Publication No. 18513G

OPERATOR'S INSTRUCTIONS

AND

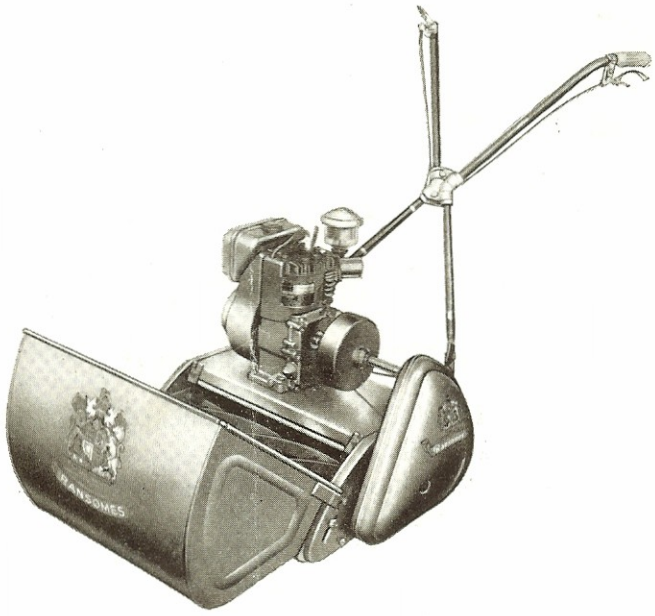
ILLUSTRATED LIST OF PARTS

FOR

Ransomes

"MARQUIS" MOTOR MOWER

18-in. MARK 2



RANSOMES SIMS & JEFFERIES, LTD

ORWELL WORKS : IPSWICH : ENGLAND

Telephone IPSWICH 54711 (8 lines) *Telegrams* "RANSOMES 27–2708 TELEX"

P.E. C. 602 (Printed in England)
PRICE 2/-

"MARQUIS" MARK 2 MOTOR MOWER

ABRIDGED SPECIFICATION

Chassis : One-piece pressed steel frame combining strength with lightness
Engine : Clinton four-stroke engine. 117 c.c.
Clutches : Main driving clutch centrifugal type. Clutch, plate type, in land roll.
Cutting Cylinder : 6-knife, all welded construction.
Land Roll : $7\frac{3}{4}$in diameter in two sections, with full differential action.
Handles : Tubular steel, adjustable for height and width.
Performance : 2,400 sq. yards per hour. (2000 sq. metres)
Petrol Consumption : $\frac{1}{2}$ pint per hour.
Speed : From $1\frac{1}{2}$ m.p.h. up to 4 m.p.h. to suit operator.
Weight : 156 lbs.—including Grassbox (71kg.).

GENERAL DESCRIPTION

The "Marquis" Mark 2 is a fully driven power mower fitted with a 117 c.c. Clinton 4-stroke engine, with automatic recoil rope starter. This smooth running engine drives through a centrifugal clutch, and, to give increased manoeurvability a plate clutch is incorporated in the land roll drive.

The "Marquis" is so designed that any adjustments that may be necessary can easily be made, and the purpose of this instruction book is to enable the owner-user to get the best possible service from his machine. A separate book is issued to cover the Clinton engine.

A list of parts is included in this book and it will help us or our Agents to give prompt attention to any demands if the registered number of the mower is quoted when ordering spares. This number will be found stamped on the name plate, located on the side frame.

MAIN DRIVING CLUTCH

This clutch (Fig. 1) is of the automatic type and comes into operation as the engine speed increases. To delay the action of the centrifugal clutch shoes (P), springs (Q) are fitted which allow an engine speed of up to 500 r.p.m. without engagement. As the engine speed increases above this, the clutch shoes gradually take up the drive. Should an overload be put on the clutch, the tendency will be for the clutch to pull down the engine speed and then slip without stalling the engine. The clutch shoes are lined with bonded Ferodo linings (T) and to detach the shoes release the Allen screw in the clutch ring boss, remove circlip from clutch shaft and slide clutch ring (U) back. The shoes (P) can now be slid off the studs (Y) When replacing the shoes care must be taken to see that the hinged ends point towards the direction of running. It is essential to use the correct lining and method of riveting for this purpose.

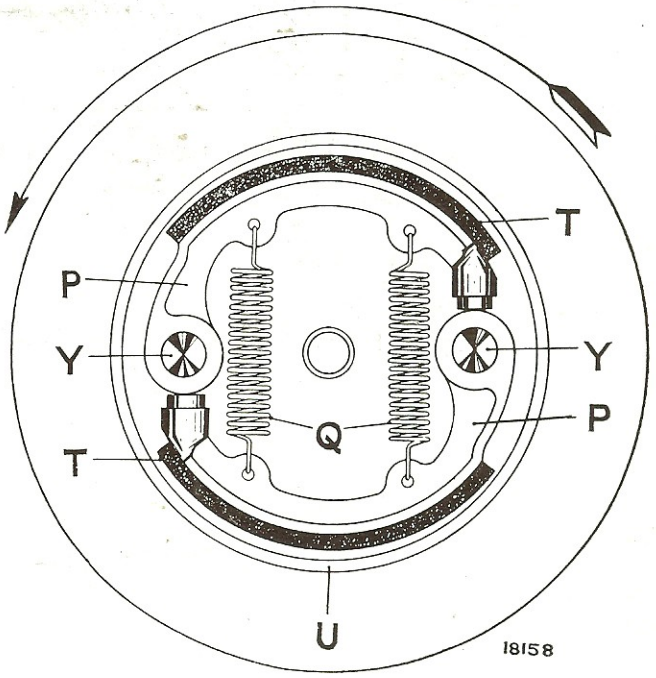


Fig. 1. Main Driving Clutch

LAND ROLL PLATE CLUTCH

This clutch will allow the cutting cylinder to remain under power whilst the land roll is disengaged from the engine. The land roll clutch should *always* be disengaged when starting the engine or when leaving the machine with the engine running. (See fig. 2, page 4).

