

The Book of the



K I4
POWER MOWER



FOREWORD

THE J.P. K.14 PETROL MOWER is a light machine, easy to manipulate in the mowing of small and medium sized lawns.

It is designed and produced to precision engineering standards and with proper care and maintenance the machine will give continuous satisfactory and reliable service.

The Serial Number of the machine will be seen stamped at the front on the outside of the left hand side frame and this number should always be quoted in correspondence.

J.P. Lawnmowers are fully guaranteed for replacement of any part against failure proved to be due to faulty material or workmanship.



THE J.P. ENGINEERING CO. LTD.

Manufacturers of J.P. Super Lawnmowers

MEYNELL ROAD, LEICESTER, Eng.

Telegrams:
"SUPERLAMO, LEICESTER"

Telephone:
LEICESTER 67542 (2 lines)

SECTION A.

STARTING PREPARATION

1.—CUTTER SETTING ADJUSTMENT

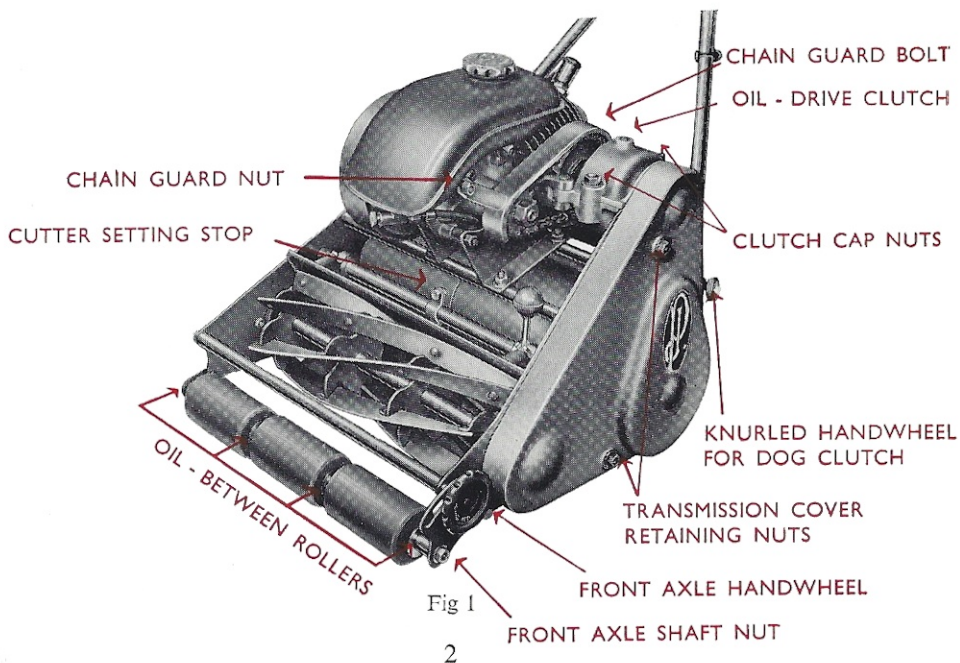
Adjust the shear blade to the rotary cutter by moving the red headed adjusting lever in the direction towards the rear roller, as far as it will go as permitted by the cutter setting stop: this will bring the bottom blade into a light audible contact with the rotary cutter which is the correct adjustment for cutting.

2.—ADJUSTMENT FOR CLOSE TO MEDIUM CUTTING

This adjustment is made by the front axle handwheel (Ref. Fig. 1) and after unscrewing this for a turn, adjustment can be made to any position in the traverse slot of the bracket. The adjustment should not be set too low when dealing with a heavy crop or when mowing the lawn at the early part of the season.

As the ground gets harder, the adjustment may be set further back and the machine will cut to a very close finish.

After making adjustment, rescrew the handwheel tight.



3.—FIXING THE GRASSBOX

To fix the Grassbox into position, first insert the two metal wings on the Grassbox on the outside of the Chassis side frames. The Box can then be lowered with the bottom slot of the wings engaging in each of the grassbox studs, seen projecting from the side frames and the upper slots of the wings resting on the front cross bar. (Ref. Fig. 3.)

4.—CLUTCH DRIVE

The design provides that the machine can be used as completely self propelled or to drive the cutters only, and this feature is controlled by a small dog clutch on the transmission side of the rear axle and is operated by the small knurled handwheel screw which passes through the clutch lever which can be seen projecting from the side of the large transmission cover (Ref. Fig. 1.)

To use the machine with the drive to the cutters only, the knurled handwheel should be screwed in a **clockwise direction** as far as it will go.

To use the machine as completely self propelled, the knurled handwheel should be unscrewed in an **anti-clockwise direction**, again, as far as it will go.

It will readily be seen that the function of the rear axle clutch lever controlled by the knurled handwheel as described, will determine the drive to the cutter only or to the complete machine.

Before making the adjustment to change the drive, which is best done with the engine not running, always see that the main clutch control lever on the right handlebar is in the dis-engaged position by raising the lever.

