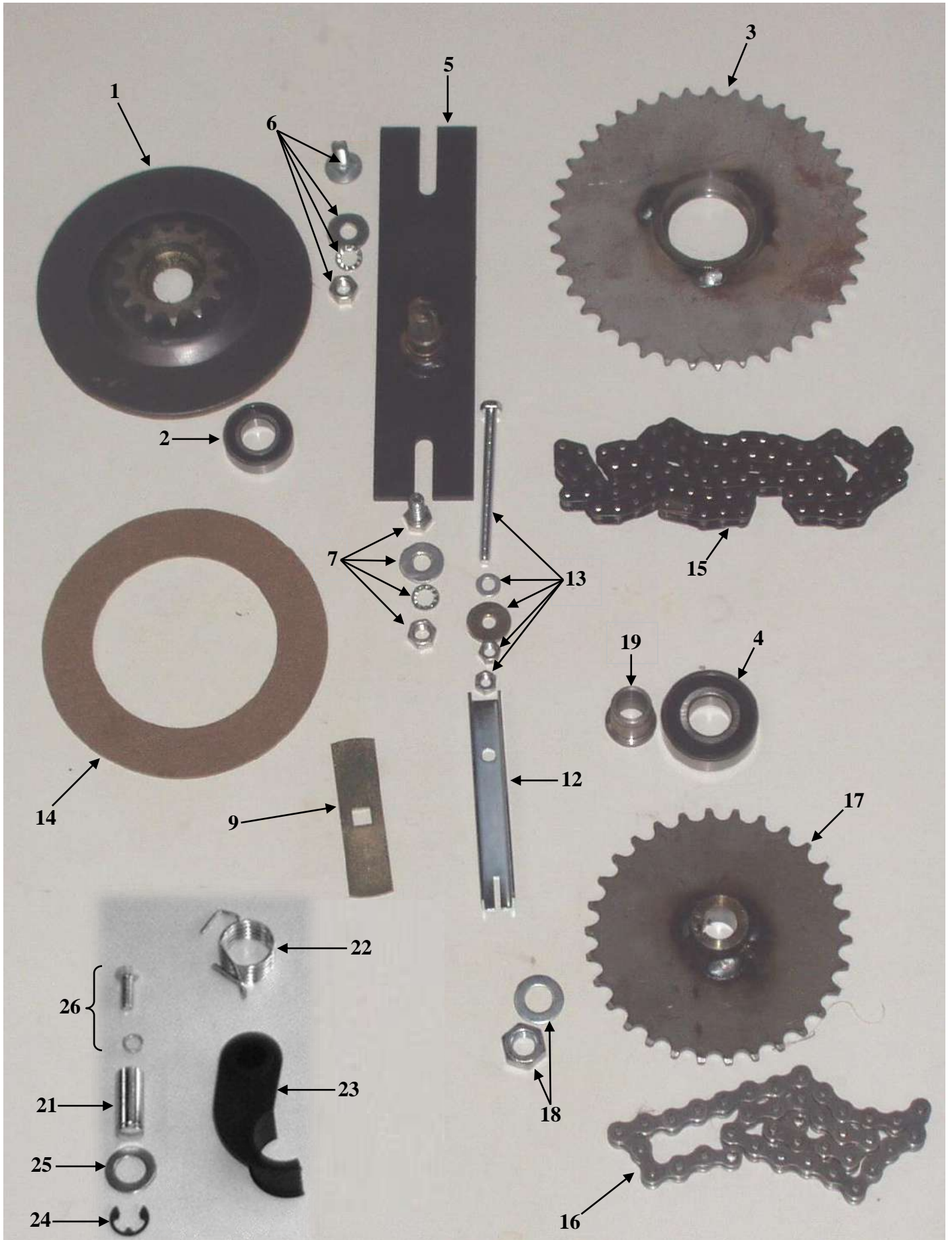
FIGURE 4



REFER FIG. 4

<u>ILLUS. NO</u>	<u>DESCRIPTION</u>	<u>PART NO</u>
1	SI630 RUBBERISED DRUM	458055
1	SI630 SMOOTH STEEL DRUM	459155
1	SI510 RUBBERISED DRUM	458006
1	SI510 SMOOTH STEEL DRUM	459150
2	DRUM BUSHES (BRONZE TYPE)	3115997
3	BEARING FOR BACK DRUM	1129110
4	RATCHET FOR SMOOTH STEEL DRUM	459198
4	RATCHET FOR RUBBERISED DRUM	458002
5	BEARING HOUSING PIVOT BOLT	457301
6	PURCHASE BLOCK + 3/8 UNF NYLOK NUT	301727
7	DRUM ADJUSTER BOLT + M8 NUT & M8 SPRING WASHER	457304
8	DRUM COLLAR + M8x20 GRUB SCREW & M8 LOCKNUT	201404
9	DRUM PAWL	458001
10	STAINLESS STEEL 14mm DRUM WASHER	3651247
11	DRUM SPROCKET	451207
12	CHAIN (CLUTCH/DRUM) 38R 083 (1/2")	2981385
13	PAWL CIRCLIP	1502474
14	M8 NUT	STANDARD
15	SI630 DRUM SHAFT	458090
15	SI510 DRUM SHAFT	458003
16	WOODRUFF KEY NO.6	3802051
17	REAR ROLLER SCRAPER BOLT M6x15	STANDARD
18	SPACER FOR BACK DRUM BEARING	458015
19	SI630 REAR ROLLER SCRAPER	458070
19	SI510 REAR ROLLER SCRAPER	458071
20	M12 NUT & WASHER	STANDARD
21	DRUM ADJUSTER SQUARE WASHER	459457