Note.—Clutch life will be prolonged if plates are kept slightly oily.

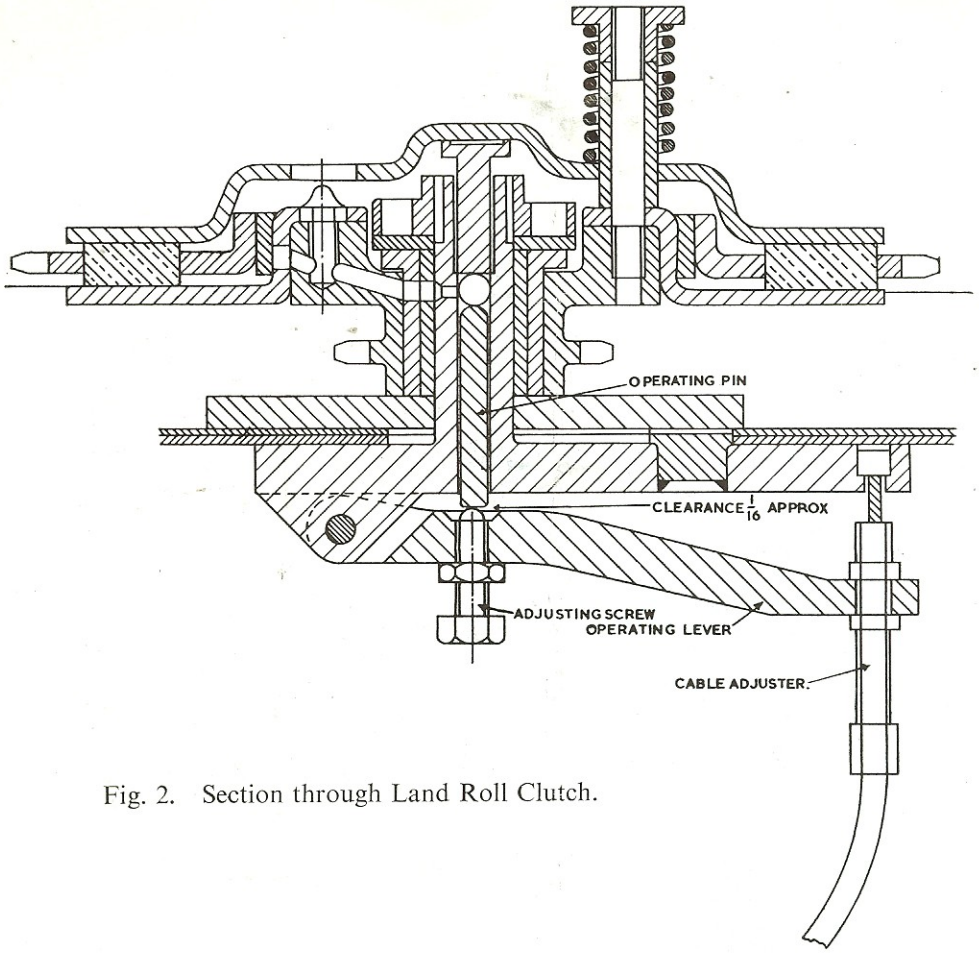


Fig. 2. Section through Land Roll Clutch.

LUBRICATION

ENGINE

For lubrication instructions and recommended oils see the separate engine manual.

MOWER

The following points should be oiled each time the machine is used, with the oil gun supplied in the tool kit. A good quality oil, SAE 30 or 50, should be used, NOT grease.

1. Clutch shaft bearing through nipple A. (Fig. 3, page 5).
2. Land roll spindle bearings through nipple B in R.H. end of spindle (fig. 5, page 8) and through nipple C in L.H. side of deck plate (fig. 3, page 5).
3. Land rolls, through nipples S which will be found through surface of each roll (Fig. 5 page 8).
4. Cutting cylinder bearings through nipples D (fig. 3, page 5).
5. Land roll clutch through nipple G in outer plate (fig. 4, page 6).
6. Wood rolls. Oil spindle between the rolls and at each end.
7. Driving chains should be oiled weekly.

