

*Chas. G. Gault*

THE  
**ROTARY HOE**  
TRACTOR ATTACHMENT  
FOR THE  
**FERGUSON TRACTOR**

**Fitting Instructions**

**Hints on Working**

**Instructions for Adjustments and Lubrication**

**Illustrated List of Parts**

*333*  
*10-8*  
*1-4*  
*123*  
*12-8*

*15-2*  
*11-11*  
*11-11*  
*11-11*  
*11-11*

*10-8*  
*1-4*  
*123*

*4*

WARNING

15146  
B...  
11-50  
05-11  
08-30  
08-30

### IMPORTANT NOTICE

TO USERS OF THE ROTARY HOE REDUCTION GEAR

When the Rotary Hoe is in use the four additional low gears provided by the Reduction Gear Box do not put additional strain on the rear axle of the tractor, as the rear wheels of the tractor are not pulling forward, but are in fact, holding the tractor back.

The tractor rear wheels act as an anchor to absorb the forward thrust exerted by the Rotary Hoe.

When however, the Rotary Hoe is taken off the tractor these four additional low gears must only be used for the lighter pulling work where very slow speeds are required. The rear axle of the tractor is designed to give adequate strength when the Standard Gears are used and it will be appreciated that these very low gears could, when adhesion is good, put up strains that the tractor axle was never designed to carry.

26867  
L...  
K...  
11-50

Publication No. RABO/1/51.

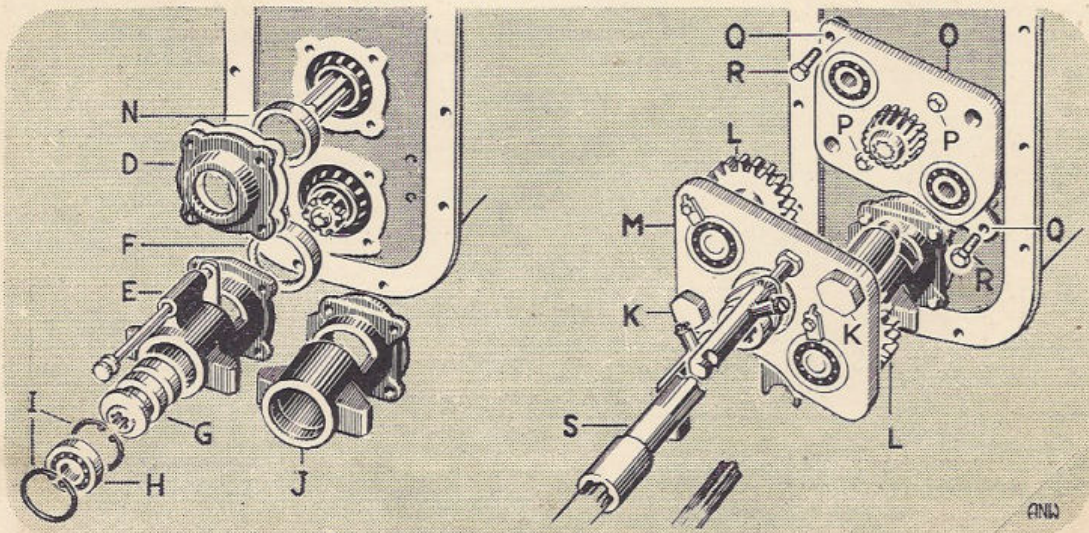
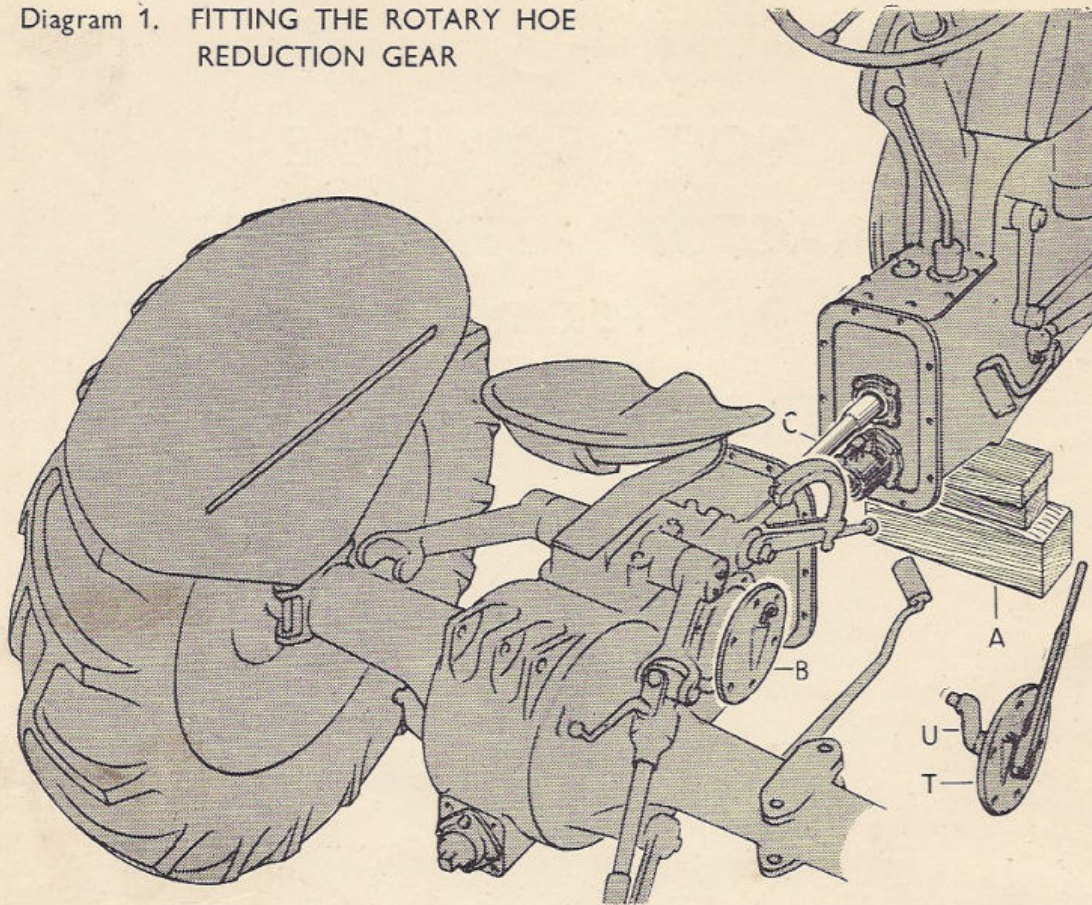
THE  
ROTARY HOE  
TRACTOR ATTACHMENT  
FOR THE  
FERGUSON TRACTOR