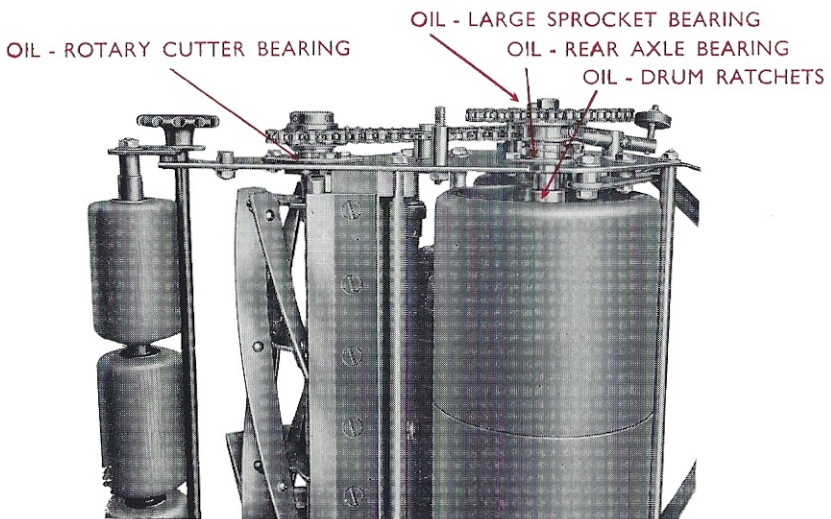


Fig 2

5.—ENGINE PREPARATION AND STARTING

Mix in a clean petrol can, one gallon of good grade petrol and one half pint of Castrol XL. oil. Shake and thoroughly mix before pouring into petrol tank. Always see that the petrol is well mixed by shaking in the tank if the machine has been standing for two or three days, before use.

Turn on the petrol tap and adjust the carburettor throttle lever on the handlebar to about one third of its full opening. Close the air strangler on the carburettor and press the float tickler. Do not close the strangler or press the carburettor tickler once the engine is warm.

Wind the starting rope on the engine pulley several coils and pull off sharply in a clockwise direction. (Please refer to, and read carefully, the Villiers Operating Instructions with regard to fuel and starting on pages 3 & 4.)

Immediately the engine starts and gets under way, open the carburettor air strangler.

The machine can now be put into motion by operating the clutch control lever on the right handlebar. Simultaneously adjust the carburettor throttle lever on the left handlebar to give the required engine speed.

To stop the machine, raise the clutch control lever on the right handlebar until the trigger is engaged, thus retaining the lever in the neutral position.

To put the machine into motion, press the trigger and lower the clutch lever to engage the clutch to the drive position.

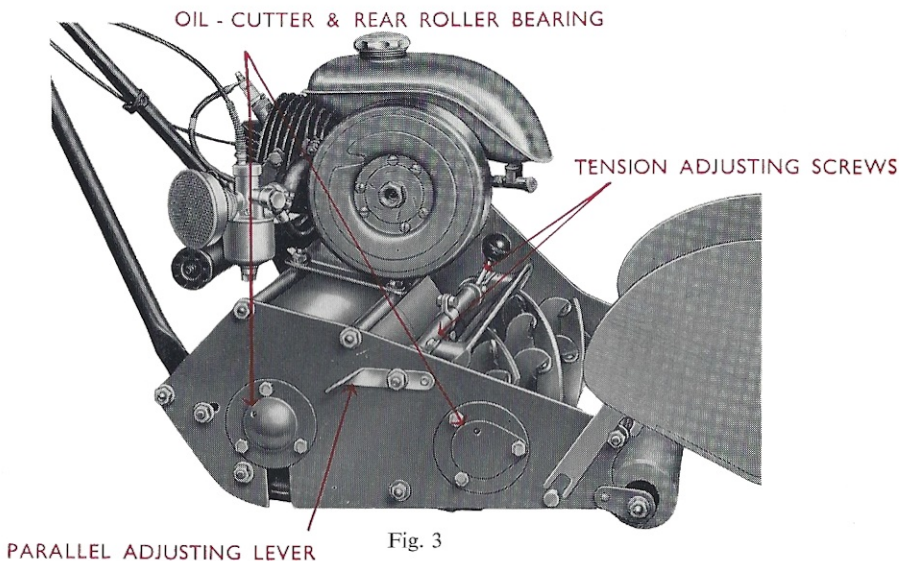


Fig. 3

SECTION B. LUBRICATION

The following oiling points should receive careful attention:—

1.—ROTARY CUTTER & REAR AXLE BEARINGS, DRUM RATCHETS & LARGE SPROCKET BEARING (Medium Grade Oil every two months)

Remove the large transmission cover on the left hand side of the machine by first unscrewing and taking off the two retaining nuts (Ref. Fig. 1) The rotary cutter, rear axle and large sprocket bearings and drum ratchet oiling points are then accessible.

It is advisable to tip the machine on its side and move the cutter and rear axle round slowly to assist the oil in working through into the bearings and drum ratchets. (Ref. Fig. 2.)

Now turn the machine right over with the small side frame uppermost; oil should then be applied through the two oil holes seen in the cutter bearing and rear axle covers. (Ref. Fig. 3), also apply oil to the drum face to lubricate the drum ratchets.

Be careful to keep fingers away from the shear blade.