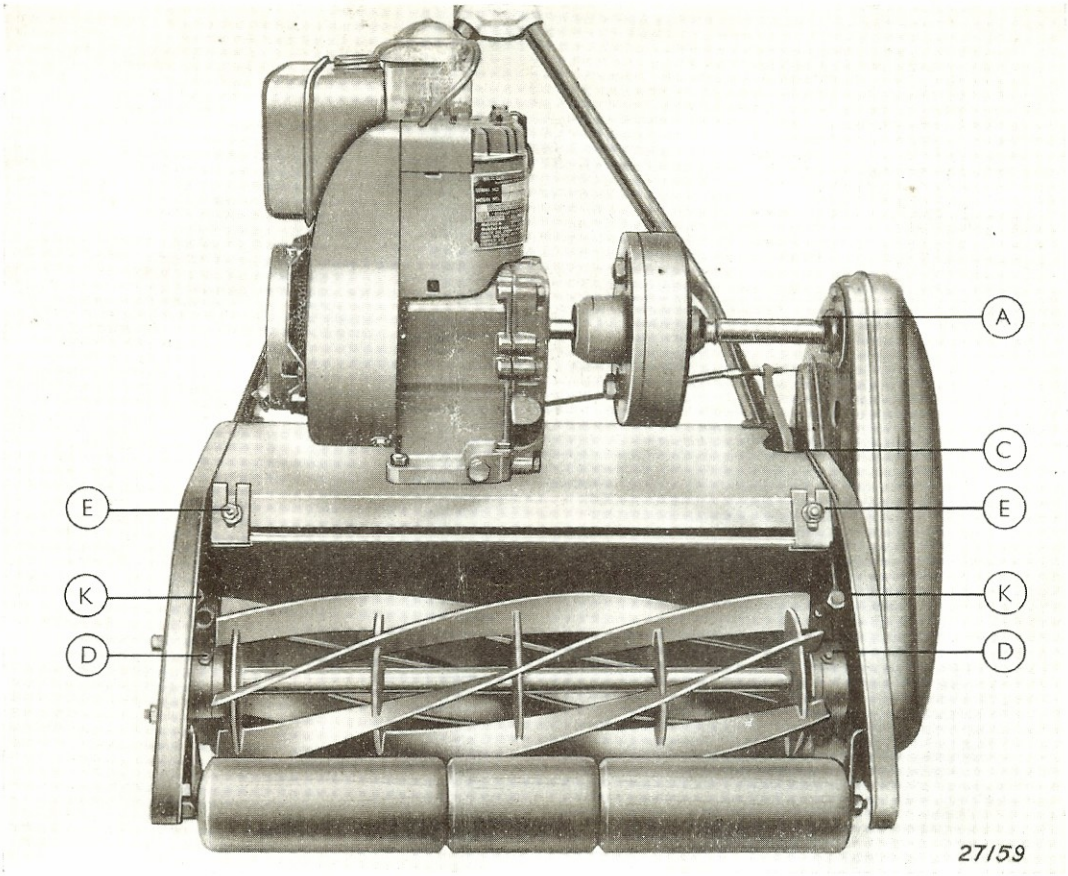


Fig. 3. View of front of Machine.

TO START ENGINE

1. Consult the Clinton Engine Manual.
2. See that the land rolls clutch is disengaged.

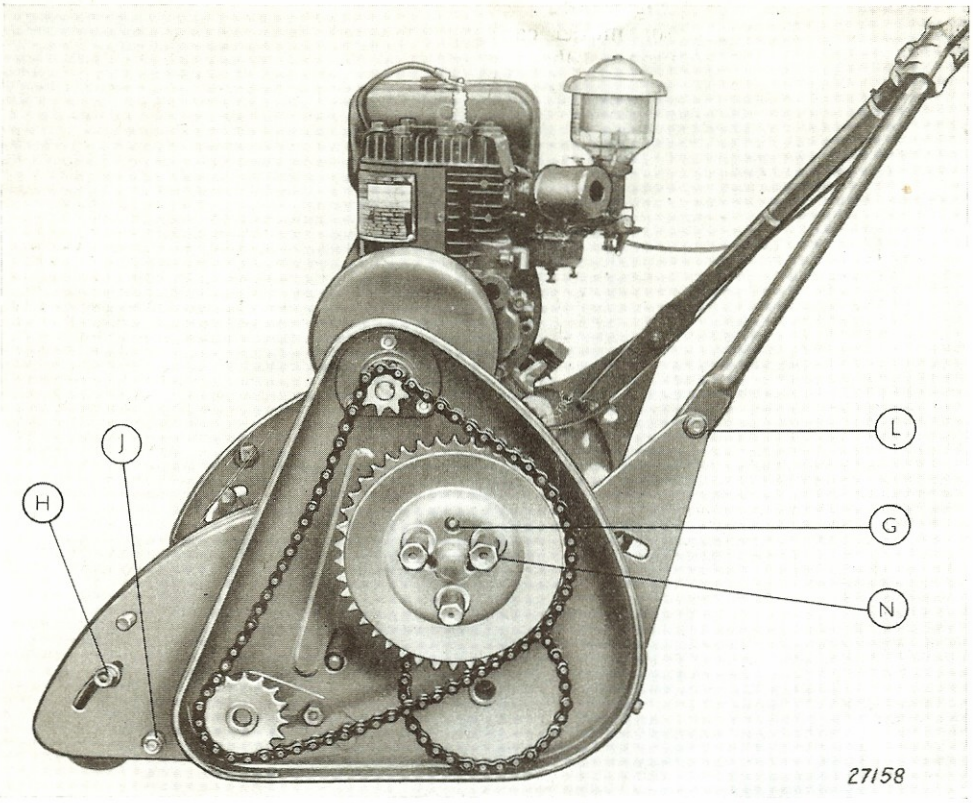


Fig. 4. View of transmission side of machine, with chaincase removed.

TO OPERATE MACHINE

The mower can be operated either by driving on the land roll clutch, or by leaving the clutch engaged and driving with the throttle lever through the main centrifugal clutch. This latter method is most convenient for straightforward cutting and the former method for difficult conditions, say, round flower beds and mowing up to blind ends.

To drive on the land roll clutch, allow the engine to warm up, increase the engine speed, then engage the clutch gradually, at the same time opening throttle. Let clutch fully in and the mower will glide forward. Adjust the throttle to achieve a comfortable walking speed. To stop the machine, disengage the clutch and close throttle.

When leaving the machine with the engine running, in order to empty the grass box or for any other reason, throttle down until the cutting cylinder stops revolving, otherwise the rotating cylinder will tend to bruise the grass.

To drive on the centrifugal clutch, start engine, and allow it to run long enough to warm up, then reduce engine speed until the clutch shaft stops revolving. Engage the landroll clutch and the mower can now be controlled solely by the throttle lever. Speed up the engine, and the centrifugal clutch will take up the drive and the mower will move off. Reduce the engine speed and the mower will slow down, and when the engine speed falls below 500 r.p.m., or "tick over" speed, the mower will stop. With very little practice it will be found that manipulation of the machine with this self-energising clutch becomes very simple, with an exceptionally smooth take off, especially when starting and stopping in long grass.

For safety the landroll clutch should always be disengaged if the mower is left standing with the engine running. The mower should be driven at a comfortable walking pace, and can be operated and adjusted entirely to suit individual requirements for all types of cutting. Do not try to help the mower to do its work, but simply hold it steady and watch the cutting so as to get a regular and even cut.