Manufactured by  
**ROTARY HOES LTD.,**  
STATION ROAD, EAST HORNDON,  
ESSEX, ENGLAND

Telegraphic Address :  
ROTOVATE, BRENTWOOD

Telephone No. :  
HERONGATE 366

Diagram 1. FITTING THE ROTARY HOE  
REDUCTION GEAR



## INSTRUCTIONS FOR FITTING THE ROTARY HOE REDUCTION GEAR

(See Diagram 1)

1. Drain the oil from the tractor gearbox.
2. Remove the footboards.
3. Remove the exhaust pipe.
4. Pack blocks of wood 'A' under the gearbox to support it whilst the tractor body is divided.
5. Remove the circular Cover Plate 'B' on both sides of the rear body.
6. Remove the ten bolts in the rear body joint flange and divide the tractor, withdrawing the splined shafts carefully.
7. Remove the coupling shaft 'C'.
8. Remove the upper Bearing Housing 'D' and its shims.
9. Remove the lower casting 'E' containing the Gearbox Roller Bearing Outer Ring 'F', the Sliding Dog 'G', the Ball Bearing 'H' and the Circlips 'I'
10. Dismantle and reassemble F, G, H and I in the casting 'J' supplied.  
*N.B.—Do not forget the bearing ring 'F'.*
11. Fit the assembly to the tractor. Shimming is required for bearing adjustment.
12. Remove the two large Retaining Bolts 'K' of the Reduction Gearbox supplied and divide the unit, keeping the Layshafts 'L' mounted in the Rear End Plate 'M'.
13. From the Bearing Housing 'D' remove the Roller Bearing Outer Ring 'N' and refit this into the Bearing Housing in the front of the Reduction Gearbox Front End Plate 'O'.
14. Fit the plate 'O' to the tractor, using two of the bolts and washers 'P' which held the Bearing Housing, and sufficient of the original shims to prevent over-tightening of the Roller Bearing Ring 'N' when bolts 'P' are tightened. Note thickness of shims required.
15. Tighten bolts 'P' whilst keeping the plate 'O' turned as far clockwise as the bolts will allow, then drill the tractor gearbox through the holes 'Q' and tap  $\frac{1}{2}$ " A.N.C. for bolts 'R.'