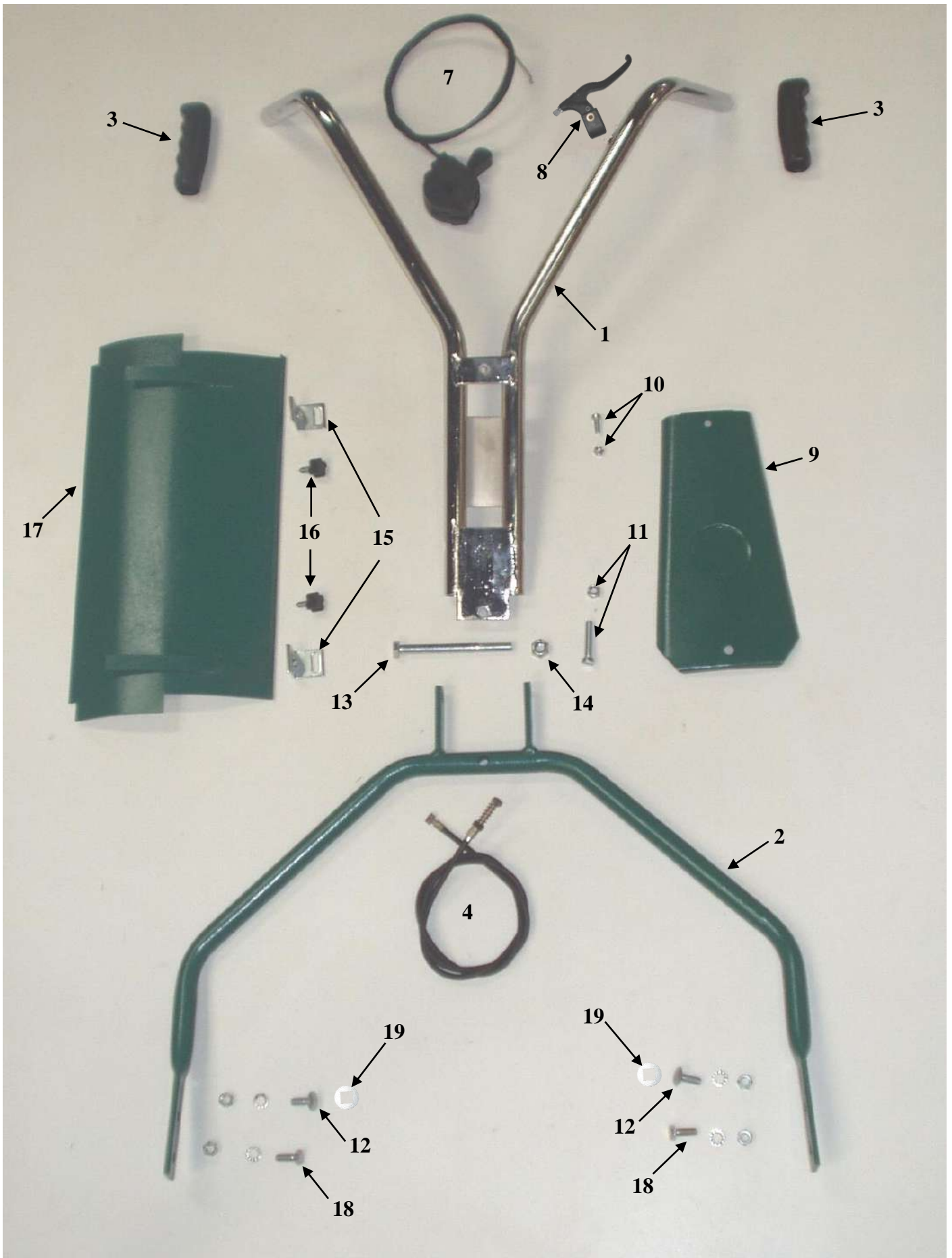
FIGURE 5



REFER FIG. 5

<u>ILLUS. NO</u>	<u>DESCRIPTION</u>	<u>PART NO</u>
1	SMALL INTERMEDIATE SPROCKET ASSY	451231
2	SMALL INTERMEDIATE SPROCKET BEARING (6003)	1126037
3	LARGE INTERMEDIATE SPROCKET ASSY (41T)	459245
4	LARGE INTERMEDIATE SPROCKET BEARING (6204)	1122422
5	INTER. ADJUSTMENT BRACKET ASSY	451215
6	M8x20 CUP SQUARE BOLT, NUT, SPRING WASHER, M8x20 FLAT WASHER	STANDARD
7	M8x20 SET SCREW, NUT, SPRING WASHER, M8x20 FLAT WASHER	STANDARD
9	SMALL SLOT COVER	458200
12	OPERATING LEVER RELEASE	453560
13	M6x80 CLUTCH BOLT, 2xM6 NUT, M6x20 FLAT WASHER, M6 FLAT WASHER	STANDARD
14	SI CLUTCH LINING	333032
15	CHAIN (CLUTCH/CUTTER) 61R 083 (1/2")	2981590
16	CHAIN (CLUTCH/DRUM) 38R 083 (1/2")	2981385
17	DRUM SPROCKET	451207
18	M12 NUT, M12 FLAT WASHER (for DRUM SPROCKET)	STANDARD
19	CLUTCH SLEEVE WITH SHEAR PIN	454790
21	CHAIN ADJUSTER PIN	459130
22	CHAIN ADJUSTER SPRING	459131
23	CHAIN TENSIONER - SELF ADJUSTING	455770
24	CHAIN TENSIONER CIRCLIP	1502474
25	5/8" FLAT WASHER	143271
26	M8x20 SET SCREW + M8 SPRING WASHER	STANDARD