ADJUSTMENTS

ADJUSTING THE CUTTING CYLINDER

Every machine is sent away from our works with the cutting cylinder properly set to the bottom blade, but it is possible that this adjustment may get upset during transit. If the machine does not cut perfectly, set the cutting cylinder carefully to the bottom blade so that the revolving cutters just touch the bottom blade throughout the whole width of the blade, but not with any great frictional pressure. If the cutting cylinder is set hard on to the bottom blade no cleaner cut is obtained, the only result being extra work put on the mower and undue wear on blade and cutters.

To set the cutters a simple method is used, viz. adjusting screws K (see fig. 3, page 5) on either side of the machine. To set the cylinder closer to the bottom blade turn these screws in a clockwise direction, making small alterations to each screw alternatively. When correctly set, the knives should revolve freely and at the same time cut a leaf or piece of writing paper cleanly, when held at the edge of the bottom blade. Make this test over the width of the bottom blade.

After making any adjustments check that the cutting cylinder drive chain is not too tight.

CAUTION—Never touch cutting cylinder or chains when engine is running.

TO ALTER HEIGHT OF CUT

Slacken the nuts H and J (fig. 4, page 6) and slide brackets up or down as required, taking care to see that the front roll is kept square to the bottom block.

CAUTION—The mower should never be used with the bottom blade pressing on the lawn. If it does, the spiral cutters are liable to get damaged by the bottom blade being forced upwards; the mower will work heavily and the turf will be badly marked. It is wrong to think that the grass will be cut shorter by having the blade touching, or hard on the lawn. If the blade is just clear of the ground, it does not press the grass down, and, consequently, a cleaner cut is made.

To check that the height of cut is set correctly, tilt the machine backwards until it rests on its handles, place a straight edge across the land and front rolls; the bottom blade should be clear of the straight edge. In dry weather $\frac{1}{8}$" to $\frac{3}{16}$", and in wet weather $\frac{3}{16}$" to $\frac{5}{16}$" should be allowed for the mower sinking into the turf.

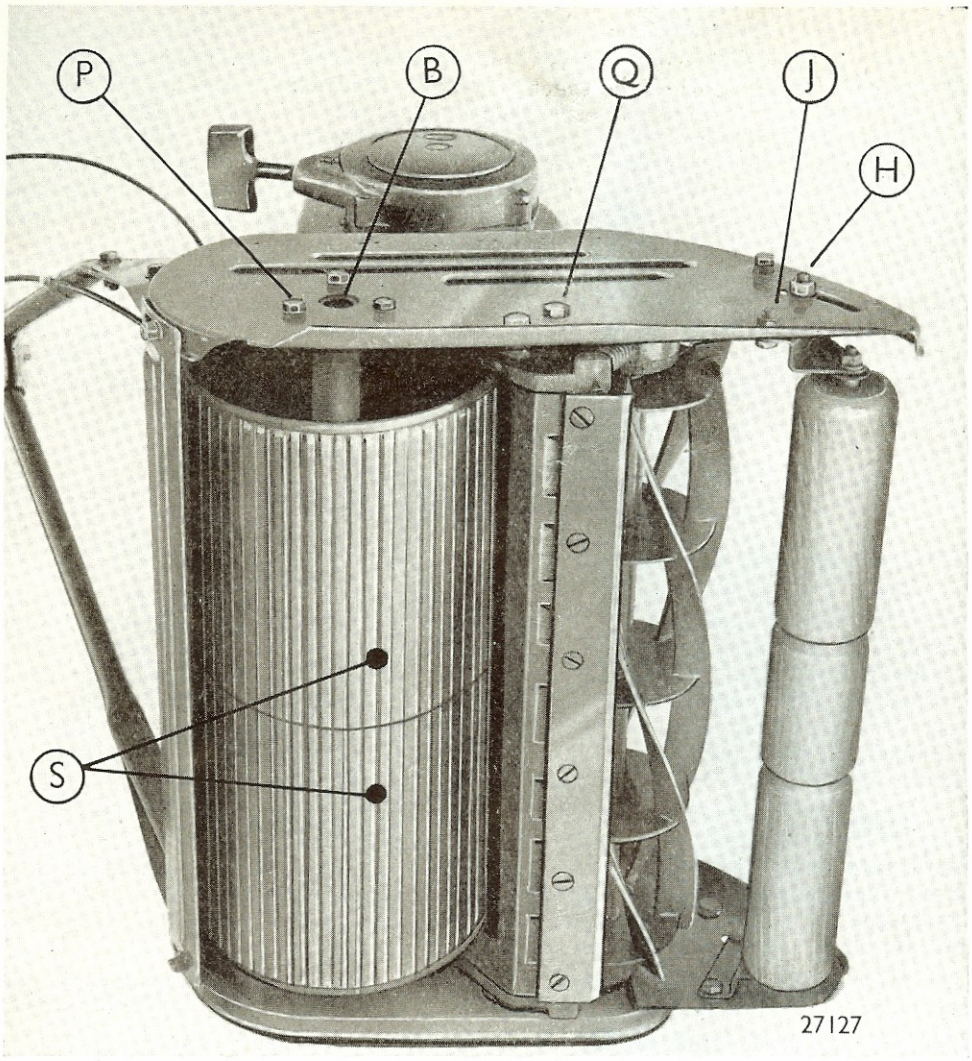


Fig. 5

ADJUSTING THE HANDLES

The height of the handles can be adjusted to suit the user. Slacken the bolts L (fig. 4, page 6) at the base of the handles, alter the height as required, and re-tighten the bolts.

The width of the handles can be adjusted or offset, for working close to walls. Slacken the bolts M in the centre clamp, adjust as required, and re-tighten bolts.

ADJUSTING LAND ROLL CLUTCH

Adjustment is provided at the lower end of the Bowden cable (see fig. 2). When it is adjusted correctly there should be a small amount of play between the end of the operating pin and lever when the clutch is disengaged. The operating pin is shown in fig 2, page 4).

