Publication No. 19383G (reprint).

OPERATOR'S INSTRUCTIONS

AND

ILLUSTRATED LIST OF PARTS

FOR

Ransomes

MOTOR MOWERS

METEOR-FOUR	MARK 2	20 IN 24 IN	4-STROKE
MATADOR	MARK 1	20 IN 24 IN	4-STROKE
MAJESTIC	MARK 17A MARK 14A	20 IN 24 IN	ELECTRIC
PATHFINDER	150cc 280cc	24 IN	4-STROKE

RANSOMES SIMS & JEFFERIES, LTD

IPSWICH :: :: ENGLAND

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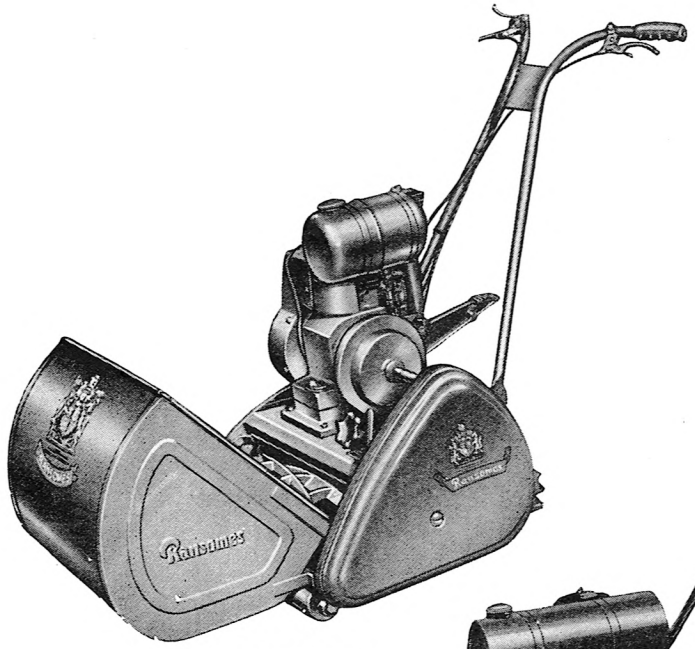
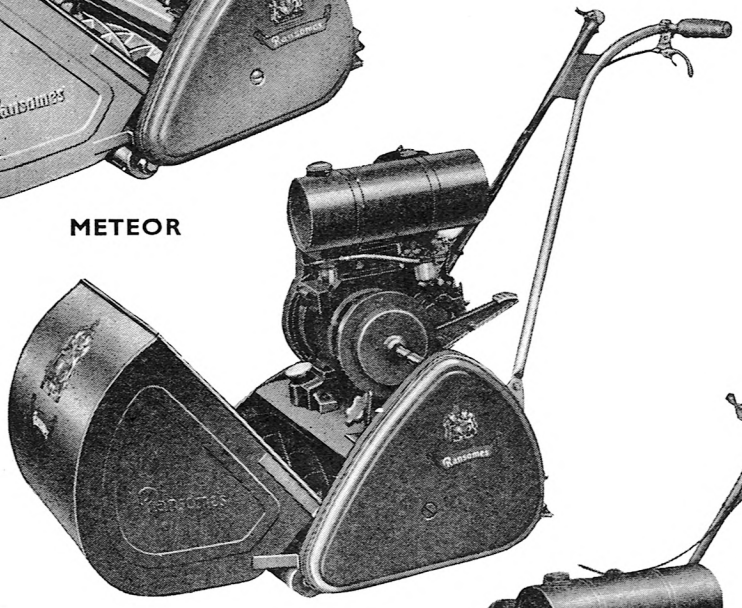
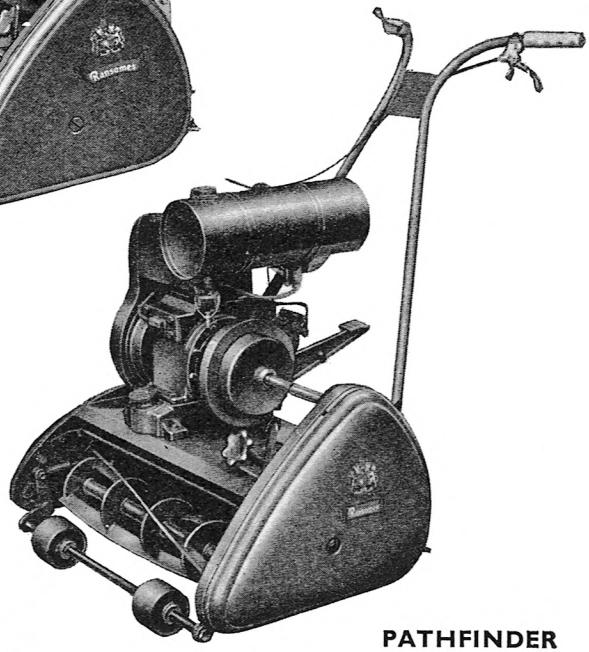


METEOR



MATADOR



PATHFINDER

GENERAL DESCRIPTION

This range of power mowers has been designed for smooth, fast cutting of large lawns, tennis courts, public gardens, etc., and it incorporates many new design features. Each petrol engined model is fitted with a kick-starter, simple and positive in action, and lightness and strength is ensured by the use of a one-piece pressed and welded steel frame. All models have a centrifugal clutch in the main drive, plate clutch in the land roll drive and a cylinder clutch controlled from a lever on the deck plate. The other clutches are controlled by levers at the mower handles.

Servicing is easy as all parts needing attention are readily accessible, and the cutting units can be removed as complete assemblies without disturbing the main chassis.

These machines are made in our most up-to-date factory and a lengthy first-class service is assured by the care and attention to detail which is a by-word of all Ransome products. Nevertheless, in the course of time certain adjustments and routine maintenance will be necessary and the purpose of this manual is to help by explaining how every user can keep his mower in perfect condition.

A list of parts is included in this book, and it will help us and our Agents to give prompt attention to any demands if the registered number of the mower is quoted when ordering any spares.

A separate book is provided for all the power units.

MAIN DRIVING CLUTCH—PETROL ENGINED MOWERS

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.

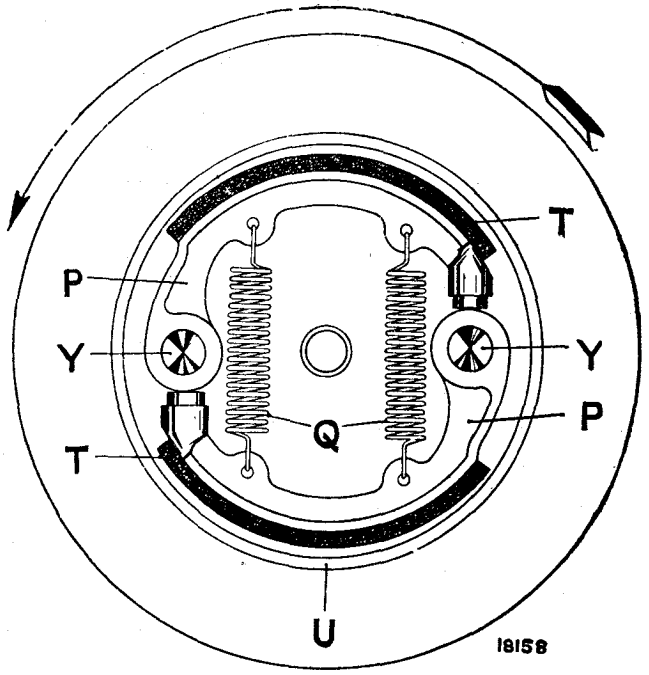


Fig. 1. Main Driving Clutch and Safety Clutch.

SAFETY CLUTCH—MAJESTIC ELECTRIC MOWERS

This centrifugal clutch is incorporated in the main drive of the electric models, and comes into operation almost immediately the current is switched on, and this clutch is provided, in this case, as a safety measure against sudden overload.

LAND ROLL PLATE CLUTCH

This clutch will allow the cutting cylinder to remain under power whilst the land roll is disengaged from the motor. The land roll clutch should *always* be disengaged when starting the motor or when leaving the machine with the motor running.