2.—MAIN CLUTCH DRIVE (Thin Oil, daily when in use)

The friction driving clutch consists of an assembly of Phosphor Bronze and Steel Plates and should work with a film of oil on the surfaces. A spring ball lubricator is provided on top of the aluminium clutch housing cap (Ref. Fig. 1) through which a small charge of thin oil should be applied daily when the machine is in use.

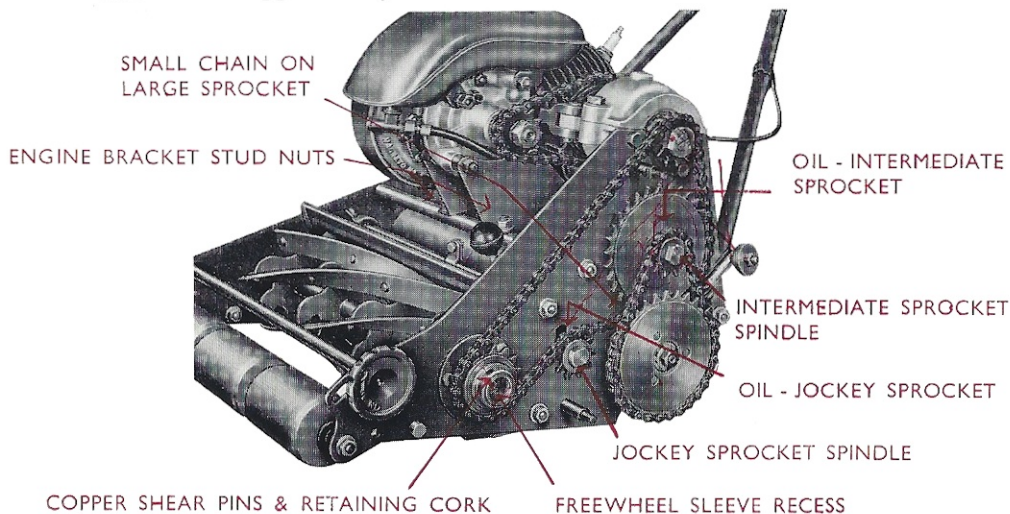


Fig. 4

3.—CLUTCH SHAFT BEARINGS (Grease, every three months)

Unscrew and take off the bolt which secures the rear end of the engine chain guard (Ref. Fig. 1). Now remove the clutch housing cap by first unscrewing and taking off the two retaining nuts (Ref. Fig. 1) The clutch shaft bearings are then accessible and grease can be applied between the inner and outer races (Ref. Fig. 5).

Replace clutch cap and chain guard and secure nuts tight.

4.—DRIVING CHAINS AND SPROCKETS (Medium Grade Oil, every month)

Remove the large transmission cover on the left hand side of the machine by first removing and taking off the two retaining nuts. The side frame transmission is then accessible and oil should be applied to the links and rollers of the transmission chains.

The large intermediate sprocket and the small jockey sprocket are fitted with self lubricating bearings, but a supplementary charge of oil can be applied in the oil hole seen in the centre of the boss of each sprocket (Ref. Fig. 4).

Also apply a charge of oil between the outer revolving rim and the centre of the freewheel.

Replace the transmission cover and screw nuts tight.

5.—ENGINE DRIVE CHAIN (Medium Grade Oil, every month)

Remove the guard off the engine chain by first unscrewing and taking out the bolt which secures the guard to the clutch cap, then unscrew the nut which secures the guard at the opposite end underneath the petrol tank (Ref. Fig. 1).

The chain is then accessible and oil can be applied to the links and rollers. Replace the guard and screw up tight.

6.—FRONT ROLLERS (Medium Grade Oil, every week)

A charge of oil should be applied at the side on the axle of each roller, which should be spun round to work the oil along the shaft.

Lubrication will stop noise and chatter and preserve the wear of the rollers (Ref. Fig. 1).

SECTION C. ADJUSTMENTS

Reference in the instructions to left or right hand side of the machine is always understood to be taken when standing in the working position.

1.—The machine is fitted with a cutter setting stop (Ref. Fig. 1) and the feature of the stop is of great assistance insofar that after the mowing is completed, the cutting contact of the shear blade and rotary cutter can be released by moving the red headed lever forward away from the rear roller; subsequently when the machine is to be used again, it is only necessary to move the red headed adjusting lever as far as it will go up to the setting stop, which will bring the cutter setting in the pre-adjusted position.

Special Note: On any future occasion of the cutters being re-ground, or the machine dismantled, it is important to see that the cutter setting is re-adjusted and the procedure should be as follows:—

1. First unscrew the locking nut of the setting stop screw a couple of turns to release the stop and make it free on the tube.
2. Now set the bottom shear blade parallel to the rotary cutter (Please refer to instructions, reference Parallelism of Cutters.)
3. Adjust the bottom blade to a **light audible contact with the rotary cutter** by moving the red headed lever in the direction of the rear roller.
4. With the cutters adjusted to a **light audible contact**, the cutter setting stop should be rotated and positioned so that the bottom end of the stop contacts up against the back of the knife frame. The lock nut and screw should then be tightened securely in position. A light audible contact between the rotary cutter and the shear blade will give the best cutting results. Too harsh a contact will only cause unnecessary wear.