ADJUSTING TRANSMISSION CHAINS

Both chains are adjusted by repositioning the land roll plate clutch assembly. (Fig. 4). To adjust, disengage the clutch by lifting the clutch lever, turn the outer plate until the two holes in it line up with two holes in the nut beneath, insert special pin spanner provided in the tool kit and turn anti-clockwise to slacken nut. The clutch assembly can now be slid in the required direction to tighten the chains. Re-tighten nut. When correctly adjusted the chains should be slightly slack.

If at any time a chain is removed, take care when replacing that the gap in the spring clip points away from the direction of rotation.

ADJUSTING THE CONCAVE

When using the machine for cutting at different heights it may be necessary to adjust the concave to ensure a correct "throw" of the cuttings into the grassbox. Adjustment is provided by slackening the two locknuts E (fig. 3, page 5) and moving the concave outwards or inwards as required.

MAINTENANCE

REMOVING LAND ROLL ASSEMBLY

First undo screw in chain case and remove it and then take off land roll clutch assembly complete with chains. To remove this assembly proceed as follows. Undo the three hexagonal nuts N (fig. 4, page 6), and take off springs and distance tubes; the outer plate, chain wheel and chains can now be removed. Using the special pin spanner, slacken and remove the securing nut, and remove intermediate chain wheel and clutch stiffener plate.

Now unscrew the chain wheel on the land roll spindle noting that this component has a L.H. thread. To prevent the land roll spindle turning with the chain wheel, engage the special key (LCG 427) in the slot at the opposite end of the spindle. After removing the set screws P (fig. 5, page 8) (three each side of the machine) which secure the land roll spindle bearings, the entire assembly may be dropped out of the main chassis.

Assemble in reverse order.

REMOVING CUTTING CYLINDER AND BOTTOM BLADE UNIT

Remove chaincase cover, concave and driving chains. Prevent the cutting cylinder turning by placing a piece of wood in cutters and unscrew the cylinder pinion, noting that this pinion has a L.H. thread. Remove the two screws Q (fig. 5, page 8) from each side of the machine which secure the cutting unit and the entire assembly can be dropped out of the mower.

REMOVING FRONT ROLL ASSEMBLY

Loosen off height adjusting nuts H (fig. 4, page 6) and drop the wood roll spindle until it is clear of the chassis. Remove nuts on end of wood roll spindle and draw out spindle. If it is desired to remove the adjusting brackets undo completely the height adjusting nuts and withdraw the brackets from their pivot bolts.

Assemble in the reverse order.

GENERAL ADVICE

Every machine leaves our factory in perfect condition. If any damage is apparent when delivery is made, report the details at once to the makers or to the agent supplying the machine.

Do not start the engine in your shed or garage unless the doors are open as exhaust fumes are dangerous.

Before cutting, make sure the lawn is free from stones, etc., these may well damage the cutting cylinder.

Do not refuel while the engine is running, petrol (gasoline) spilt on a hot engine may well cause a fire, and avoid spilling fuel on the lawn as this will destroy grass.

The mower should not be put away with grass cuttings left in the box.

Always **stop** the engine before touching cutting cylinder or driving chains.

After using the machine apply a little oil with a brush to all the cutters. This will prevent them from rusting.

POSSIBLE SOURCES OF TROUBLE

Grass is torn off and not cut cleanly.	(*a*) Adjust cutting cylinder correctly to blade (page 7). (*b*) Cutting cylinder and blade need re-grinding.
Cuttings not entering grass box.	Adjust throw of concave (page 9).
Turf being "scalped" by cutter.	Raise front of machine by adjusting front roll brackets (page 7).
Machine cuts grass in ridges and hollows.	Ensure that cutting cylinder is properly and accurately adjusted (see page 7). If this does not cure trouble see your agent. (Cylinder may be out of alignment or cutters bent through striking an obstruction.
Machine leaves ridges between cuts.	Check that front roll carriages are equally adjusted (page 7) and are correctly aligned to axis of land rolls.
Main clutch slips.	Renew clutch linings (page 3).
Landroll Clutch slips.	Adjust lower end of control cable (page 8). If this does not have the desired effect increase loading on clutch springs by turning the three nuts N (fig. 4, page 6) by equal and slight amounts. If clutch still slips the Ferodo pads need renewing.

ILLUSTRATED LIST OF PARTS

"MARQUIS" MOTOR MOWER

MARK 2

NOTE

When ordering spare parts it is essential that the customer should quote the registered number of the machine and the mark of the spare part required. Failure to do this may result in delay in delivery.