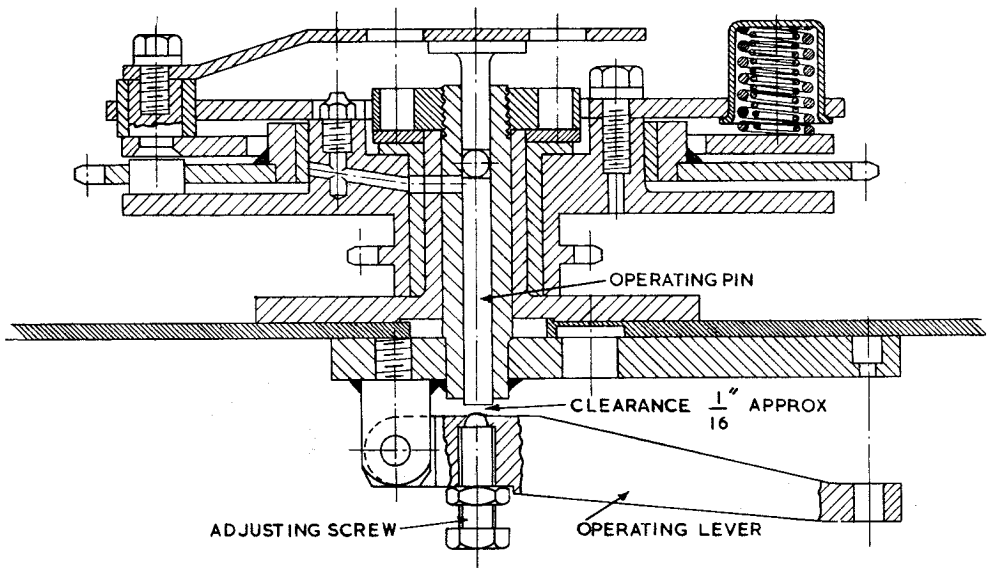


Fig. 2. Section through Land Roll Clutch.

CUTTING CYLINDER CLUTCH

This clutch is provided for the purpose of allowing the cutting cylinder to be put out of action, leaving the machine free to move without cutting, in effect using the machine as a roller only. This clutch is out of gear when the operating lever is in the position nearest to the side frame. To engage, move the lever away from the side frame. When the motor is switched on, or the petrol engine started, the clutch will automatically engage if lever is in correct position.

LUBRICATION

POWER UNITS

The Meteor-Four, Pathfinder and Matador Mowers are fitted with 150 cc. and 288 cc. J.A.P. 4-stroke engines respectively and full lubrication instructions for these units are given in the manuals supplied with mower.

The Majestic Mowers are fitted with Brook electric motors which require very little attention, but the following points should be given attention.

1. Check periodically that the fan is not choked by cut grass.
2. Refill grease lubricators every 12 months with a good quality grease such as "Energrease RBB.3" or Wakefield/Dick "Spherol S". Give one or two turns to each lubricator every three/four months. DO NOT OVERGREASE as this will cause grease leakage into the motor.

LUBRICATION — MOWERS

The following points should be oiled each time the machine is used, with the oil gun supplied in the tool kit and using a good quality SAE 30 or 50 oil.

1. Clutch shaft bearing through nipple A. (Fig. 4).
2. Land roll spindle bearings through nipples B in housings. (Fig. 3).
3. Land rolls, through nipples C which will be found through surface of each roll (Fig. 5).
4. Cutting cylinder bearings through nipples D. (Fig. 5, page 7).
5. Front roll carriages through nipples E. (Fig. 4, page 6).
6. Front roll through nipple F at each end of roll. (Fig. 4, page 6).
7. Land roll clutch through nipple in outer plate. Chain case must be removed to expose this oiling point. (Fig. 4).
8. Starting free wheel. A LITTLE oil through nipple in flywheel.
9. Kick-starter spindles.
10. All other oiling points such as pin joints on carriage rods, chains and kick-starter bearings should be oiled weekly.

Except for 8 and 9 (petrol models only) the above instructions apply to all the machines covered by this manual.

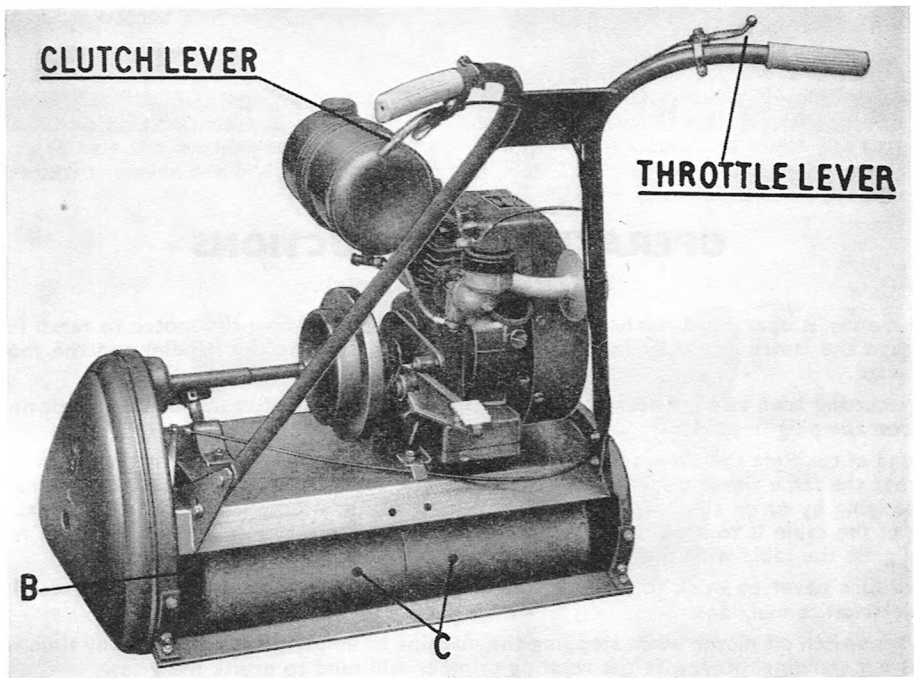


Fig. 3.

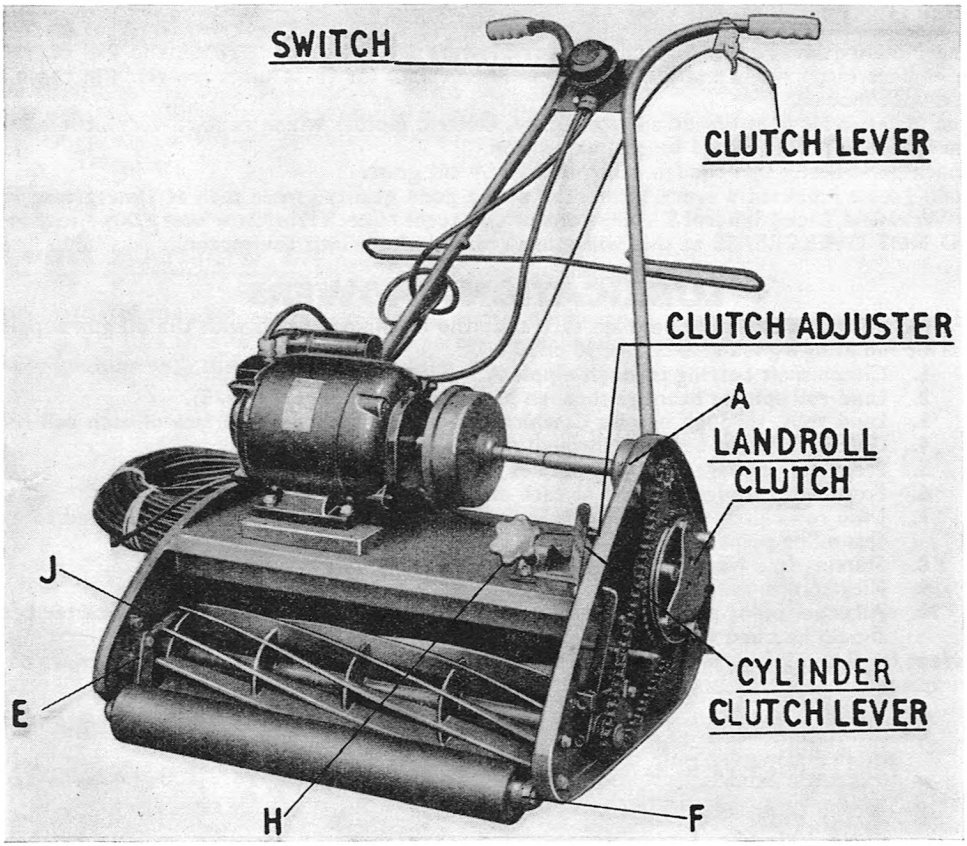


Fig. 4.

OPERATING INSTRUCTIONS

(Electric Models only)

The mower is operated by driving on the land roll clutch. Allow the motor to reach full speed, then engage the clutch gradually (by releasing the clutch lever on the handle) and the mower will glide forward.

Start cutting lawn at edge nearest the plug-in point, trailing the cable behind the mower on the side nearest the plug-in point.