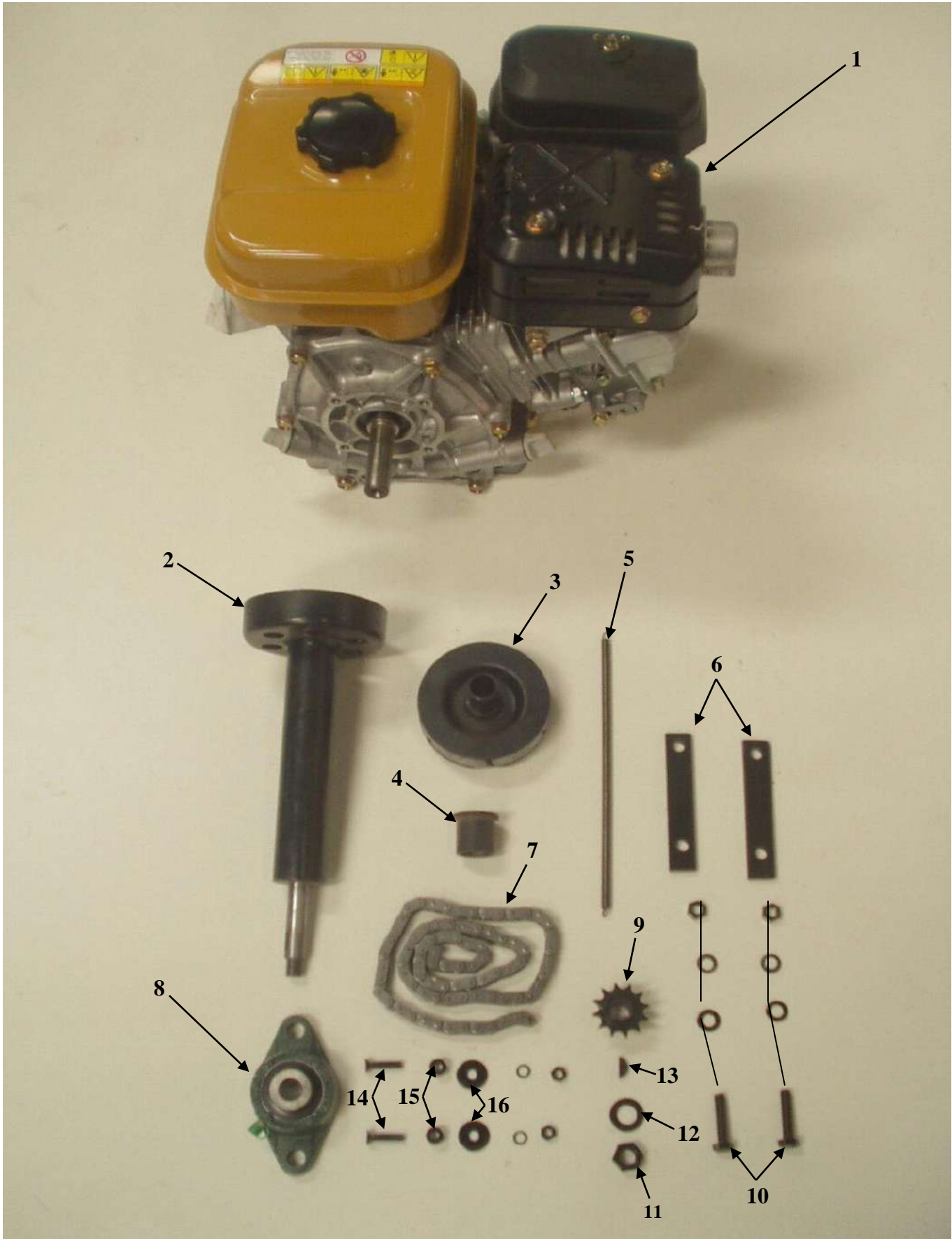
FIGURE 6



REFER FIG. 6

<u>ILLUS. NO</u>	<u>DESCRIPTION</u>	<u>PART NO</u>
1	TOP HANDLE (BENT TYPE) - OLD	456374
1	TOP HANDLE (STRAIGHT TYPE) - NEW (NOT SHOWN)	456375
2	SI630 BOTTOM HANDLE	458095
2	SI510 BOTTOM HANDLE	458026
3	HANDLE GRIP (sold in sets)	1851071
4	CLUTCH CABLE (for plastic lever)	451242
7	THROTTLE CABLE	656720
8	PLASTIC CLUTCH LEVER	403012
9	HANDLE COVER PLATE	453739
10	COVER PLATE TOP SCREW M6x15 + M6 NYLOK NUT	STANDARD
11	COVER PLATE BOTTOM SCREW M8x40 + M8 NYLOK NUT	STANDARD
12	M8x30 CUP SQUARE BOLT	STANDARD
13	TOP HANDLE PIVOT BOLT M10x110	1216946
14	M10 NYLOK NUT	STANDARD
15	DEFLECTOR CLAMP	451143
16	DEFLECTOR CLAMP SCREW	432428
17	SI630 DEFLECTOR	458068
17	SI510 DEFLECTOR	451135
18	M8x20 SET SCREW	STANDARD
19	M8 SQUARE HOLE SHIM WASHER	459457

FIGURE 7



REFER FIG. 7

<u>ILLUS. NO</u>	<u>DESCRIPTION</u>	<u>PART NO</u>
1	5HP ENGINE	6200302