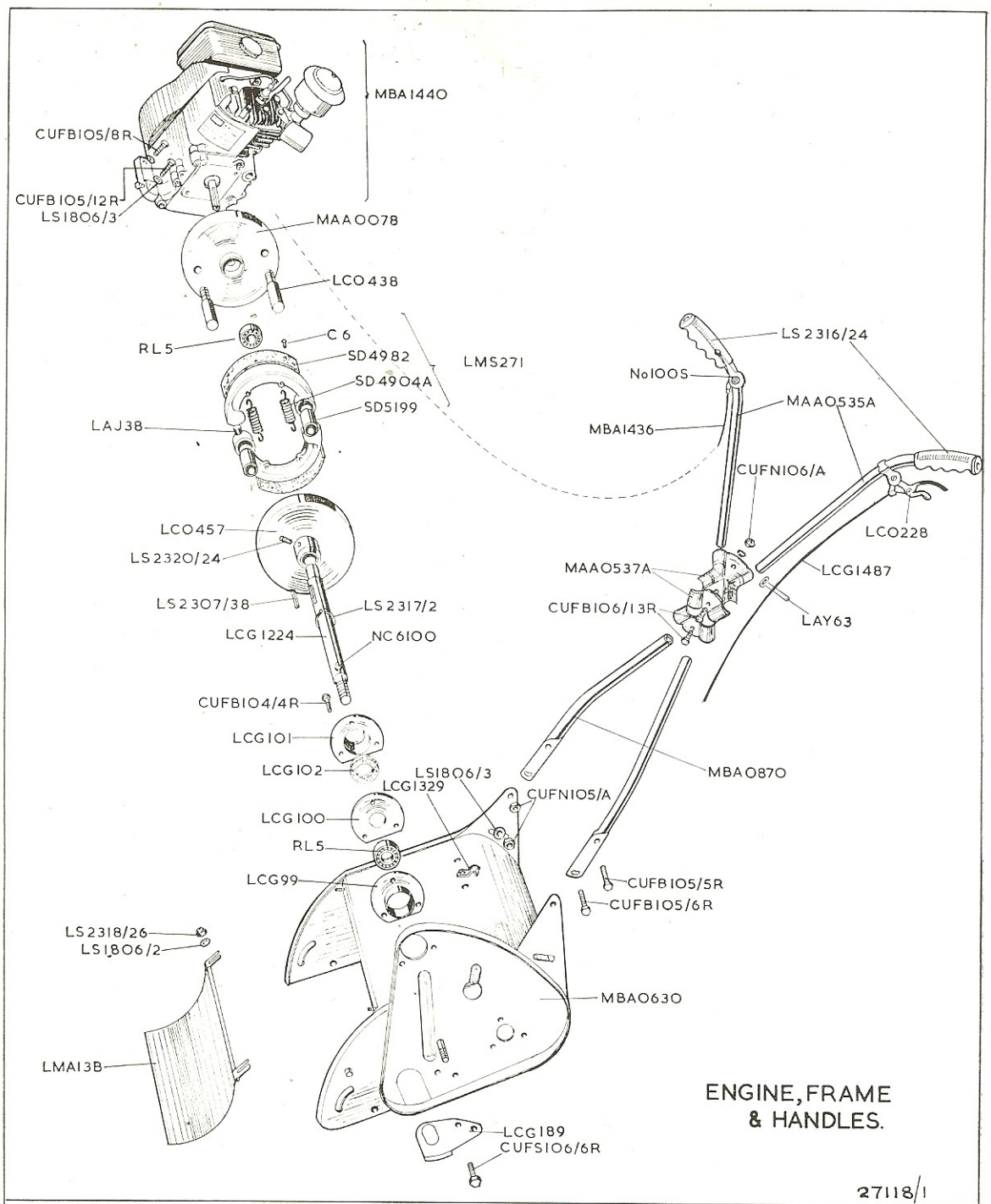
Lockwashers where not quoted in this list are of the standard single coil type.

Split pins are also not quoted, but are the standard type.

NUTS. The mark of the nut applicable to any bolt or screwed pin, stud, etc., will be found in brackets by the side of its mating part.

All shafts, studs, etc., are supplied complete with nuts, key, split pins and washers where applicable.

Parts which are bushed are supplied with bushes already pressed in position.



RANSOMES 18" MARQUIS MOTOR MOWER

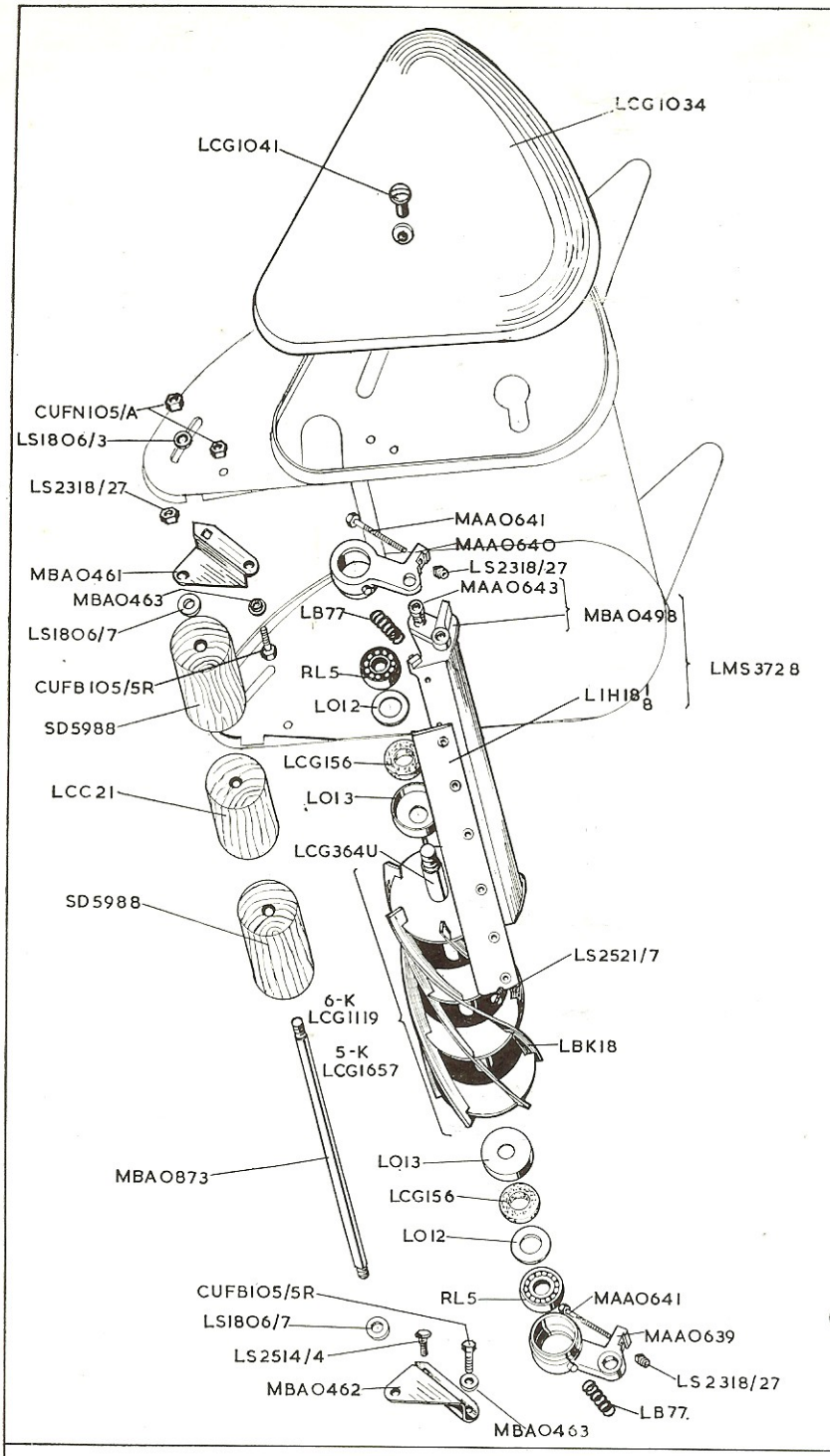
POWER UNIT MAIN FRAME AND HANDLES. Section 1