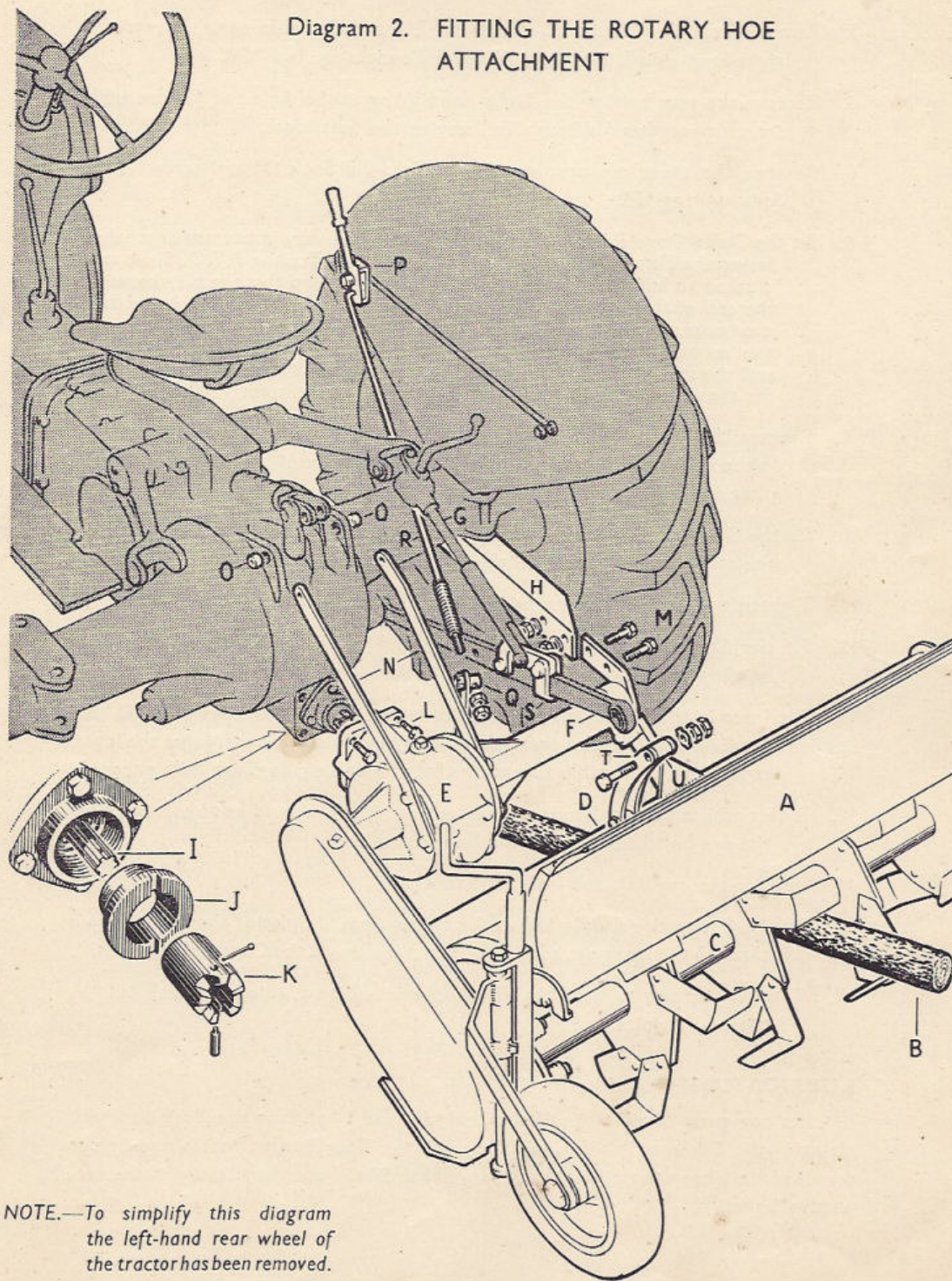
16. Reassemble the Reduction Gearbox and wire up the two bolts 'K'. When reassembling the reduction gearbox it is imperative that the driven gear (Part No. D.10) is in mesh with the small layshaft gears, ensuring correct timing.
  17. Fit the supplied replacement Coupling Shaft 'S' to the rear half of the tractor.
  18. In re-joining the tractor body ensure that the splines of both shafts fit correctly. (To register those of the upper shaft it may be necessary to turn the engine starting handle slightly whilst in gear).
  19. Fit the supplied right-hand side Cover Plate 'T' in place of the original, making sure that the Crank 'U' engages the selector inside the tractor body.
  20. Refit the original left-hand side Cover Plate, engaging its crank with the power take-off selector inside the tractor body.
  21. Fit the bolts 'R', placing the supplied spacers and sufficient of the laminated shims between the plate 'O' and the tractor gearbox face. Lock the bolts with the tab washers supplied.
  22. Jack up one rear wheel and test by running the engine slowly to ascertain that all the gears are correct and that the selectors are working properly.
  23. Fill up the gearbox and replace the exhaust pipe and footboards.
- N.B.—All parts removed should be greased and stored carefully.**

## **INSTRUCTIONS FOR FITTING THE ROTARY HOE ATTACHMENT**

*(See Diagram 2)*

1. First place the Attachment on level ground and fully raise the rear shield 'A'.
2. Procure a baulk of timber 'B', 6-ft. long of 3" x 2" or thereabouts and place it over the Rotor Tube 'C', and under the Centre Tube 'D' of the Attachment.
3. Lift up the forward end until the Gear Box 'E' of the unit is level with the Power Take-off of the Tractor.
4. Push the timber forward to keep the Attachment in that position.

Diagram 2. FITTING THE ROTARY HOE ATTACHMENT



NOTE.—To simplify this diagram the left-hand rear wheel of the tractor has been removed.