At end of cut slide the cable across to the opposite side of the bar and turn the machine into the next cut, at the same time stepping over the cable. The cable should NOT pass over the mower and should be lying by or on the strip of turf already cut. By this method it will be seen that the only handling of the cable is to slide it across the bar at the end of each cut. When cutting a reasonable length of grass the cable will automatically slide across as the machine is turned.

Make sure never to work to the extreme length of the cable as this will throw excessive strain on the electrical connections.

Always switch off motor when stopping the machine to empty grass box or at any time when the mower is left standing, otherwise the rotating cylinder will tend to bruise the grass.

OPERATING INSTRUCTIONS

(Petrol Models)

TO START ENGINE

1. See that the land roll clutch is disengaged.
2. Consult the appropriate Engine Manual.

TO OPERATE MACHINE

Engage the cylinder clutch lever, the main driving clutch will engage automatically as the engine is speeded up.

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 and throttle, allow the engine to warm up, then reduce engine speed until the clutch shaft stops revolving. Engage the land roll clutch and the machine can be controlled solely by the throttle lever. Speeding up the engine will bring the centrifugal clutch into action and consequently the machine will move off. By reducing engine speed the mower will come to a standstill. With a little practice it will be found that the manipulation of these machines, with this self-energising clutch becomes very simple, with an exceptionally smooth take-off, especially when stopping and starting in long grass.

For safety purposes the land roll clutch should be disengaged if the machine is to be left standing for such things as emptying the grass box. The machine should be driven at a comfortable walking pace, and it can be operated and adjusted to suit individual requirements for all types of cutting. Do not try to help the machine to do its work but simply hold it steady and watch the cutting so as to get a regular and even cut.

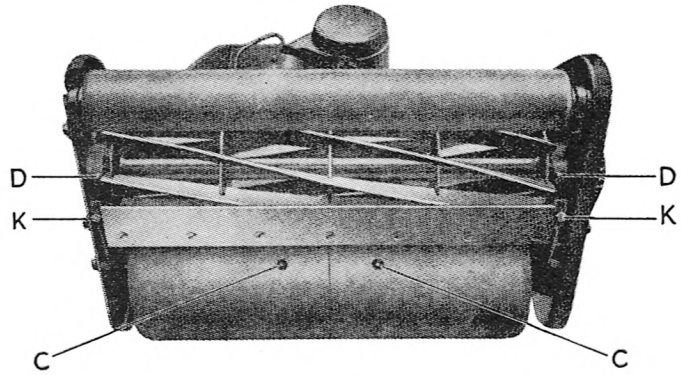


Fig. 5.

ADJUSTMENTS

ADJUSTING THE CUTTERS

Every machine is despatched from our works with the cutting cylinder properly set to the bottom blade, but it is possible that this adjustment may be upset during transit to the user. If the mower 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 length and at the same time causing no great frictional pressure.

For setting the knives a simple method is used, viz., adjusting screws (K)—see Fig. 5—on either side of machine.

To set cutting cylinder closer to bottom blade, turn screw in a clockwise direction. It is advisable when adjusting to make a small adjustment to each screw alternately.

When correctly set, the cutters should revolve freely and at the same time be able to cut cleanly a piece of writing paper held at the edge of the bottom blade. This test should be made over the entire width of the blade.

If the cutting cylinder is set hard on to the bottom blade no cleaner cut is made, but extra work and undue wear is put on to the machine.

After adjustments make sure that the cutting cylinder driving chain is not too tight.

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

TO ALTER THE HEIGHT OF CUT

This is regulated by the hand nut H (see Fig. 4, page 6) which, if turned in a clockwise direction, raises the cutters. Should the front roller get out of alignment with the main roller, it can be corrected by adjusting the right hand bearing bracket J (see Fig. 4, page 6), after slackening the clamping bolt. Any adjustment of height of cut can be firmly locked.

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

To see if the height of cut is set correctly tilt the mower 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 3/16 in. to $\frac{1}{4}$ in., and in wet weather $\frac{1}{4}$ in. to $\frac{1}{2}$ in. should be allowed for the machine sinking into the turf.

ADJUSTING THE HANDLES

The height of the handles can be adjusted to suit the user. Slacken the bolts at the bottom of the handles, alter the height as required and re-tighten the bolts.

ADJUSTING TRANSMISSION CHAINS

Both chains are adjusted by positioning the land roll plate clutch assembly. To adjust, disengage the clutch by lifting the clutch lever, rotate the outer plate until the two holes line up with the two holes in the nut beneath, insert the special clutch pin spanner provided in the tool kit, and turn anti-clockwise to slacken nut. Slide the clutch bodily to tighten chains and then re-tighten nut. When adjusted correctly the chains should be slightly slack in all directions.

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 LAND ROLL CLUTCH

Adjustment is provided at the lower end of the Bowden cable. When adjusted correctly there should be a small amount of play between the end of the operating pin and lever when the clutch is disengaged, i.e., the clutch should drive firmly when engaged and be completely free when disengaged.

ADJUSTING THE CONCAVE

When cutting grass at various lengths the user may find that the cuttings tend to be thrown wide of the grass box. To eliminate this the concave should be adjusted. This can be done quite simply by slackening off the two self lock nuts on the front edge of the main frame and moving the concave in or out until the desired effect is obtained, then re-tighten the nuts.

BRAKE (if fitted)

An adjustment is provided at the end of the Bowden wire casing. If adjustment is necessary, slacken the lock-nut and unscrew the adjusting screw. A little slack movement must be left on the brake lever so as to make sure that the brake shoes are not rubbing on the land roll when in the free position.

MAINTENANCE

AIR CLEANER

The air cleaner should be examined periodically and cleaned; when used in very dusty conditions frequent inspection is necessary. Running the engine with a choked air cleaner causes a very rich mixture to be drawn into the cylinder.

The oil cup should be washed and refilled every 60 to 120 hours, depending on dust conditions. The wire screens in the cleaner should be washed every 300 hours. To do this, remove them from the oil cup and submerge in petrol.

REMOVING CUTTING CYLINDER AND BOTTOM BLADE ASSEMBLY

Remove chain case and cylinder chain. Remove the two screwed pins from the clutch fork. Unscrew screw in end of spindle by turning clockwise, the pinion and sliding spline will now come off complete with spring. Undo the six bolts securing the cutting unit to the frame; the complete unit can now be withdrawn from the bottom of the machine. Assemble in the reverse order.

REMOVING LAND ROLL ASSEMBLY

Remove chain case and land roll driving chain. Undo the nut in the centre of the land roll chain wheel which will remove the chain wheel. Slacken off and remove the six bolts (three each side) which secure the land roll spindle bearings and the entire assembly can be dropped out of the main chassis. Assemble in the reverse order.

REMOVING FRONT ROLL ASSEMBLY

Remove the two bolts (one each side) from the top of the front roll carriages. Take off chain case and then remove the pivot pin bolt from each side. Tap pivot pin inwards so that the shoulder of the pivot pin clears the side frame, disconnect the springs from the side frames and the complete front roll assembly can be lifted out. Assemble in reverse order.

CORRECTION OF MINOR FAULTS

FAULT	REMEDY
Grass is cut in uneven strips, leaving a 'step' between each cut.	Front rolls are not square with bottom blade. Make necessary adjustments as per instructions on page 8.
Grass is cut unevenly in wavy or hummocky fashion.	Alignment of cutting cylinder has been upset, probably through running into an obstruction. Consult your nearest Service Agent.
Grass is torn off instead of being cut cleanly.	Adjust cutting cylinder to bottom blade (see page 8). If grass is still not cut cleanly, cutting blades require grinding.
Grass is entirely removed and mower works very hard.	Bottom blade is set too low. Check for correct clearance. (See page 8).
Engine races but mower moves forward sluggishly.	Cylinder may have run into an obstruction. Stop engine or motor and clear. If no obstruction this may be due to clutch slip. Adjust cable and if fault is not cured, fit new pads to clutch plate.
Cuttings not entering grassbox properly.	Adjust throw of concave (see page 9).

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.

(Electric Model).

If at any time the motor is stalled through the mower running into rough grass or other obstruction, immediately switch off the motor and free the machine before re-starting.

ILLUSTRATED LIST OF PARTS

METEOR-FOUR, PATHFINDER AND MAJESTIC MOWERS

20-IN AND 24-IN MODELS

To avoid errors and to ensure prompt despatch it is advisable when ordering spares to quote description of part, part number and registered number of the machine.

Spare Parts for the Engine will be found in the Maker's Engine Manual.