2.—PARALLELISM OF CUTTERS

The machine is set and inspected before despatch to cut equally along the whole length of the rotary cutter when the contact adjustment with the bottom shear blade is made, and no attention to correct any misalignment should be necessary unless the machine has been dismantled or subjected to excessive shock or through fouling an obstruction.

Out of alignment of the bottom shear blade with the rotary cutter can be corrected by the following adjustment.

On the side of the right hand small frame will be seen the lever adjuster through which passes the knife frame tie bar. (Ref. Fig. 3).

The locking nut should be unscrewed for a couple of turns, this will release the tie bar which can then be moved up or down by raising or lowering the adjusting lever and will enable the shear blade to be set parallel to the rotary cutter.

To ensure that the adjustment has been made correctly, the setting should be tested with a strip of ordinary brown paper by cutting from end to end on each blade of the rotary cutter.

The cutting test should be made with the shear blade adjusted to a light audible contact with the rotary cutter, Ref. Paragraph 1, Starting Preparation. After adjustment tighten up the adjusting lever lock nut securely.

3.—TENSION OF RED HEADED LEVER ADJUSTER

The tension of the red headed lever adjuster for bringing the bottom blade into contact with the rotary cutter, is controlled by the two front screws of the knife frame straps which hold the adjuster in position. The two screws at the back of the straps **should always be as tight as possible**, but the two front screws under which there is a rubber tension washer, should be sufficiently tight to ensure that the adjuster moves under reasonable tight tension. (Ref. Fig. 3.)

The correct tension adjustment is important as it ensures against any disturbance of the cutter setting through vibration.

4.—CHAIN ADJUSTMENT (Side transmission)

Remove the large transmission cover on the left side of the machine by first unscrewing and taking off the two retaining nuts.

The transmission chains are then accessible and adjustment should be made by the following procedure:—

First unscrew the two flatted heads of both the large intermediate and jockeysprocket spindles a couple of turns (Ref. Fig. 4). Now adjust the small chain which operates from the large rear axle sprocket on to the small intermediate sprocket by highering or lowering the sprocket spindle in the slot of the side frame.

After positioning correctly, screw spindle and nut up tight.

The main cutter chain can then be adjusted by moving the small jockey sprocket, the spindle of which is also engaged in a slot of the side frame. The adjustment can then be made upwards or downwards after which the flatted head of the spindle should be screwed up tight and secure.

Do not adjust the chains too tight as this will cause stretch, unnecessary wear and restrict the free movement of the machine. A correctly adjusted chain should always have a little slackness.

5.—ENGINE CHAIN ADJUSTMENT

The engine drive chain (Ref. Fig. 4) is adjusted by correctly positioning the engine on the cross member tie bars and procedure should be as follows:—first remove the chain guard, then unscrew for a couple of turns the four stud nuts which secure the engine brackets on the cross tie bars. (Fig. 4).

The engine can then be moved backwards or forwards in the slots of the engine brackets, and after the engine is positioned to give correct chain adjustment, the stud nuts should be screwed up tight and secure. Adjust chain with a little slackness.

Afterwards replace chain guard.

6.—HANDLEBARS

The handlebars are adjustable for height, and to make the adjustment proceed as follows:—first remove the large transmission cover on the left hand side frame, after unscrewing and taking off the two retaining nuts. This will make accessible the heads of the bolts which secure the handlebars to the side frames and these should be slackened for a turn on both sides.

The handlebars can then be raised or lowered to the required height.

After making the adjustment, screw the bolt heads tight and replace the transmission cover.

7.—MAIN DRIVE CLUTCH ADJUSTMENT

The main drive clutch comprises an inner and outer clutch member engaging six friction drive plates, three steel and three phosphor bronze (Ref. Fig. 5).

The order of the clutch shaft assembly is also shown on separate diagram. (Ref. Fig. 6).

The clutch closing lever which operates against a pressure pin and spring is anchored at the end of the clutch housing casting and is engaged at the other end with the Bowden cable (Ref. Fig. 5).

The cable passes through a screwed cable adjuster sleeve with lock-nuts and the correct adjustment should be that when the clutch control lever on the right handlebar is in the engaged position with the clutch plates closed, there should be approximately a $\frac{1}{16}$ " gap or free play between the end of the pressure pin in the clutch shaft and the round headed thrust pin on the clutch closing lever. The gap or free play referred to is important because it ensures that clutch plates are closed tight to give a positive drive, and adjustment for this is provided with the screwed cable adjuster.

Always see that lock-nuts are tight and secure after making the adjustment.

8.—REPLACING THE COPPER SHEAR PINS

There are two copper shear pins which engage the freewheel sleeve and the cutter bearing sleeve (Ref. Fig. 4). The purpose of the shear pins is that in the event of an obstruction fouling the cutters during the working of the machine, the two pins which are fitted will be caused to shear and this action greatly assists in preventing damage to cutter blades and transmission by absorbing some of the shock of the obstruction by shearing.