Mark	Description	Mark	Description
C 6	Rivets—Clutch Linings	LCG 100	Spacing Washer
CUFB 104/4R	Bolts—Clutch Shaft Bearings (CUFN 104/A)	LCG 101	Cover Plate
		LCG 102	Felt Washer
CUFB 105/5R	Bolts—Handle Tube, bottom (CUFN 105/A)	LCG 189	Cover Plate—Cylinder Slot
		LCG 1329	Clip—Clutch Cable
CUFB 105/6R	Bolts—Handle Tube, bottom (CUFN 105/A)	LCG 1487	Clutch Cable
		LCO 228	Clutch Lever
CUFB 105/9R	Bolts—Engine Feet	LCO 438	Stud—Clutch Shoe (CUFN 208/A)
CUFB 106/13R	Bolts—Handle Clamp (CUFN 106/A)	LCO 457	Clutch Ring
CUFS 106/6R	Screws—Bottom Block	LMA 9B	Grassbox Complete
LS 1806/2	Washer—$\frac{1}{4}$″ dia.	LMA 13B	Concave Complete
LS 1806/3	Washer—$\frac{5}{16}$″ dia.	LMS 271	Clutch Shoes Complete
LS 2307/38	Key—Clutch Ring	MAA 0078	Flywheel
LS 2316/24	Handle Grips	MAA 0535A	Handle Tupe—Top
LS 2317/2	Circlip—Clutch Ring	MAA 0537A	Handle Clamp
NC 6100	Lubricator	LCG 1224	Clutch Shaft
No 100S	Throttle Lever	MBA 1440	Engine Complete
RL 5	Ball Bearing—Clutch Shaft	MBA 0630	Main Frame
SD 4904A	Spring—Clutch Shoes	MBA0870	Handle—Tube bottom
SD 4982	Clutch Linings	MBA 1436	Throttle Cable
SD 5199	Bush—Clutch Shoes	*MBA 1437	Cable Clevis
LAJ 38	Rubber Buffer—Clutch Shoes	*MBA 1438	Cable Spring Bracket
LAY 63	Clip Clutch and Throttle Cables	*MBA 1439	Cable Bracket
LCG 99	Bearing Housing—Clutch Shaft		