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

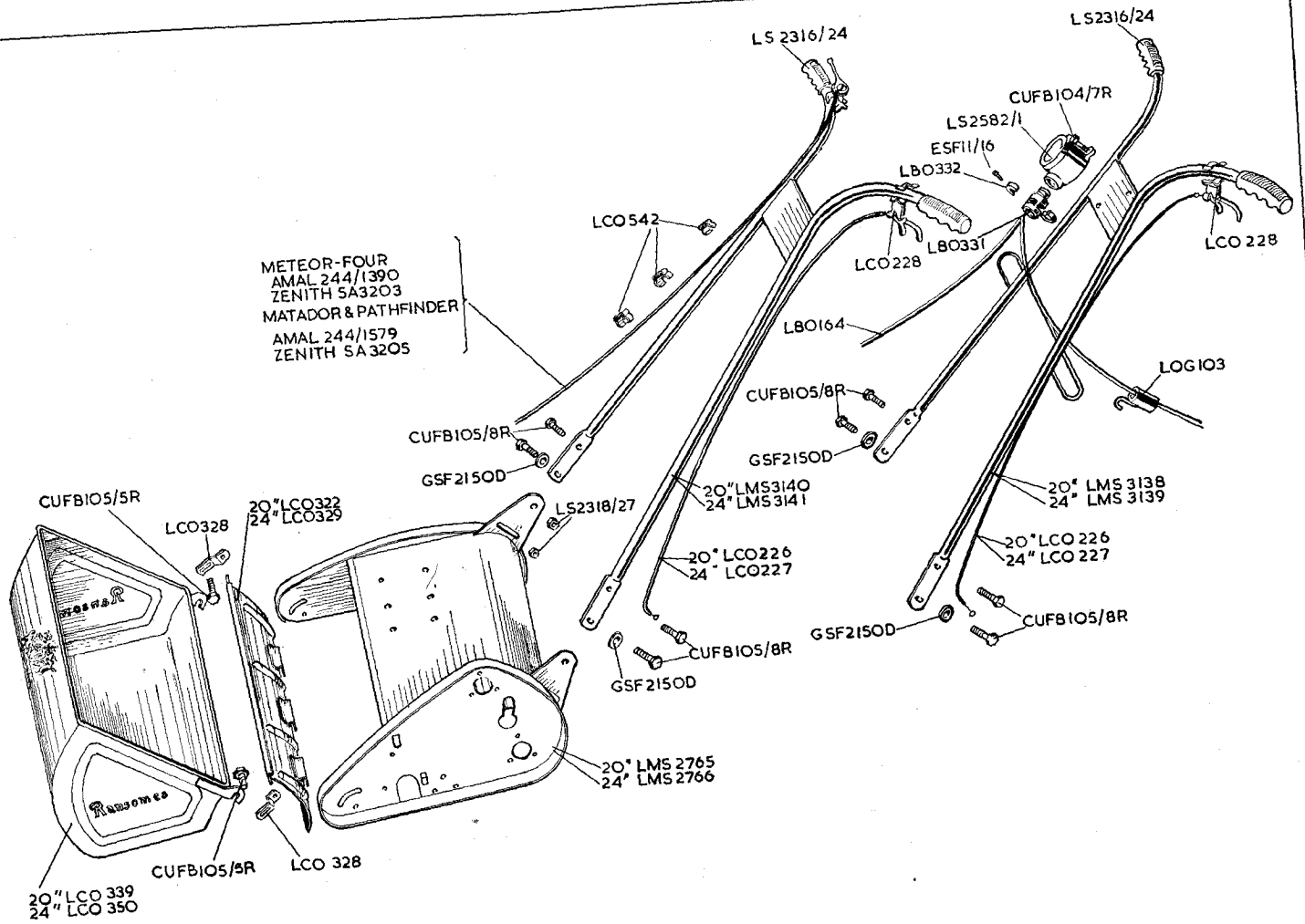
Split pins are also not quoted, but are the standard mild steel type. Nuts. The mark of the nut applicable to any bolt or screwed pin, etc., will be found in brackets by the side of the mating part.

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

MAIN FRAME, HANDLES AND GRASSBOX. Section 1

Machine	Mark	Description
Majestic 20"/24"	CUFB 104/7R	Bolts—Switch (LS 2318/26)
All machines	CUFB 105/5R	Bolts—Concave brackets (CUFN 105/A)
All machines	CUFB 105/8R	Bolts—handles (LS 2318/27)
Majestic 20"/24"	ESF 11/16	Screw—cable
All machines	GSF 2150D	Washer—$\frac{5}{16}$" dia.
Any 20" machine	LAS 796	Balance bar (Alternative to grassbox)
Any 24" machine	LAS 797	Balance bar (Alternative to grassbox)
Majestic 20"/24"	LBO 164	Cable (50 cycle single phase motors only)
Majestic 20"/24"	LBO 166	Cable (60 cycle single phase motors only)
Majestic 20"/24"	LBO 331	Cable adaptor (single phase only)
Majestic 20"/24"	LBO 332	Screw—cable adaptor (single phase only)
All 20" machines	LCO 226	Cable—landroll clutch
All 24" machines	LCO 227	Cable—landroll clutch
All machines	LCO 228	Control lever—landroll clutch
All machines	LCO 229	Clip—landroll clutch cable
All 20" machines	LCO 322	Concave
All machines	LCO 328	Bracket—concave
All 24" machines	LCO 329	Concave
All 20" machines	LCO 339	Grassbox
All 24" machines (except Pathfinder)	LCO 350	Grassbox
All machines	LCO 542	Clip—cable
Majestic 20"/24"	LCO 599	Cable—(50 cycle 3-phase motors only)
Majestic 20"/24"	LCO 600	Lewden glands
Majestic 20"/24"	LCO 621	Claw terminal
Majestic 20"/24"	LCO 622	Screw—claw terminal
All 20" machines	LMS 2765	Main frame
All 24" machines	LMS 2766	Main frame
Majestic 20"	LMS 3138	Handles
Majestic 24"	LMS 3139	Handles
All 20" machines except Majestic	LMS 3140	Handles
All 24" machines except Majestic	LMS 3141	Handles
Majestic 20"/24"	LOG 103	Cable hook
All machines	LS 2316/24	Handle grips
Majestic 20"/24"	LS 2582/1	2-pole switch (single phase only)
Meteor-Four	244/1390	Throttle cable (Amal carburettor only)
Matador and Pathfinder	244/1579	Throttle cable (Amal carburettor only)
Meteor-Four	SA 3203	Throttle cable (Zenith carburettor only)
Matador and Pathfinder	SA 3205	Throttle cable (Zenith carburettor only)
Majestic 20"/24"	SCF-DOL	Starter—50 cycle 3-phase only
*All machines	LCO 14	Grassbox stud R.H.
*All machines	LCO 15	Grassbox stud L.H.