When the pins have sheared there will be no drive to the rotary cutter until replacement shear pins are fitted. To replace the shear pins, first remove the large transmission cover, then take the cork from the centre recess of the freewheel sprocket sleeve (Ref. Fig. 4) and get the four holes of the two sleeves in line when the sheared portions can then be tapped through with a small punch from the inside of the recess. Take particular care to see that no portion of any pin is left inside. Two new pins can now be fitted and these should be inserted from the inside of the recess of the sleeve with the head of the pin in the recess. Replace the cork to prevent the pins dropping out.

It should be noted that there are four sets of holes, but only two should be used at once. The purpose of the four holes is to provide against possible elongation or wear through the action of shearing.

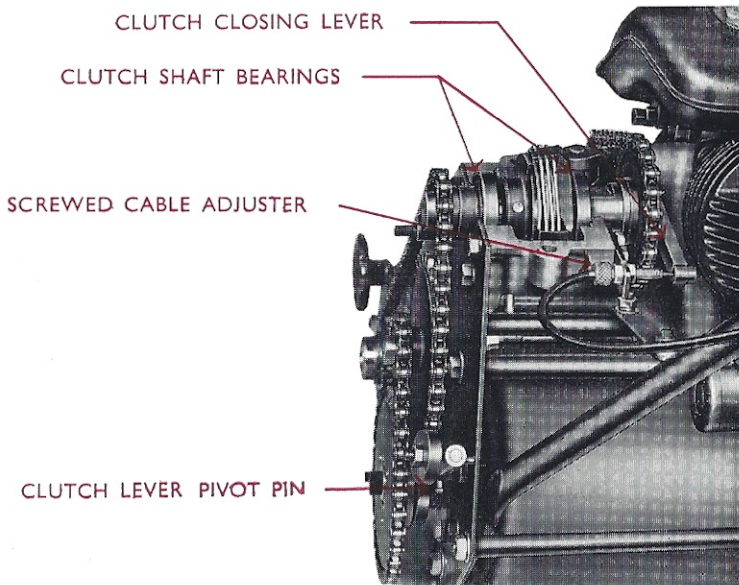


Fig. 5

SECTION D. REMOVAL OF SUB ASSEMBLIES

1.—POWER UNIT

First remove the engine chain guard. Disconnect the chain by first removing the spring clip and the connecting link. Unscrew the four stud nuts which secure the engine brackets to the tie bars (Ref. Fig. 4). Remove the carburettor throttle control lever from the left hand handlebar and the engine may now be lifted clear of the tie bar studs.

In re-assembling the engine, see that it is positioned to ensure correct chain adjustment and that all nuts are tight and secure.

2.—REAR ROLLER ASSEMBLY

The rear roller assembly can be removed from the chassis without dismantling the side frame construction.

First remove the large transmission cover on the left hand side of the machine by first unscrewing and taking off the two retaining nuts. Unscrew and take off the rear axle shaft nut which secures the large sprocket (please note that the rear axle clutch should be in the engaged position, otherwise the nut will turn with the shaft). Disconnect the small chain which engages the rear axle sprocket by removing the spring clip and the connecting link. The large sprocket complete with bearing can then be withdrawn from the shaft.

Remove the dog clutch lever by first withdrawing the split pin and lightly tapping out the pivot pin. (Ref. Fig. 5).

The dog clutch with spring and centre sleeve and keys can now all be removed from the shaft. Unscrew the rear axle bearing housing bolts (three each side) and the excluder plate secured by the handle bar bolt.

Withdraw the bearing housings complete with bearings clear of the side frames and the axle can now be lifted clear from the machine chassis.

3.—REMOVING THE ROTARY CUTTER

The rotary cutter can be removed from the chassis without dismantling the side frame construction, when necessary for regrinding or servicing; proceed as follows:—

Remove the large transmission cover on the left hand side of the machine by first unscrewing and taking off the two retaining nuts. Then take off the cutter drive chain by detaching the connecting link and then remove the cork from inside the recess of the freewheel sleeve.

In the recess of the freewheel sleeve will be seen the cutter shaft nut (Ref. Fig. 4) and this should be unscrewed and taken off, using the box spanner provided. The freewheel complete with splined sleeve can then be withdrawn from the cutter shaft.

Now unscrew and remove the cutter bearing housing bolts, three in each side; the bearing housings complete with bearings should then be withdrawn off each end of the rotary cutter shaft, taking the transmission side off first. The opposite side, or the plain end of the shaft can then be tapped until it passes clear of the bearing. This should be done with a hard wood punch and not metal, as it is important not to damage the centres of the cutter shaft, which might cause trouble in regrinding.

The cutter can then be withdrawn clear of the side frames.

4.—REPLACING THE ROTARY CUTTER

To re-assemble, the threaded end of the rotary cutter shaft should be passed through the large hole in the transmission side frame. Now assemble the transmission side bearing housing on to the end of the cutter shaft and replace the three retaining bolts.

The opposite side bearing housing should then be placed on the end of the cutter shaft and tapped along as far as it will go up to the side frame face. Replace and tighten the three housing bolts.