5. Remove from the Tractor all the Power Lift and Drawbar parts, except the right-hand side Lifting Arm 'F' and Connecting Rod 'G'.
6. Remove the nuts holding the Right-Hand Wing to the Axle and fit the angle iron support bar 'H' supplied, leaving the nuts loose.
7. Remove the cover cap over the Power Take-Off Shaft 'I' and screw in the locating ring 'J'.
8. Fit the Drive Dog 'K' and the Retaining Pin. It is very important that when fitting the Fixed Dog D.33 and Pin D.34 to the Tractor P.T.O. Shaft care is taken to have the Fixed Dog D.33 so shimmed up that the play between the end of the spline and the large diameter of Pin D.34 is reduced to a maximum of .008 ins. To do this, first assemble with the Pin fitted the wrong way round and then adjust with the shims (Part No. 3315, .010 ins. thick) and the spacing washer (Part No. 3327) provided for this purpose. The Pin should then be inserted correctly and the pin fitted.
9. Reverse the Tractor to the Attachment and loosely fit in the four bolts 'L' in the front end flange of the Gear Box and the two  $\frac{1}{2}$ " bolts 'M' to the end plate and angle iron.
10. Fit the Gearbox Support Arms 'N' to the lugs on top of the rear body, using the small bushes 'O' to fill the holes to bolt size.
11. Tighten up all bolts, commencing at the front end of the Gear Box.
12. Fit the Clutch Control Lever assembly 'P' to the right-hand wing, using existing bolt holes.
13. Put lever in the front notch and withdraw the split pin and eye bolt 'Q' on the Gear Box Clutch Lever and, moving the Rotor by hand, force the lever as far back as possible to ensure that the driving dogs are fully engaged.
14. In this position the lock nuts on the control rod 'R' should be so adjusted that the eye bolt lines up with the hole in the lever.
15. Replace the eye bolt and insert the split pin.
16. Fit the Connecting Saddle 'S' to the Lifting Arm 'F' placing the locating bolt through the rearmost hole in the arm, then attach the Connecting Rod 'G'.
17. Connect the arm to the links 'T' on the attachment, using the bush 'U' in the socket joint.

#### **LUBRICATION** (See Diagram 4)

Put one quart of oil in the Chain Case 'B' and  $1\frac{1}{2}$  pints in the Gear Box 'A'. Maintain the Oil level in the Chain Case and the Gear Box up to the level plugs provided, i.e., keep the oil level not more than 2-in. from the bottom of the respective boxes.



## GENERAL NOTES

The machine is now ready for work. The depth of work is controlled by adjusting the wheel on the Attachment. The depth limit skid on the right-hand side should be adjusted so that it is about one-inch clear of the ground at working depth. This is not intended for controlling the depth, but limits the depth when the right-hand tractor wheel enters a depression. The Reduction Gear of the Tractor should be used for practically all Rotary Hoe work. 1st Gear is required for putting heavy cover crops into the ground, but higher gears can be used for practically all other purposes.

## THE ROTARY HOE

Whenever the ground requires to be thoroughly tilled the Rotary Hoe will do the work in a most effective and economical way.

In addition to the ordinary agricultural work, the Rotary Hoe, having the power applied directly to the blades, makes it an easy matter to till the land on steep hillsides or in loose natured soils, where other means of cultivation are not economically possible.

The Rotary Hoe is invaluable for dealing effectively with weeds and heavy growths ; also for cutting up and working into the ground, maize, mustard, sugar cane, trash and the like ; for eradicating such noxious growths as Blackberry, Bracken Fern, etc.

**POWER LIFT.** The Power Lift is coupled with, and is normally used to control the Rotary Hoe.

**CONTROLS.** The Depth Control and Gear Lever are easily operated from the Driver's Seat.

The Rotary Hoe, being attached direct to the Tractor follows it accurately in all kinds of land, no short-cutting or side skidding being experienced. It can be turned as short as the Tractor will turn, and can easily be backed for getting into awkward corners.

**STUMP JUMP.** An automatic safety clutch is provided in the drive to the revolving blades, enabling stumpy or stony ground to be conveniently worked without damage to the machine.

The Rotary Hoe may be fitted to the tractor by any ordinary farm hand, no special skill being required.

## **INSTRUCTIONS FOR WORKING**

**TO START WORK.** Screw the depth control wheel up so that it allows the blades to enter the ground to the required depth. The depth limit skid should be adjusted to clear the ground by 1-in. when the Rotary Hoe is working full depth and its purpose is to prevent the machine digging too deep when the offside tractor wheel or depth control wheel drops into depressions in the ground.

Engage the Rotary Hoe Clutch Lever, also the appropriate Tractor Gear and let the Clutch in slowly, at the same time place the Power Lift Lever in the down position.

For turning on Headlands and for transporting the machine, the Rotary Hoe should be elevated on the Power Lift. It is not necessary to disengage the Rotor Gear when turning on Headlands.

When the ground requires to be worked finely, it is necessary to run the tractor in low or second gear, but when coarser work is required, higher gears may do the work desired.