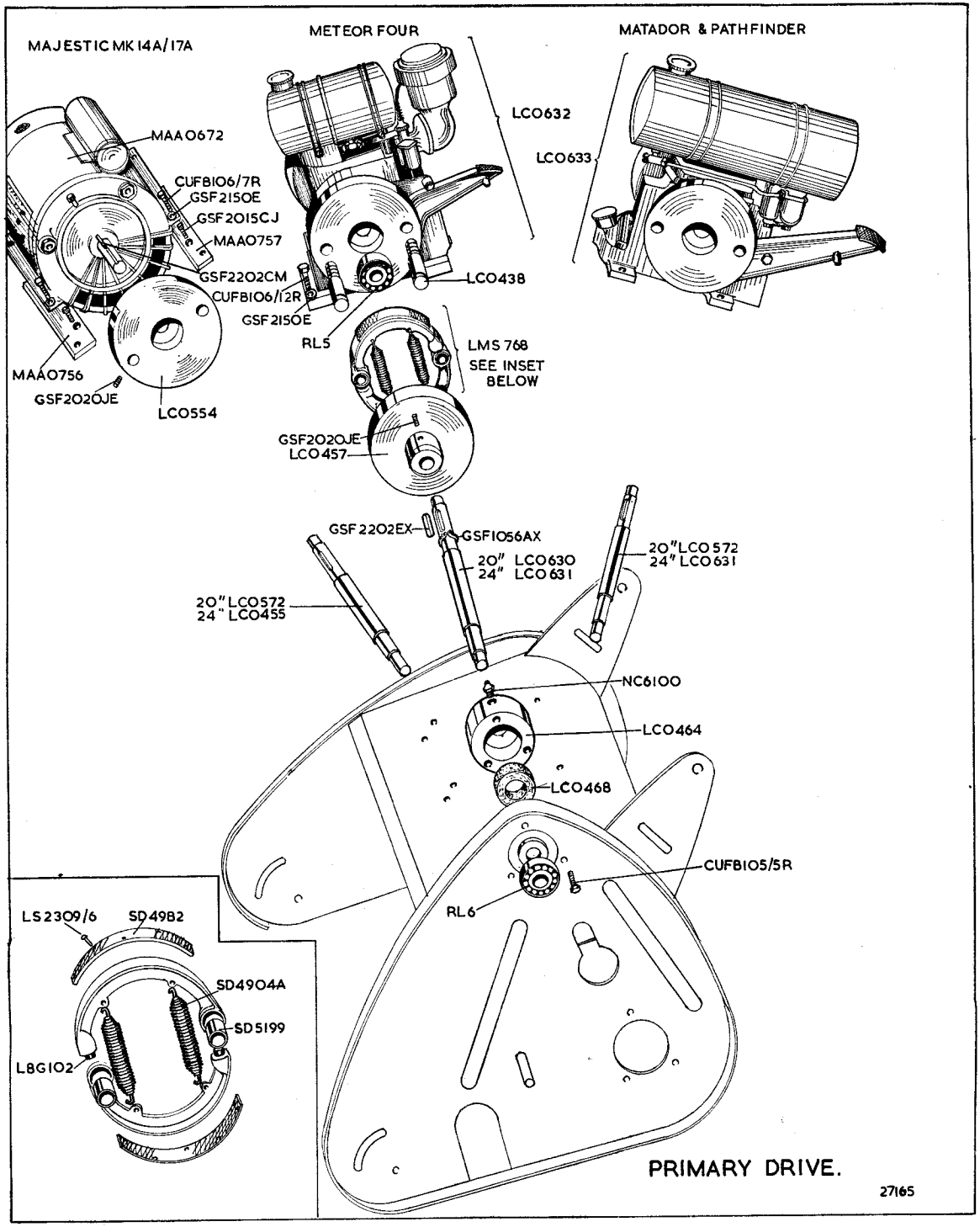
*Not illustrated.



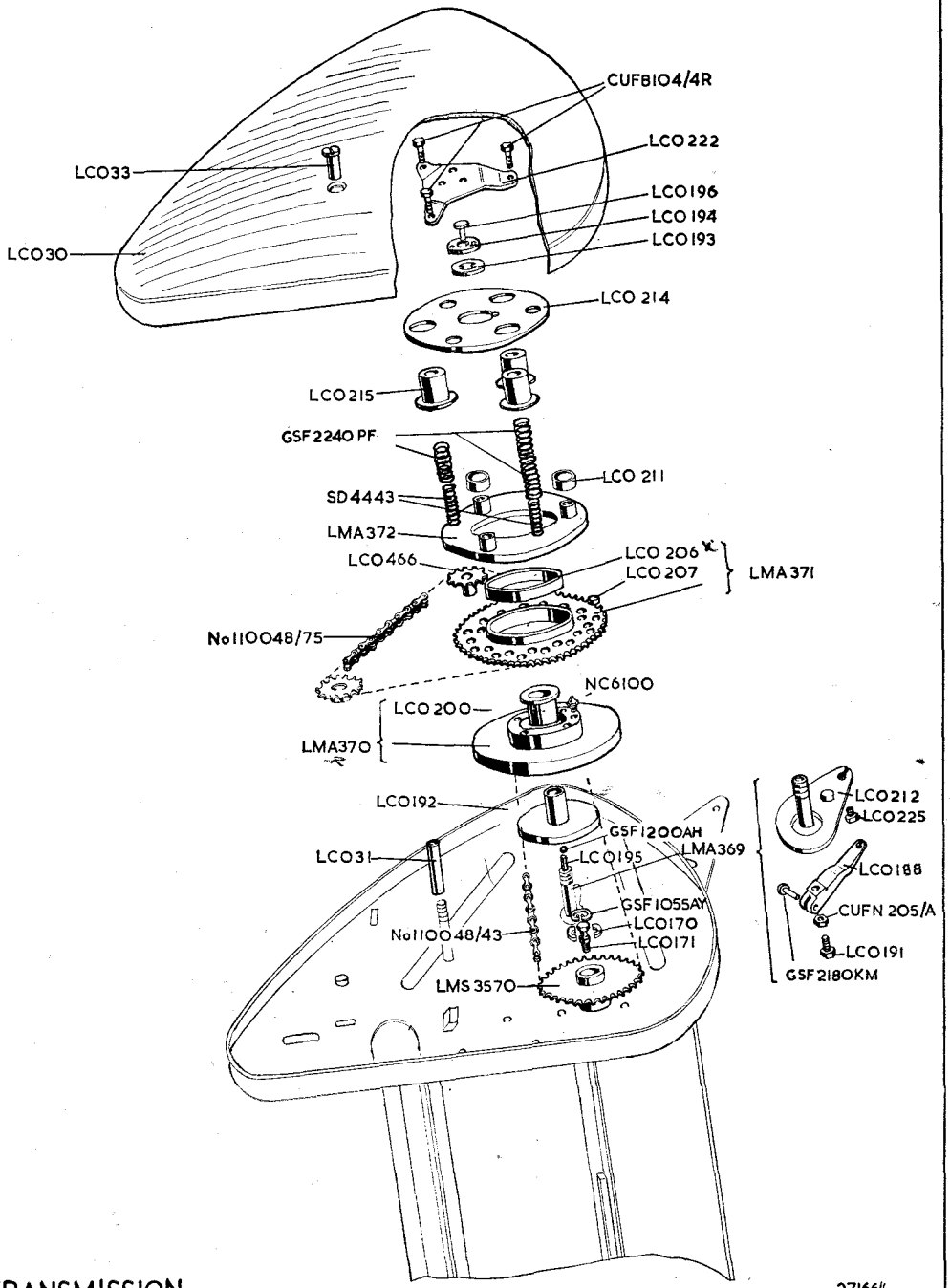
MAIN FRAME HANDLES & GRASS DELIVERY

27164

Machine	Mark	Description
All machines	CUFB 105/5R	Bolt—clutch shaft bearing
Majestic 20″/24″	CUFB 106/7R	Bolt—motor mounting
All machines except Majestic	CUFB 106/12R	Bolt—engine mounting
All machines	GSF 1055AX	Circlip—clutch shaft
Majestic 20″/24″	GSF 2015CJ	Cap screw—motor supports
Majestic 20″/24″	GSF 2020JE	Setscrew—flywheel
All machines	GSF 2020JE	Setscrew—clutch ring
All machines	GSF 2150E	Washer, $\frac{3}{8}$″ dia.
Majestic 20″/24″	GSF 2202CM	Key—flywheel
All machines	GSF 2202EX	Key—clutch ring
All machines	LBG 102	Rubber buffer—clutch shoes
All machines	LCO 438	Studs—clutch shoes
Majestic 24″	LCO 455	Clutch shaft
All machines	LCO 464	Bearing housing—clutch shaft
All machines	LCO 467	Felt washer—clutch shaft bearing (illustrated as LCO 468)
All machines	LCO 468	Dust washer
Majestic 20″/24″	LCO 554	Flywheel
Majestic and Matador 20″	LCO 572	Clutch shaft
Meteor-Four 20″	LCO 630	Clutch shaft
All 24″ machines except Majestic	LCO 631	Clutch shaft
Meteor-Four	LCO 632	Engine—J.A.P. model 3/26 complete
Matador and Pathfinder 20″/24″	LCO 633	Engine—J.A.P. model 4/3/52 complete
All machines	LMS 768	Clutch shoes complete
All machines	LS 2309/6	Rivets—clutch linings
Majestic 20″/24″	MAA 0672	Electric motor—Brook 1 h.p.
Majestic 20″/24″	MAA 0756	Motor support—front
Majestic 20″/24″	MAA 0757	Motor support—rear
All machines	NC 6100	Lubricator—clutch shaft bearing
All machines	RL 5	Bearing—clutch shaft flywheel end
All machines	RL 6	Bearing—clutch shaft drive end
All machines	SD 4904A	Spring—clutch shoes
All machines	SD 4982	Linings—clutch
All machines	GSF 3002 DR	Bush—clutch shoes (illustrated as SD 5199)


MAJESTIC MK 14A/17A
METEOR FOUR
MATADOR & PATHFINDER
LCO632
LCO633
MAA0672
CUFB106/7R
GSF215OE
GSF2015CJ
MAA0757
GSF2202CM
CUFB106/12R
GSF215OE
LCO438
RL5
LMS 768
SEE INSET BELOW
MAA0756
GSF202OJE
LCO554
GSF202OJE
LCO457
GSF 2202EX
GSF1056AX
20" LCO630
24" LCO631
20"LCO572
24" LCO631
20"LCO572
24" LCO455
NC6100
LCO464
LCO468
CUFB105/5R
RL6
LS2309/6
SD4982
SD4904A
SD5199
L8G102
PRIMARY DRIVE.
27165