5.—TO REMOVE FRONT ROLLER ASSEMBLY

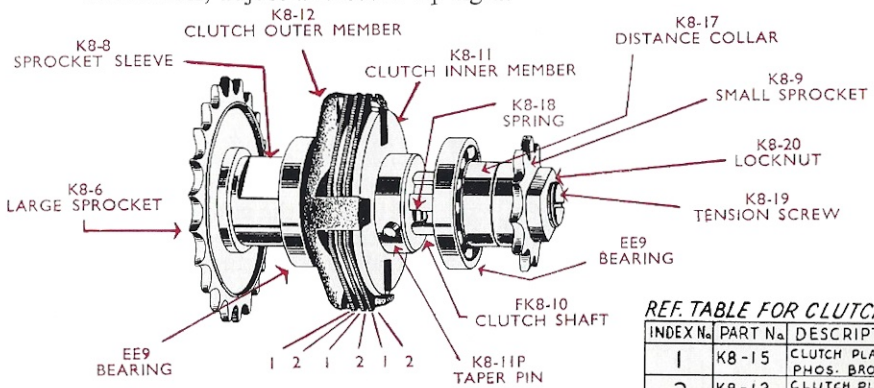
Unscrew and take off the handwheel (Ref. Fig. 1). Unscrew and take off the nut on the end of the front axle shaft (Ref. Fig. 1) and the slotted adjuster can then be lightly tapped off the end.

The axle will then come clear from the opposite side and the rollers can be removed for inspection or replacement.

6.—REPLACING THE FRONT ROLLER ASSEMBLY

Engage the small crank arm with its stud in the hole of the side frame with the rollers and distance pieces already assembled on the shaft. Then assemble the slotted adjuster on to the flatted end of the shaft, at the same time, engaging the stud in the hole of the side frame.

Tighten front axle nut on the face of slotted adjuster, replace handwheel, adjust and screw up tight.



REF. TABLE FOR CLUTCH ASS

INDEX No	PART No	DESCRIPTION	QUAN
1	K8-15	CLUTCH PLATE PHOS. BRONZE	3
2	K8-13	CLUTCH PLATE CLUTCH PLATE STEEL	3

Fig. 6

AFTER SERVICE AND INSTRUCTIONS FOR ORDERING SPARE PARTS

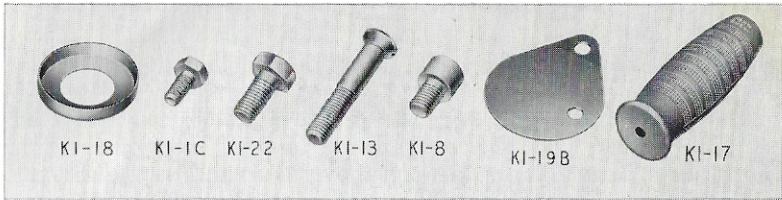
1. We have available a first-class overhaul and repair Service Department, fully equipped with modern facilities. Consult your Dealer with regard to your requirements, or, in case of difficulty, contact us direct.

Always see that the machines and cutters returned for overhaul and regrinding are properly packed and labelled with the name and address of the sender securely attached.

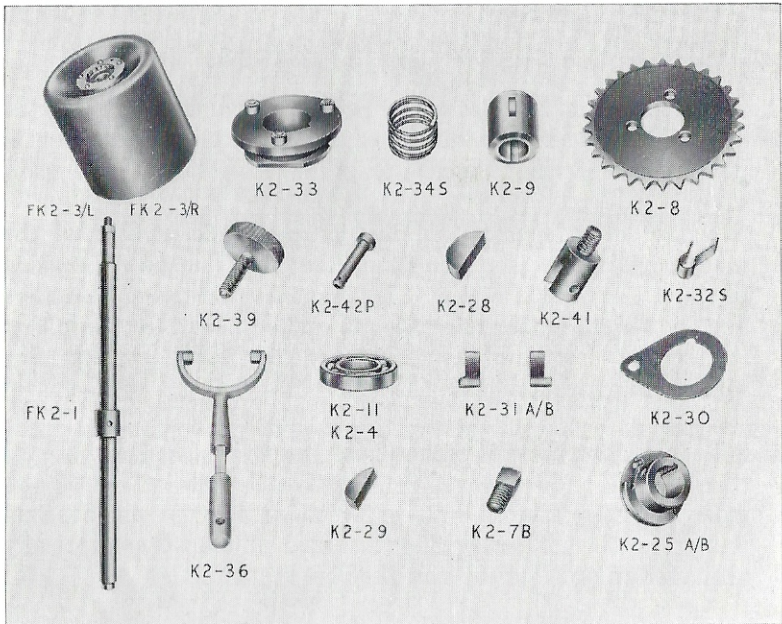
On request, we will arrange, if in convenient location, for one of our service vehicles to collect your machine, or we will despatch a crate to you in which the machine can be packed for return to our works for overhaul and service attention.

2. The main parts are illustrated and the comprehensive list of components is quoted with the respective part numbers. Always give part number and description in full.
3. When ordering spare parts, always quote the number of the machine, which will be seen stamped at the front on the outside of the left hand side frame; it is important that the prefix letters and the serial number reference are quoted in full to ensure that the correct parts are despatched. Always quote the machine number in correspondence.
4. All machines and component parts must be consigned to us, carriage paid, addressed to the "Service Department." Old and worn out parts sent as patterns which we consider are obsolete and of no further use are not returned unless we are specially requested to do so at the time they are sent to us.
5. If required, we are prepared to submit an estimate before proceeding with any repairs.
6. Estimates must be treated as approximate only. We reserve the right to include additional parts should they be found necessary on further examination to make the repair a satisfactory job.