For breaking virgin soil or land tightly bound together with grass roots, the best results are obtained by first working shallow just to take the surface off, leaving it for a few days and then working to the required depth.

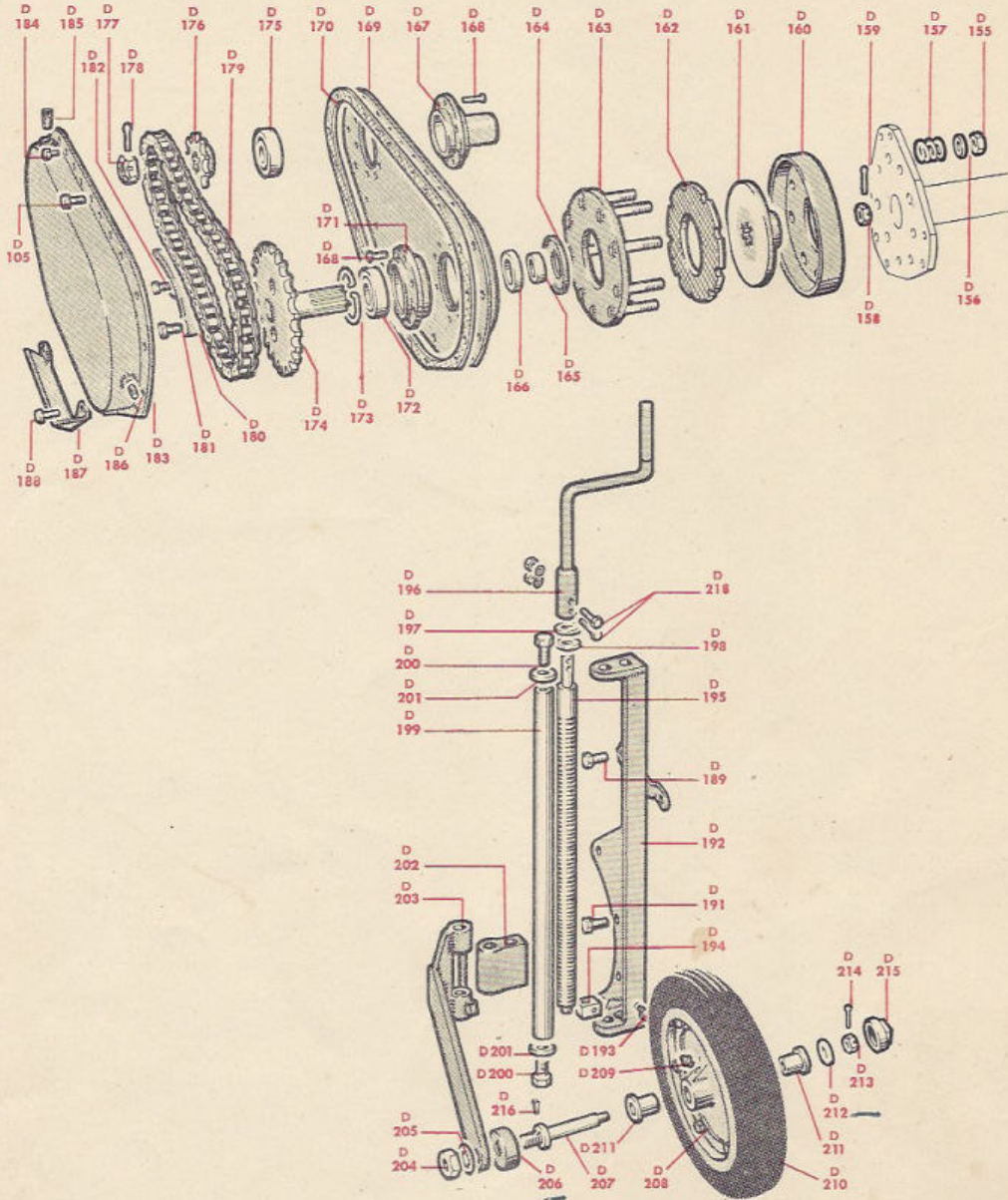
## **MAINTENANCE OF BLADES**

Examine the hoe blades daily. If any are bent out of line so that the back of the blade is rubbing hard on the soil, straighten them with the hooked bar provided, which is carried in the centre tubular member of the Rotary Hoe.

If the blades are found to be badly worn they should be renewed or heated in a forge and drawn out.