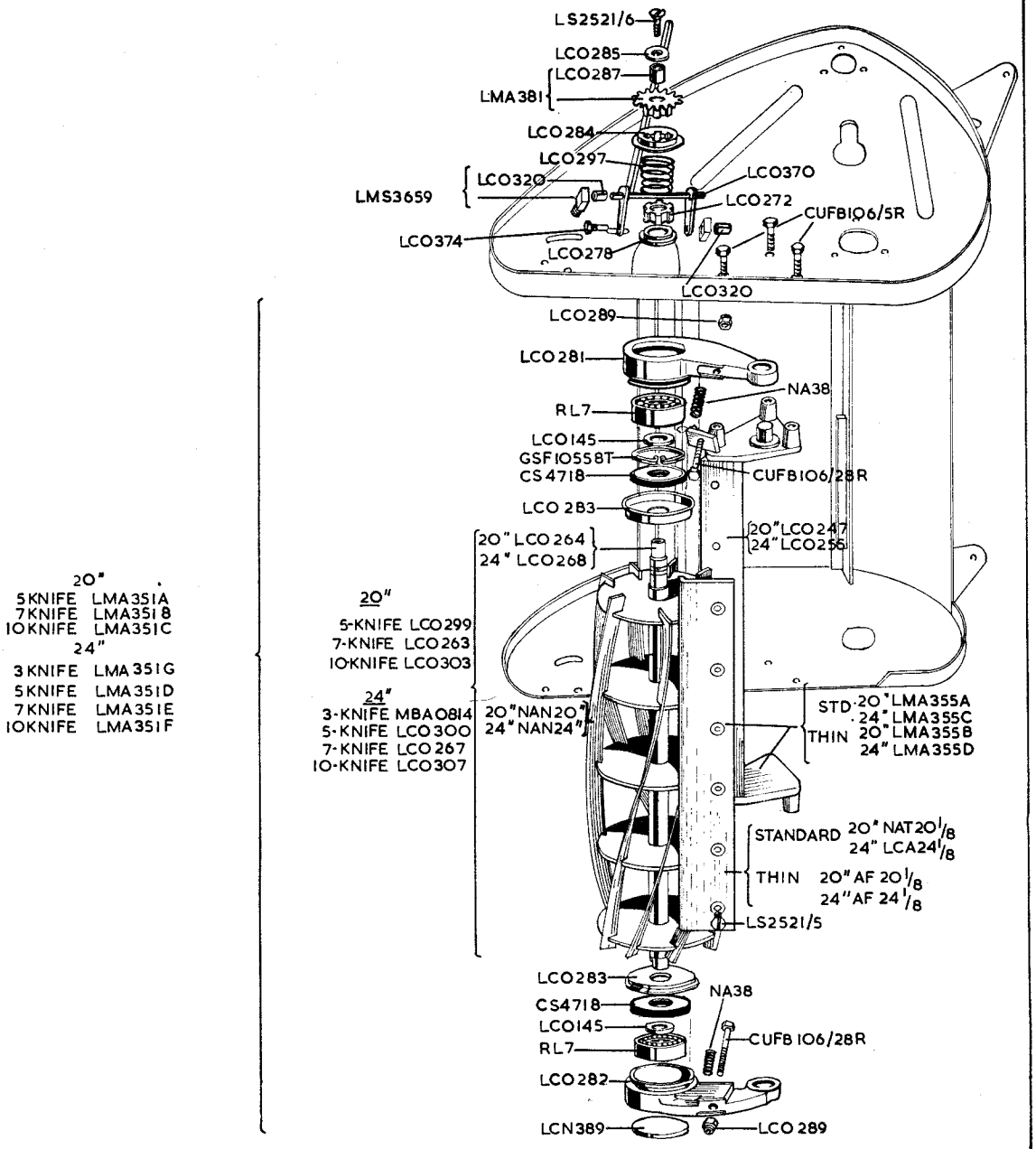
Mark	Description	Mark	Description
CUFB 104/4R	Bolt—operating plate	LCO 212	Clutch back plate
GSF 1055AY	Circlip—landroll gear	LCO 214	Spring plate
GSF 2240PF	Spring—outer clutch	LCO 215	Spring box
LCO 30	Chain cover	LCO 222	Operating plate
LCO 31	Distance tube	LCO 225	Ferrule—clutch cable
LCO 33	Nut—chain cover	LCO 466	Clutch shaft pinion
LCO 170	Split washer—landroll gear	LMA 369	Operating lever assembly
LCO 171	Bolt—landroll gear	LMA 370	Inner plate and sprocket
LCO 191	Screw, adjusting (CUFN 205/A)	LMA 371	Chainwheel assembly
LCO 192	Clutch bearing	LMA 372	Clutch plate assembly
LCO 193	Lockwasher	LMS 3570	Landroll chainwheel
LCO 194	Special nut	GSF 2180KM	Rivet—operating lever
LCO 195	Operating pin (long)	GSF 1200AN	Steel ball
LCO 196	Operating pin (short)	NC 6100	Lubricator—inner clutch plate
LCO 200	Bush—inner clutch plate	110048/43	Drive chain—landroll
LCO 206	Bush—clutch chain wheel	110048/75	Drive chain—cylinder
LCO 207	Ferodo inserts—clutch chain wheel	SD 4443	Spring—inner clutch
LCO 211	Sleeve		