PARTS LIST

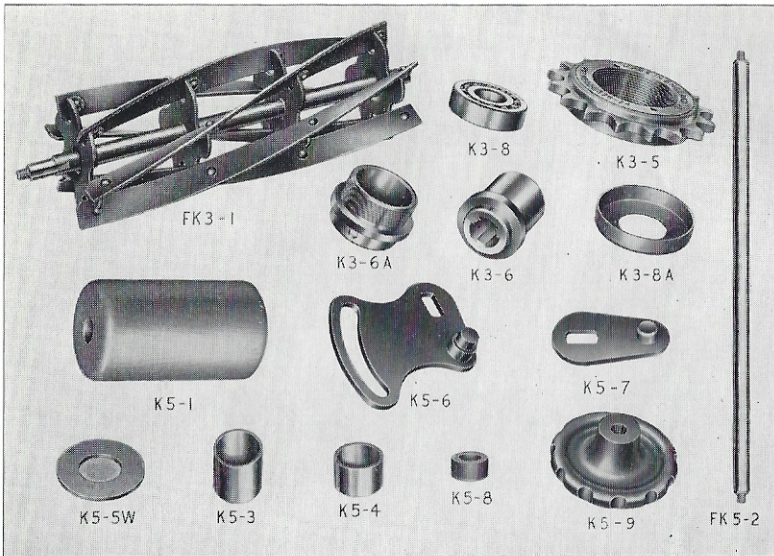


K1-1	Sideframe Lt. Hd.	FK1-9B	Handlebar R.H.
K1-1B	Cutter Bearing Housing	K1-12	Clip for Handlebar
K1-1C	Bolt	K1-12A	Clip for Handlebar (C/sunk)
K1-1D	Rear Axle Bearing Housing	K1-12B	Clip for Handlebar (Plain)
K1-2	Sideframe Rt. Hd.	K1-13	Handlebar Clip Bolt
FK1-3	Front Tie Bar	K1-14	Anchor Bush Handlebar
FK1-4	Rear Tie Bar	K1-17	Handlegrip
FK1-5	Lower Tie Bar	K1-18	Rear Axle Bearing Cover
FK1-6	Knife Frame Tie Bar	K1-19A	Rear Axle Bearing Cover Cap
K1-8	Stud for Grassbox	K1-19B	Cutter Bearing Cover Cap
FK1-9A	Handlebar L.H.	K1-22	Handlebar Bolt



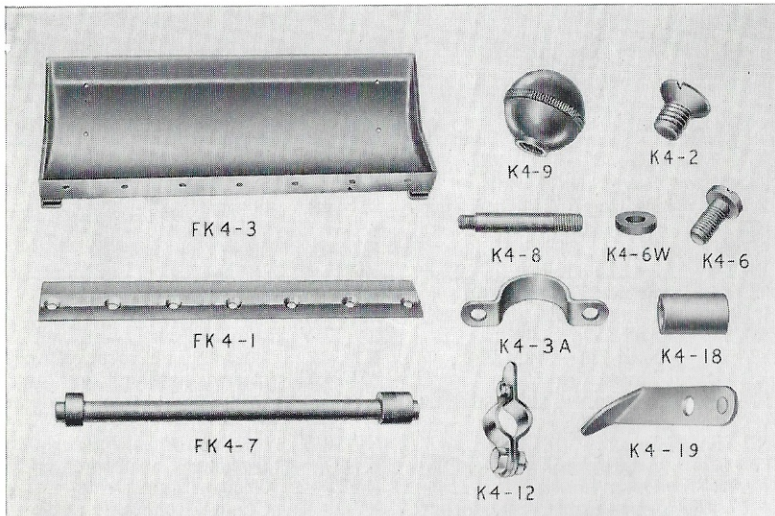
FK2-1	Rear Axle Shaft (Assembled)	K2-30A	Setscrew
FK2-3/L	Drum (Assembled)	K2-31A/B	Freewheel Pawl
FK2-3/R	Drum (Assembled)	K2-32S	Freewheel Pawl Spring
K2-4	Rear Axle Ball Race	K2-33A	Dog Clutch Member
K2-7B	Setscrew	K2-33B	Dog Clutch Pin
K2-8	Rear Axle Sprocket	K2-34S	Rear Axle Clutch Spring
K2-9	Rear Axle Spacing Collar	K2-36	Rear Axle Clutch Fork
K2-10N	Cutter & Rear Axle Nut	K2-38	Clutch Lever Roller
K2-10W	Rear Axle Washer	K2-39	Clutch Operating Screw
K2-11	Sprocket Ball Race	K2-41	Slotted Stud
K2-25A/B	Inner Clutch Member	K2-42P	Slotted Stud-Pivot Pin
K2-28	Woodruff Key	K2-43P	Split Pin-Pivot Pin
K2-30	Clutch Cover Plate		