2	CLUTCH SHAFT for SI510 / SI630 (for 12T keywayed Sprocket)	458037
2	CLUTCH SHAFT for SI510 / SI630 (for 9T threaded Sprocket)	458168
3	CENTRIFUGAL CLUTCH BODY WITH SPRING	6200450
4	CLUTCH SHAFT OILITE BUSH	3115997
5	CENTRIFUGAL CLUTCH TENSION SPRING	458040
6	ENGINE PACKING (for Robin EY20)	458102
7	CUTTER CHAIN 3/8" 06B 81 ROLLERS 12/26 T. (for 12T keywayed engine Sprocket)	2984806
7	CUTTER CHAIN 3/8" 06B 79 ROLLERS 9/26 T. (for 9T threaded engine Sprocket)	2984501
8	BEARING FOR CLUTCH SHAFT	1121200
9	12T KEYWAYED CLUTCH SHAFT SPROCKET	453990
9	9T THREADED CLUTCH SHAFT SPROCKET	453989
10	SET SCREW M8X45 + M8 FLAT WASHER + M8 SPRING WASHER + M8 NUT	STANDARD
11	M12 NUT FOR 12T KEYWAYED CLUTCH SHAFT	STANDARD
11	3/8" UNF NYLOK NUT FOR 9T THREADED CLUTCH SHAFT	STANDARD
12	M12 FLAT WASHER	STANDARD
13	WOODRUFF KEY NO.6	3802051
14	M6x25 COUNTERSUNK SCREWS + M6 SPRING WASHER + M6 NUT	STANDARD
15	PILLOW BLOCK BEARING SPACER	458048
16	M6x22 FLAT WASHER	STANDARD