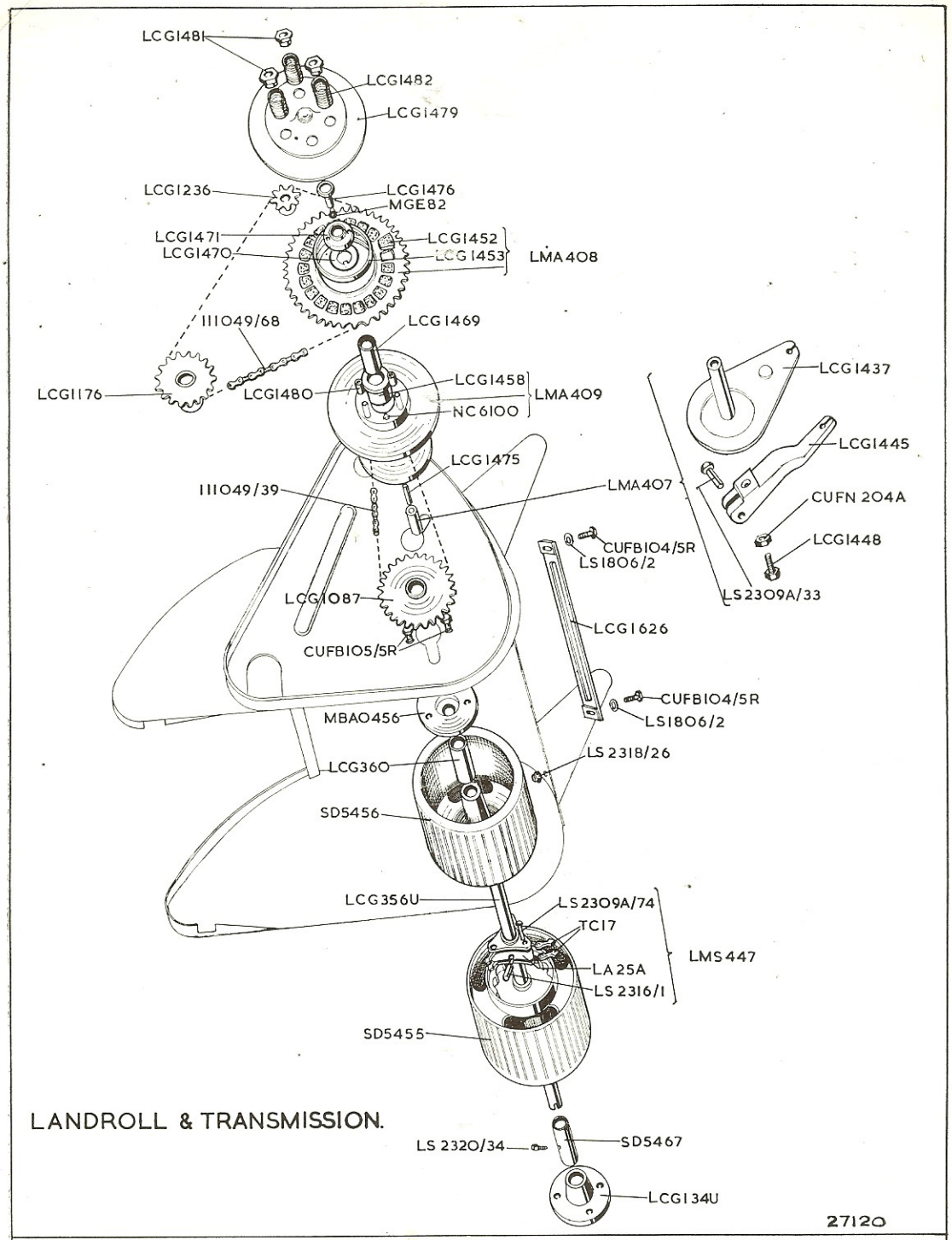
CUTTING UNIT AND FRONT ROLLS. Section 2

Mark	Description	Mark	Description
CUFB 105/5R	Bolt—Front Roll Carriage (CUFN 105/A)	LCG 1041	Nut—Gear Cover
		LCG 1119	Cutting Cylinder—6 knife
LB 77	Adjusting Spring	LCG 1657	Cutting Cylinder—5 knife
LO 12	Dust Washer	LIH 18$\frac{1}{8}$	Bottom Blade
LO 13	Dust Cover	LMA 477A	Cutting Unit—complete
LS/1806/3	Washer—$\frac{5}{16}$″ dia.	LMS 2740	Cylinder with bearings and housings—6 knife
LS 1806/7	Washer—$\frac{9}{16}$″ dia.		
LS 2514/4	Bolt—Front Roll Carriage (CUFN 105/A)	LMS 2742	Cylinder with bearings and housings—5 knife
LS 2521/7	Screw—Bottom Blade	LMS 3728	Bottom Block and Blade
*NA 42C	Side Rolls	MAA 0639	Housing L.H.
NC 6100	Lubricator	MAA 0640	Housing R.H.
RL 5	Ball Bearing	MAA 0641	Adjusting Screw (LS 2318/27)
SD 5988	Front Roll—outer	MAA 0643	Pivot Stud—Bottom Block
LAS 202C	Front Rolls—complete	MBA 0641	Carriage—Front Roll L.H.
*LAS 202D	Side Rolls—complete	MBA 0642	Carriage—Front Roll R.H.
LK 18in	Spiral Cutter	MBA 0643	Pivot Washer—Carriage
LCC 21	Front Roll—inner	MBA 0498	Bottom Block
LCG 156	Felt Washer	MBA 0873	Spindle—Rront Roll (LS 2318/27)
LCG 364U	Cylinder Spindle		
LCG 1034	Gear Cover		

* not illustrated.



RANSOMES 18" MARQUIS MOTOR MOWER.



LANDROLL & TRANSMISSION.

RANSOMES 18" MARQUIS MOTOR MOWER

Mark	Description	Mark	Description
CUFB 104/5R	Bolt—Scraper (LS 2318/26)	LCG 1448	Screw—Clutch Lever (CUFN 204/A)
CUFB 105/5R	Bolt—Landroll Housing		
LA 25A	Pawl Box	LCG 1452	Clutch Pads
LS 1806/2	Washer—$\frac{1}{4}$″ dia.	LCG 1453	Bush—Intermediate Chain Wheel
LS 2309A/33	Rivet—Clutch Lever		
LS 2309A/74	Rivet—Pawls	LCG 1458	Bush—Intermediate Pinion
LS 2316/1	Cotter Pin—Pawl Box	LCG 1468	Stiffener Plate—Clutch
LS 2320/34	Setscrew—Distance Piece	LCG 1469	Clutch Bearing
NC 6100	Lubricator—Housings	LCG 1470	Locking Washer—Clutch
NO 4967	Lubricator—Landrolls	LCG 1471	Securing Nut—Clutch
111049/39	Chain—Landroll Drive	LCG 1475	Operating Rod—Clutch
111049/68	Chain—Cylinder Drive	LCG 1476	Flanged Rod—Clutch
SD 5455	Landroll R.H. (Male)	LCG 1479	Outer Plate—Clutch
SD 5456	Landroll L.H. (Female	LCG 1480	Distance Tube
SD 5467	Distance Piece R.H.	LCG 1481	Nut—Clutch Spring
TC 17	Pawls	LCG 1482	Clutch Spring
LCG 134U	Housing R.H.—Landroll	LCG 1626	Scraper—Land Roll
LCG 356U	Spindle—Landroll	LMA 407	Back Plate complete—Clutch
LCG 360	Distance Piece L.H.	LMA 408	Intermediate Chain Wheel—complete
LCG 1087	Landroll Chain Wheel		
LCG 1176	Cutting Cylinder Pinion	LMA 409	Intermediate Pinion—complete
LCG 1236	Sprocket—Clutch Shaft	LMS 447	Pawl Box complete
LCG 1437	Back Plate—Clutch	MBA 0456	Bearing Housing complete
LCG 1445	Lever—Clutch	MGE 82	Steel Ball—Clutch

TOOL LIST (not illustrated)

Mark	Description	Mark	Description
LCC 149	Tool Wrap	W4	Allen Key—$\frac{1}{4}$″ UF
LS 2506/4	Oil Gun	LCG 1491	Clutch Spanner
LS 2508/5A	Box Spanner—$\frac{5}{16}$″ × $\frac{3}{8}$″ UF	LSA 195	Tommy Bar
LCG 427	Key for Landroll	LS 2686	Tool Kit complete

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