PARTS LIST—continued



FK3-1 Rotary Cutter
 K3-5 Freewheel
 K3-6 Freewheel Sleeve
 K3-6A Freewheel Bush
 K3-6B Shear Pin
 K3-6C Cork
 K3-8 Ball Race Cutter
 K3-8A Bearing Cover

K5-1 Front Roller
 FK5-2 Axle Shaft
 K5-3 Distance Tube
 K5-4 Spacing Tube
 K5-5W Washer Front Axle
 K5-6 Adjuster Arm
 K5-7 Crank Arm
 K5-8 Distance Collar
 K5-9 Handwheel



FK4-1 Shear Blade
 K4-2 Screw—Shear Blade
 FK4-3 Knife Frame
 K4-3A Bearing Clip Knife Frame
 K4-6 Locking Bolt
 K4-6W Packing Washer
 FK4-7 Eccentric Adjuster

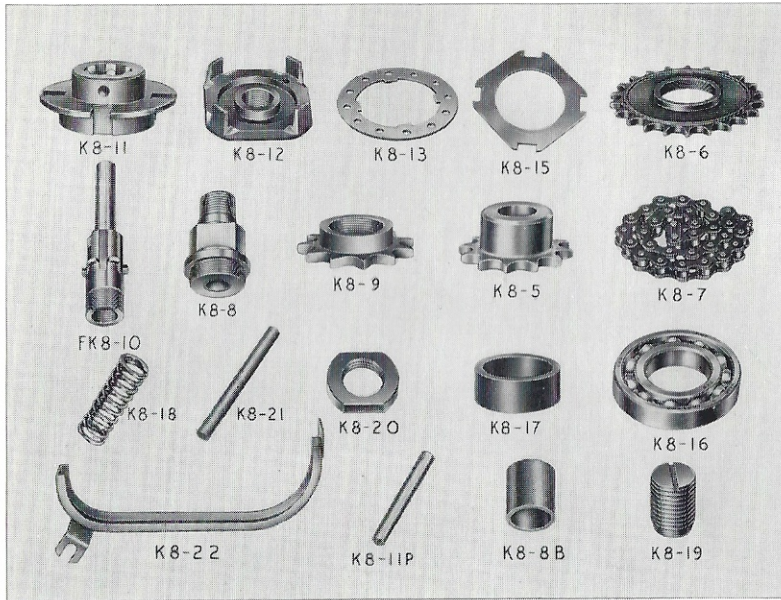
K4-7S Setscrew—Eccentric Adjuster
 K4-8 Handle—Eccentric Adjuster
 K4-9 Knob—Eccentric Adjuster
 K4-18 Spacing Collar
 K4-19 Alignment Lever Complete

PARTS LIST—continued



FK6-1	Grassbox (Complete)	K7-18B	Sleeve—Carburettor Control
K7-1	Bearing & Clutch Housing	K7-18P	Grooved Pin
K7-2	Oilier	K7-19	Cable Clip
K7-3	Brgs. & Clutch Housing Bolt	K7-20	Jockey Sprocket
FK7-4	Engine Tie Bar	K7-21	Bush—Jockey Sprocket
K7-4S	Engine Tie Bar Stud	K7-22	Pin—Jockey Sprocket
K7-5	Clutch Operating Lever	K7-22N	Flange Nut Jockey Pin
K7-6	Pivot Pin	K7-22W	Washer Jockey Sprocket
K7-6P	Split Pin—Pivot Pin	K7-24A	Intermediate Sprocket Large
K7-11	Thrust Pin	K7-24B	Intermediate Sprocket Small
K7-15	Bracket—Cable Adjusting Screw	K7-25	Oillite Bush—Inter Sprocket
K7-15A	Setscrew	K7-26	Pin—Inter Sprocket
K7-16	Adjusting Screw—Cable	K7-26W	Inter Sprocket Washer
FK7-17A	Outer Cable. 3 ft. 6 ins.	K7-27	Distance Collar Inter Spk.
FK7-17B	Inner Cable. 4 ft.	K7-28	Chain—Main Drive
K7-17C	Cable Nipple	K7-29	Chain—Rear Axle Drive
K7-17D	Cable Ferrule	K7-30	Transmission Cover
K7-17E	Cable Nipple	K7-31	Stud—Lower Trans. Cover
K7-18	Clutch Lever Control	K7-32	Stud—Upper Trans. Cover
K7-18A	Sleeve—Control Lever	K7-33	Cover Plate

PARTS LIST—continued



K8-1	Engine	K8-12	Outer Member Clutch
K8-2A/B	Engine Mounting Bracket	K8-13	Steel Clutch Plate
K8-5	Engine Sprocket	K8-15	Phos. Bronze Clutch Plate
K8-6	Large Sprocket Clutch Shaft	K8-16	Ball Race
K8-7	Chain Engine Drive	K8-17	Distance Collar
K8-8	Sprocket Sleeve	K8-18	Spring
K8-9	Small Sprocket-Clutch Shaft	K8-19	Tension Screw
FK8-10	Clutch Shaft	K8-20	Tension Screw Locknut
K8-11	Clutch Inner Member	K8-21	Operating Rod
K8-11P	Taper Pin	K8-22	Chain Guard