TRANSMISSION

27166/I

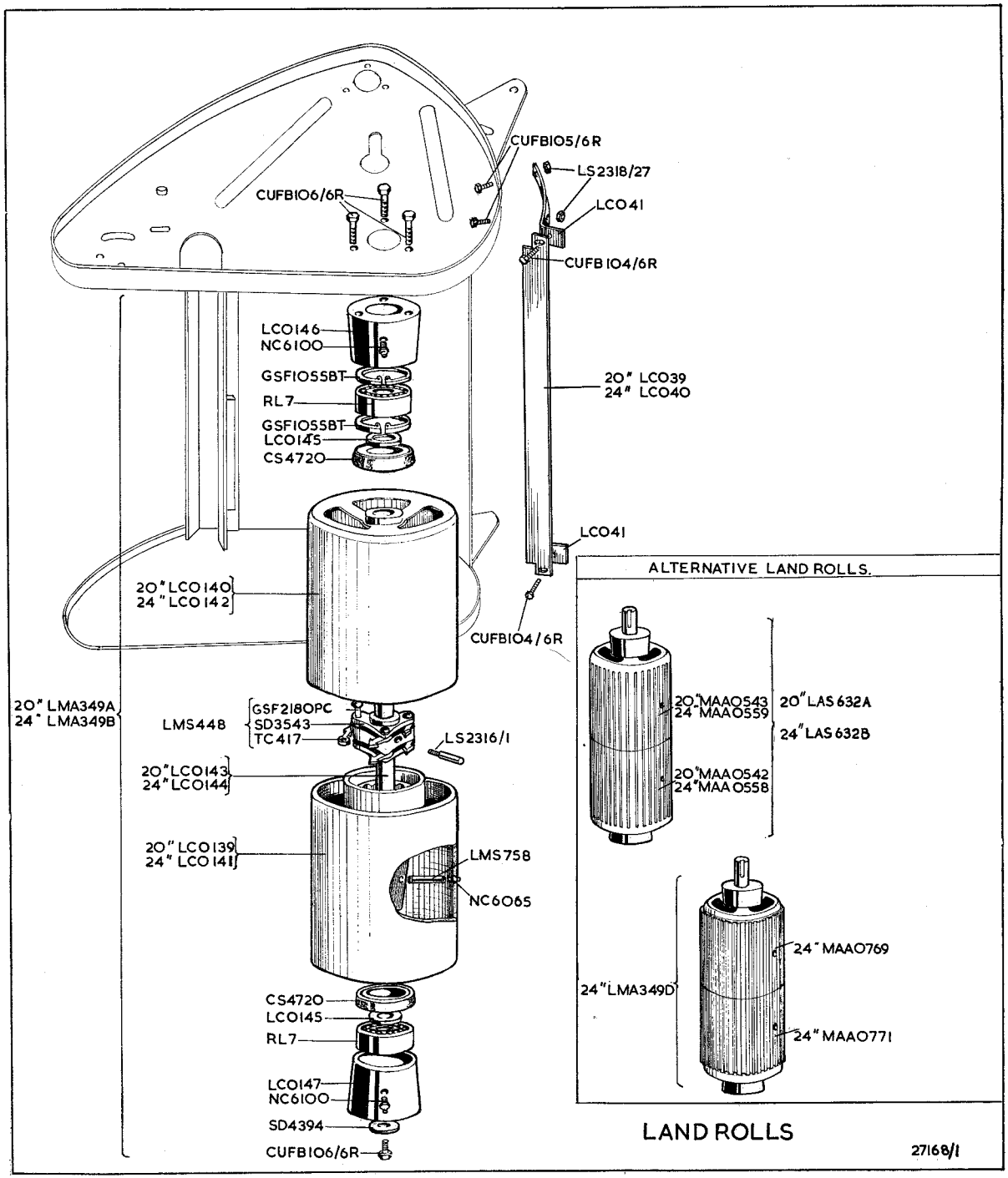
Machine	Mark	Description
10-knife 20″ only	AF 20⅛″	Bottom blade (thin)
10-knife 24″ only	AF 24⅛″	Bottom blade (thin)
All machines	CS 4718	Oil seals
All machines	CUFB 106/5R	Bolt—bottom block
All machines	CUFB 106/28R	Adjusting bolt—cutting cylinder (LCO 289)
All machines	GSF 1055BT	Circlip—L.H. cylinder bearing
All 24″ machines except 10-knife	LCA 24⅛″	Bottom blade
All machines	LCO 145	Thrust washer
All 20″ machines	LCO 247	Bottom block
All 24″ machines	LCO 255	Bottom block
All 20″ machines	LCO 263	7-knife cutting cylinder
All 20″ machines	LCO 264	Cylinder spindle
Any 24″ machine	LCO 267	7-knife cutting cylinder
All 24″ machines	LCO 268	Cylinder spindle
All machines	LCO 272	Splined collar—cylinder clutch
All machines	LCO 278	Shouldered washer
All machines	LCO 281	Bearing housing—cylinder L.H.
All machines	LCO 282	Bearing housing—cylinder R.H.
All machines	LCO 283	Dust cover—bearing
All machines	LCO 284	Sliding clutch
All machines	LCO 285	Retaining washer—cylinder pinion
All machines	GSF 3002LE	Bush—cylinder pinion (illustrated as LCO 287)
All machines	LCO 297	Spring—cylinder clutch
Any 20″ machine	LCO 299	5-knife cutting cylinder
Any 24″ machine	LCO 300	5-knife cutting cylinder
Any 20″ machine	LCO 303	10-knife cutting cylinder
Any 24″ machine	LCO 307	10-knife cutting cylinder
All machines	LCO 320	Bush—clutch lever bearings
All machines	LCO 370	Cylinder clutch lever
All machines	LCO 374	Bolt—clutch lever fork
All machines	LCN 389	Sealing disc—R.H. bearing housing
Any 20″ machine	LMA 351A	5-knife cutting unit complete
Any 20″ machine	LMA 351B	7-knife cutting unit complete
Any 20″ machine	LMA 351C	10-knife cutting unit complete
Any 24″ machine	LMA 351D	5-knife cutting unit complete
Any 24″ machine	LMA 351E	7-knife cutting unit complete
Any 24″ machine	LMA 351F	10-knife cutting unit complete
24″ Pathfinder	LMA 351G	3-knife cutting unit complete
All 20″ machines except 10-knife	LMA 355A	Bottom block and blade assembly
20″ 10-knife machines only	LMA 355B	Bottom block and blade assembly
All 24″ machines except 10-knife	LMA 355C	Bottom block and blade assembly
24″ 10-knife machines only	LMA 355D	Bottom block and blade assembly
All machines	LMA 381	Cylinder pinion and bush
All machines	LMS 3659	Bearing housing front—clutch lever
All machines	LS 2521/5	Countersunk screw—bottom blade
All machines	LS 2521/6	Countersunk screw—cylinder pinion
24″ Pathfinder	MBA 0814	3-knife cutting cylinder
All machines	GSF 2240FR	Adjusting spring—cylinder (illustrated as NA 38)
All 20″ machines	NAN 20	Spiral cutter
All 24″ machines	NAN 24	Spiral cutter
All 20″ machines except 10-knife	NAT 20⅛″	Bottom blade
All machines	RL 7	Ball bearing—cylinder spindle