It is essential that the cutting edge only should touch the soil and the back have clearance. If the edge of the blade should wear thin, and tend to turn inwards, leaving a heavy shoulder rubbing on the ground, this can be rectified by placing

Diagram 3



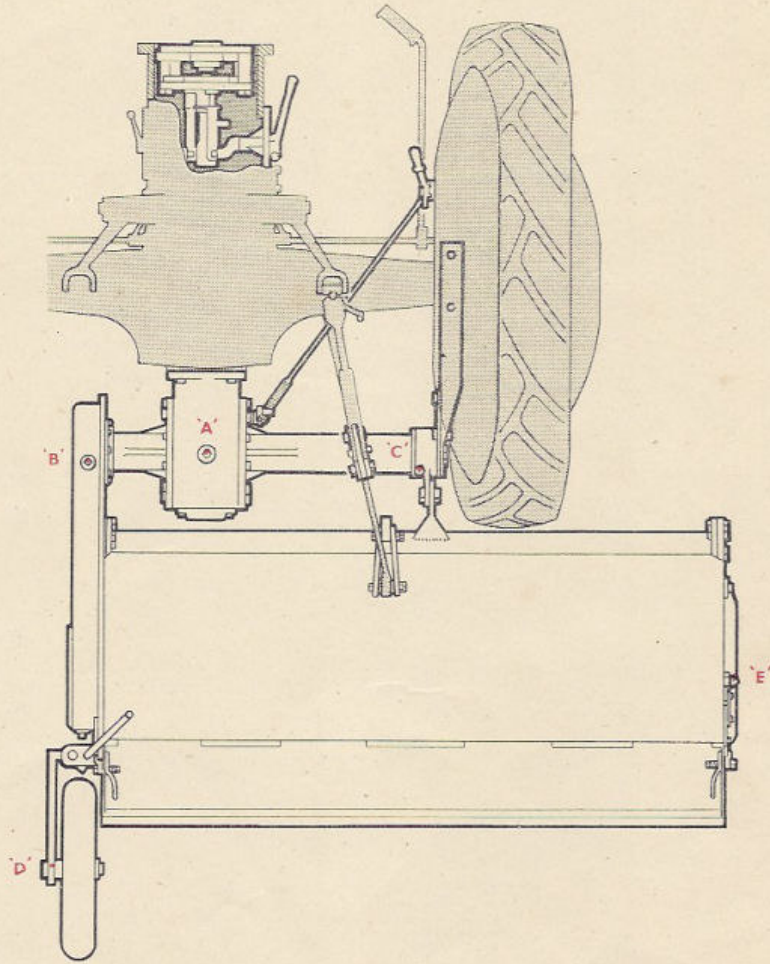
CHAIN CASE, ROTOR DRIVE, SAFETY CLUTCH, DEPTH SETTING WHEEL

VIEWPK

*Handwritten signature*

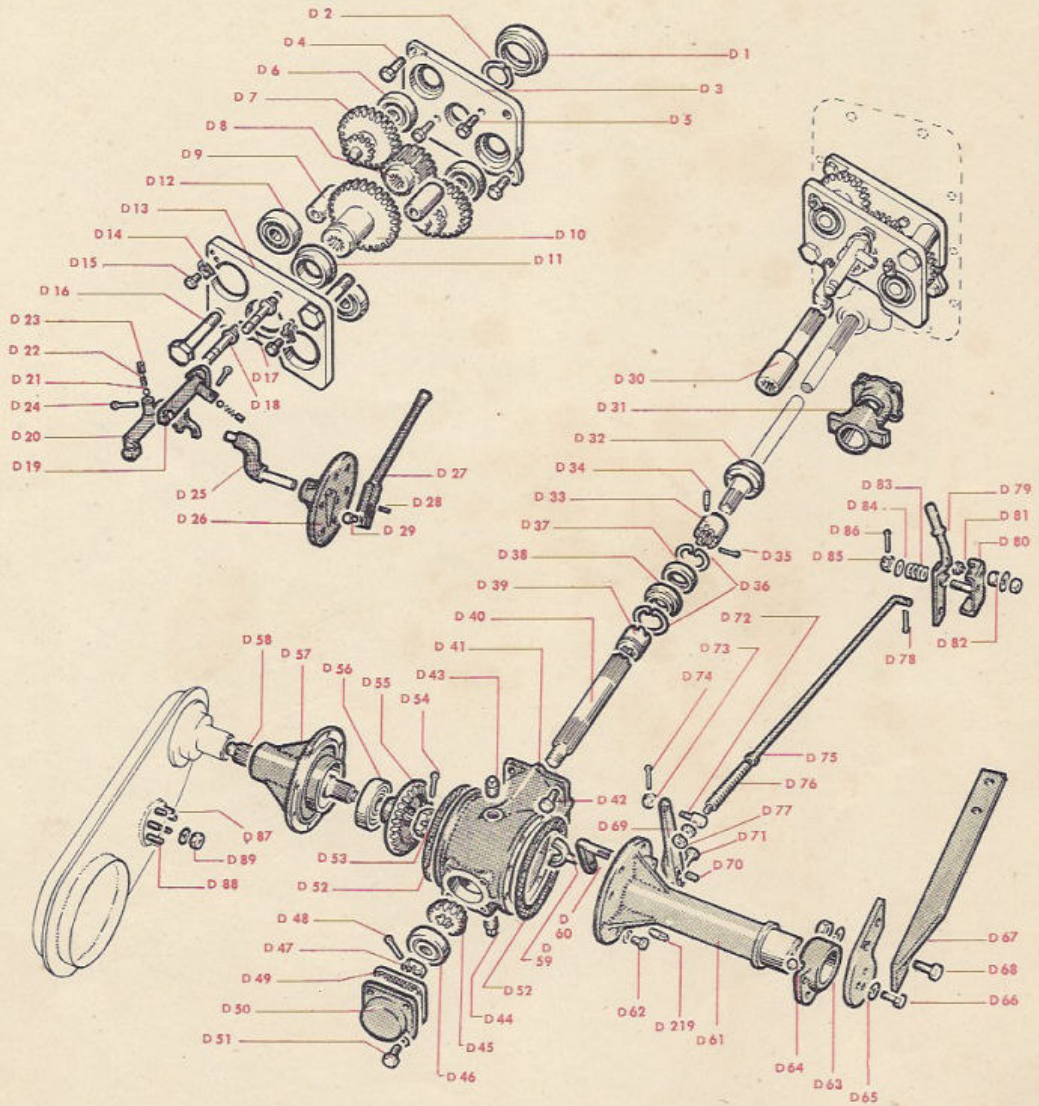
Diagram 4

ROTARY HOE TRACTOR ATTACHMENT



LUBRICATION CHART

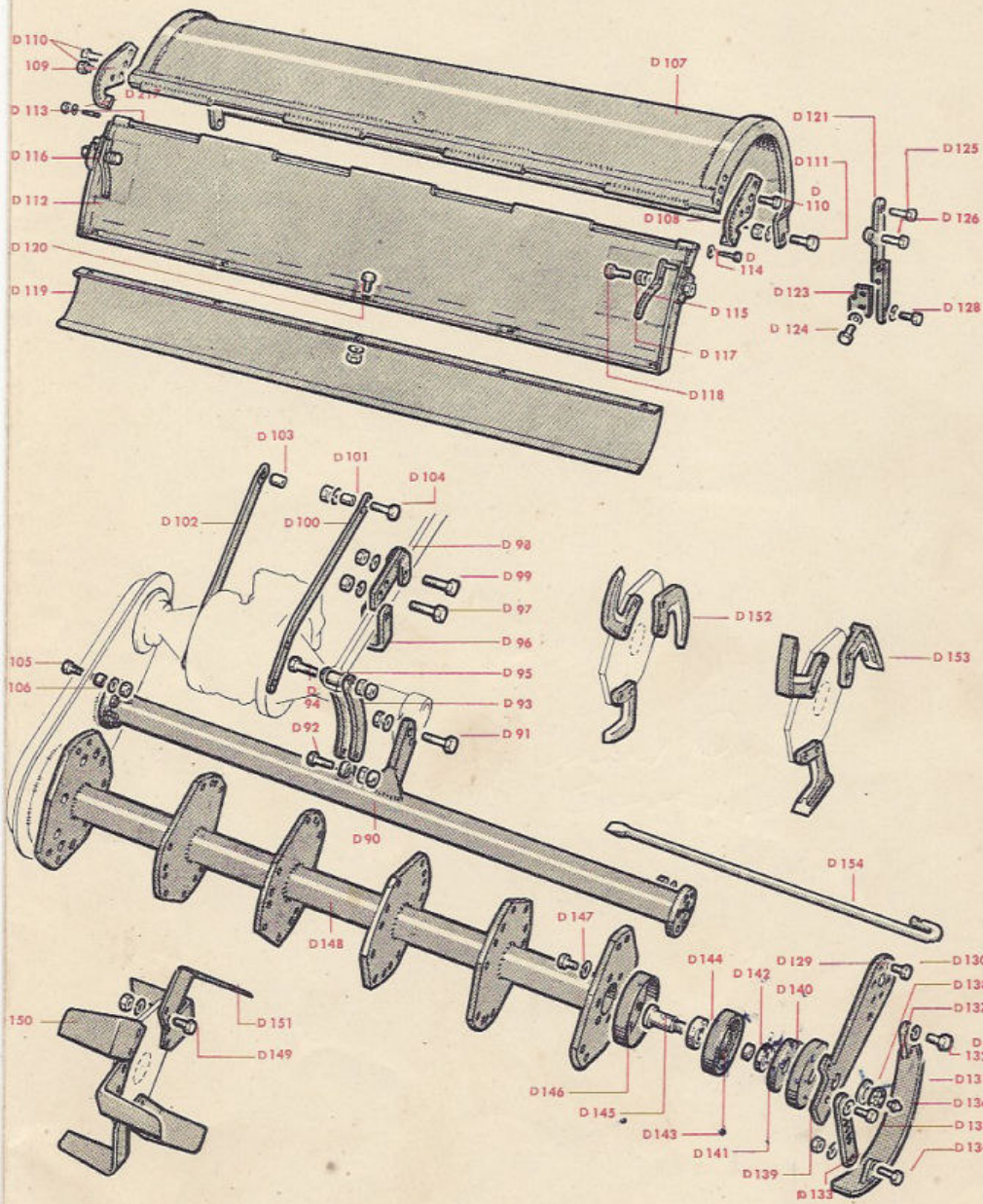
Diagram 5



VIEWPOINT

TRACTOR REDUCTION GEAR, ATTACHMENT TRANSMISSION AND CONTROLS

Diagram 6



ROTOR BLADES. STUB AXLE. ROTOR SHIELDS AND FRAME

the end of the setting bar behind the blade and tapping the edge into position with a hammer. The efficiency of the machine depends largely on the condition of the hoes. If the blades become bent through striking solid obstacles in the ground and are not straightened, they will take more power to drive, the quality of the work will be poor and the blades will wear quickly.