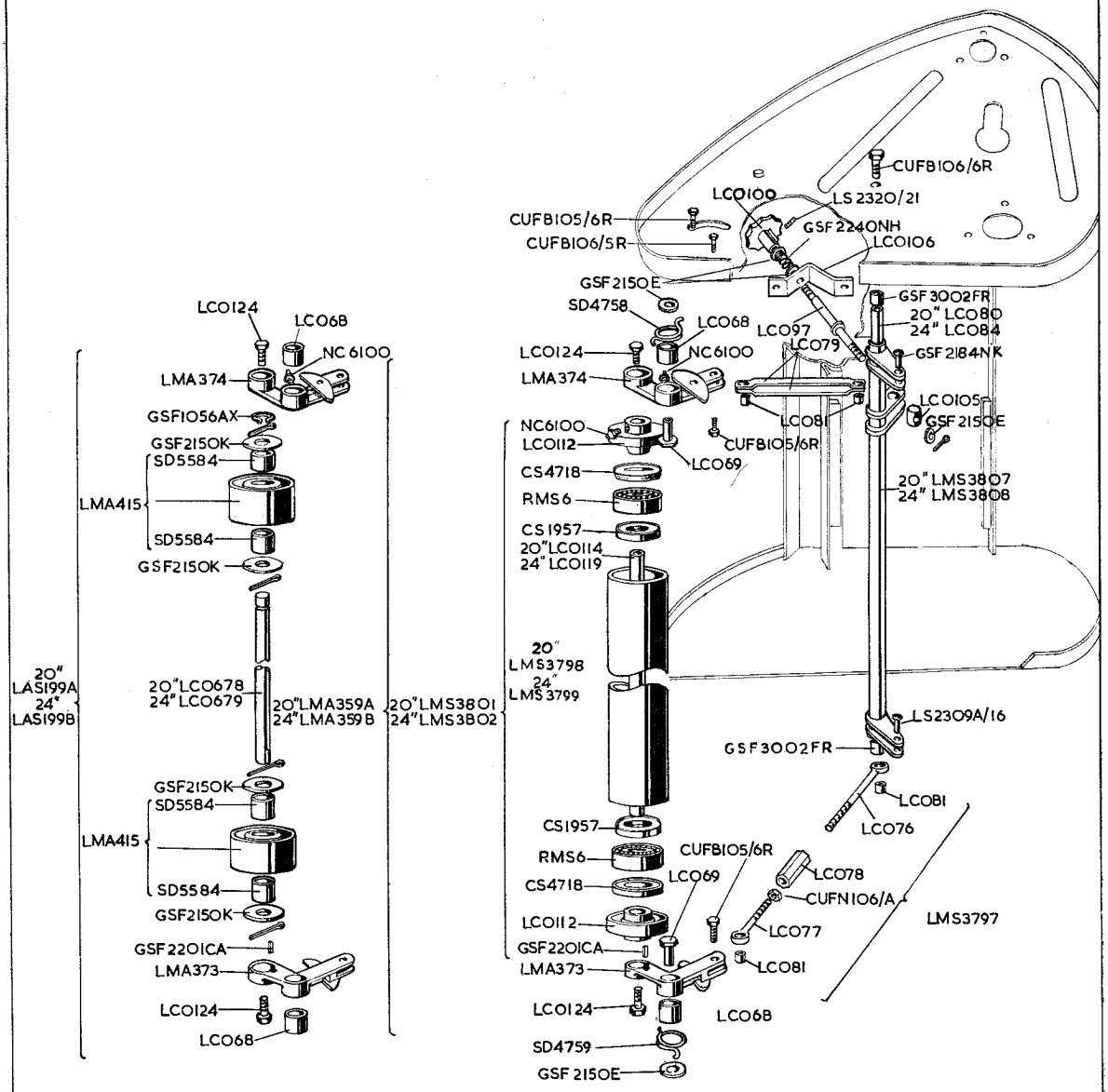
CUTTING UNIT & CYLINDER CLUTCH

27167

Machine	Mark	Description
All machines	CS 4720	Oil seal—bearing housings
All machines	CUFB 104/6R	Bolt—scraper (LS 2318/26)
All machines	CUFB 105/6R	Bolt—scraper bracket (LS 2318/27)
All machines	CUFB 106/6R	Bolt—landroll spindle R.H. end
All machines	CUFB 106/6R	Bolt—bearing housings
All machines	GSF 1055BT	Circlip—bearing housing L.H.
Any 20″ machine	LAS 632A	Landroll assembly—lengthwise fluted
Any 24″ machine	LAS 632B	Landroll assembly—lengthwise fluted
All 20″ machines	LCO 39	Landroll scraper
All 24″ machines	LCO 40	Landroll scraper
All machines	LCO 41	Scraper bracket
Any 20″ machine	LCO 139	Landroll (Male) R.H. plain finish
Any 20″ machine	LCO 140	Landroll (Female) L.H. plain finish
Any 24″ machine	LCO 141	Landroll (Male) R.H. plain finish
Any 24″ machine	LCO 142	Landroll (Female) L.H. plain finish
All 20″ machines	LCO 143	Landroll spindle
All 24″ machines	LCO 144	Landroll spindle
All machines	LCO 145	Thrust washer
All machines	LCO 146	Bearing housing L.H.
All machines	LCO 147	Bearing housing R.H.
Any 20″ machine	LMA 349A	Landroll assembly—plain rolls
Any 24″ machine	LMA 349B	Landroll assembly—plain rolls
Any 24″ machine	LMA 349D	Landroll assembly—rubber covered rolls
All machines	LMS 448	Pawl box assembly
All machines	LMS 758	Oil tube—landrolls
All machines	GSF 2180PC	Rivet—pawls
All machines	LS 2316/1	Cotter pin—pawl box
Any 20″ machine	MAA 0542	Landroll (Male) R.H.—lengthwise fluted
Any 20″ machine	MAA 0543	Landroll (Female) L.H.—lengthwise fluted
Any 24″ machine	MAA 0558	Landroll (Male) R.H.—lengthwise fluted
Any 24″ machine	MAA 0559	Landroll (Female) L.H.—lengthwise fluted
Any 24″ machine	MAA 0769	Landroll (Male) R.H.—rubber covered
Any 24″ machine	MAA 0771	Landroll (Female) L.H.—rubber covered
All machines	NC 6065	Lubricator—landrolls
All machines	NC 6100	Lubricator—bearing housings
All machines	RL 7	Ball bearings—landroll spindle
All machines	SD 3543	Pawl box—landroll
All machines	SD 4394	Retaining washer—landroll spindle R.H. end
All machines	TC 417	Pawl—freewheel


CUFB105/6R
LS2318/27
LCO41
CUFB106/6R
CUFB104/6R
LCO146
NC6100
GSF1055BT
RL7
GSF1055BT
LCO145
CS4720
20" LCO39
24" LCO40
LCO41
20" LCO140
24" LCO142
CUFB104/6R
20" LMA349A
24" LMA349B
LMS448
GSF2180PC
SD3543
TC417
LS2316/1
20" LCO143
24" LCO144
20" LCO139
24" LCO141
LMS758
NC6065
CS4720
LCO145
RL7
LCO147
NC6100
SD4394
CUFB106/6R
ALTERNATIVE LAND ROLLS.
20" MAA0543
24" MAA0559
20" LAS 632A
24" LAS 632B
20" MAA0542
24" MAA0558
24" MAA0769
24" LMA349D
24" MAA0771
LAND ROLLS
27168/1

Machine	Mark	Description
All Front Roll models	CS 1957	Oil seal—internal type
All Front Roll models	CS 4718	Oil seal—external type
All machines	CUFB 105/6R	Bolt—carriages
All machines	CUFB 105/6R	Bolt—carriage link
All machines	CUFB 106/5R	Bolt—pivot pins
All machines	CUFB 106/6R	Bolt—crossbar
All Side Roll models	GSF 1056AX	Circlip—side roll spindle
All machines	GSF 2150E	Washer—$\frac{3}{8}$" dia.
All Side Roll models	GSF 2150K	Washer—$\frac{3}{4}$" dia.
All machines	GSF 2201CA	Key—R.H. carriage
All 20" machines	LAS 199A	Side roll assembly
All 24" machines	LAS 199B	Side roll assembly
All machines	LCO 68	Bush—carriages
All machines	LCO 69	Pivot pin—carriages
All machines	LCO 76	Adjusting rod—long
All machines	LCO 77	Adjusting rod—short
All machines	LCO 78	Adjusting nut
All machines	LCO 79	Link L.H.
All 20" machines	LCO 80	Crossbar
All machines	LCO 81	Bush—link and adjusting rods
All machines	GSF 3002FR	Bush—cross tube
All 24" machines	LCO 84	Crossbar
All machines	LCO 97	Adjusting screw
All machines	LCO 105	Swivel nut
All machines	LCO 106	Bridge plate
All 20" Front Roll models	LMS 3798	Front roll tube
All Front Roll models	LCO 112	End cover—front roll
All 20" Front Roll models	LCO 114	Front roll spindle
All 24" Front Roll models	LMS 3799	Front roll tube
All 24" Front Roll models	LCO 119	Front roll spindle
All machines	LCO 124	Securing bolt—front roll spindle
All machines	LCO 100	Adjusting handwheel
Any 20" Side Roll models	LCO 678	Side roll spindle
Any 24" Side Roll models	LCO 679	Side roll spindle
Any 20" machine	LMA 359A	Front roll and carriage assembly—complete
Any 24" machine	LMA 359B	Front roll and carriage assembly—complete
All machines	LMA 373	Front carriage R.H.
All machines	LMA 374	Front carriage L.H.
All Side Roll models	LMA 415	Side roll with bushes
All machines	LMS 3797	Carriage link rod assembly
All 20" Front Roll models	LMS 3801	Front roll with bearings
All 24" Front Roll models	LMS 3802	Front roll with bearings
All 20" machines	LMS 3807	Carriage adjusting tube
All 24" machines	LMS 3808	Carriage adjusting tube
All machines	GSF 2240NH	Spring—adjusting screw
All machines	GSF 2184NK	Rivet—L.H. links
All machines	LS 2320/21	Grub screw—adjusting handle
All machines	NC 6100	Lubricator—carriages
All Front Roll machines	NC 6100	Lubricator—front roll bearing
All Front Roll machines	RMS 6	Bearing—front roll
All machines	SD 4758	Adjusting spring L.H.
All machines	SD 4759	Adjusting spring R.H.
All Side Roll machines	SD 5584	Bush—side rolls


LCO124
LCO6B
NC6100
LMA374
GSF1056AX
GSF2150K
SD5584
LMA415
SD5584
GSF2150K
20" LAS199A
24" LAS199B
20"LCO678
24" LCO679
20"LMA359A
24"LMA359B
20"LMS3801
24"LMS3802
GSF2150K
SD5584
LMA415
SD5584
GSF2150K
GSF2201CA
LMA373
LCO124
LCO68
SIDE ROLLS
CUFB106/6R
LCO100
LS2320/21
CUFB105/6R
GSF2240NH
CUFB106/5R
LCO106
GSF2150E
SD4758
LCO68
LCO97
LCO79
GSF3002FR
20" LCO80
24" LCO84
LCO124
NC6100
GSF2184NR
LMA374
LCO105
GSF2150E
LCO81
NC6100
LCO112
CUFB105/6R
LCO69
CS4718
RMS6
CS1957
20"LCO114
24" LCO119
20"LMS3807
24" LMS3808
20" LMS3798
24" LMS3799
LS2309A/16
GSF3002FR
LCO81
LCO76
CS1957
RMS6
CS4718
LCO112
GSF2201CA
LMA373
LCO124
SD4759
GSF2150E
CUFB105/6R
LCO69
LCO78
CUFN106/A
LCO77
LCO81
LCO6B
LMS3797
FRONT ROLLS
27169/1

TOOL LIST (Not illustrated). All Machines

Mark	Description	Mark	Description
LMS 4106	Complete set of tools (Majestic only)	GSF 5001AH	D/E forged spanner $\frac{1}{4}''$ × $\frac{5}{16}''$ UF
LMS 4109	Complete set of tools (Meteor-Four, Matador, Pathfinder)	GSF 5001AK	D/E forged spanner $\frac{5}{16}''$ × $\frac{3}{8}''$ UF
LS 2316/20	Tool wrap	LCO 230	Clutch spanner
LS 2506/3	Pressure oil gun GB 2788/106 (Tecalemit)	GSF 5040AK	Allen Key for $\frac{1}{4}''$ UF Grub screw
LS 2506/11	Junior oil can	GSF 5006AN	S/E forged spanner $\frac{1}{2}''$ UF
GSF 5026AK	S/E Box spanner $\frac{3}{8}''$ UF	GSF 5006AW	S/E forged spanner $\frac{3}{4}''$ UF
GSF 5046AN	Tommy bar		

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