A keen look-out, therefore, should be kept for bent blades, which should be straightened as soon as they are noticed.

### **IMPORTANT ADJUSTMENTS, LUBRICATION, Etc.**

Care should be taken to keep all nuts well tightened.

**SAFETY CLUTCH** (Diagram 3). Keep the springs of the safety clutch on the rotor adjusted so that the clutch will drive the blades through anything you may want to cut, but will slip when striking stumps and the like.

To adjust tighten hard all 9 nuts on the Safety Clutch Springs and then slacken each half a turn. If adjusted too loosely, Safety Clutch wear will occur.

**DRIVE CHAIN.** The cover should be taken off the drive chain box once a year under normal conditions and the box thoroughly cleaned out and the tension of the chain adjusted by means of the chain adjusting skid (Part No. D.180).

**ROTOR CLUTCH OPERATING ROD** (Diagram 5) Part No. D.75.

**To Adjust :** When the Rotor Clutch Hand Lever, Part No. D.79, is in the rear notch (neutral position) of the Gear Quadrant, the Rotor should turn freely by hand. If it fails to do so the Clutch Operating Rod, Part No. D.75, should be adjusted by means of the running thread on the end of the Push Rod and, when the correct neutral position is obtained the Lock Nut on the end of the Rod should be securely tightened.

## LIST OF PARTS for the Rotary Hoe Attachment

WHEN ORDERING PARTS IT IS NECESSARY TO QUOTE THE NUMBER OF THE ROTARY HOE ATTACHMENT. This number is found stamped on the left-hand Jackshaft Housing Support Bracket and on the brass plate on the inner side of the chain case at the rear of the shield. We cannot guarantee that correct replacements will be supplied unless this number is quoted.

All directions are given left or right looking from the back of the cultivator.

Diagram No. 5 Part No.	Nomenclature	No. off.
D.1	Location Housing	1
D.2	Circlip	1
D.3	Reduction Gear Front End Plate	1
D.4	Reduction Gear Attachment Bolt	2
	Spacing Washer Special $\frac{1}{2}$ "	2
D.5	Reduction Gear Attachment Bolt	2
	Tab Washer Special $\frac{1}{2}$ "	2
D.6	Front Roller Bearing	2
D.7	Layshaft	2
D.8	Driving Gear	1
D.9	Distance Piece	2
D.10	Driven Gear	1
D.11	Driven Gear Bush	1
D.12	Rear Roller Bearing	2
D.13	Reduction Gear Rear End Plate	1
D.14	Bearing Retainer Plate	2
D.15	Bearing Retainer Plate Bolt	2
D.16	Reduction Gear Securing Bolt Special	2
	Reduction Gear Locking Wire	1
D.17	Selector Fork Stud—upper	1
D.18	Selector Fork Stud—lower	1
D.19	Selector Fork—upper	1
D.20	Selector Fork—lower	1
D.21	Selector Fork Locating Ball	2
D.22	Spring	2
D.23	Grub Screw $\frac{7}{16}$ " B.S.F. $\times \frac{1}{4}$ "	2
D.24	Split Pin $\frac{1}{16}$ " dia. $\times 1\frac{1}{4}$ "	2
D.25	Selector Crank	1
D.26	Cover Plate	1
D.27	Hand Lever	1
D.28	Key	1
D.29	Bolt $\frac{5}{16}$ " A.N.C. $\times 1\frac{1}{8}$ " Hx. Hd.	1
	Spring Washer $\frac{5}{16}$ " dia.	1
D.30	Connecting Shaft	1
D.31	Bearing Housing	1
D.32	Adaptor Ring	1
D.33	Fixed Dog	1
D.34	Fixed Dog Pin	1



Diagram No. 5 Part No.	Nomenclature	No. off
D.35	Split Pin $\frac{1}{16}$ " dia. $\times \frac{3}{8}$ "	1
D.36	Circlip	2
D.37	Oil Seal	1
D.38	Bearing Ring	1
D.39	Sliding Dog	1
D.40	Extension Shaft	1
D.41	Gear Box	1
D.42	Gear Box Attachment Bolt $\frac{7}{16}$ " A.N.C. $\times 1\frac{1}{2}$ " Hx. Head	4
	Spring Washer $\frac{7}{16}$ " dia.	4
D.43	Gear Box Filler Plug $\frac{1}{2}$ " B.S.P.	1
D.44	Gear Box Drain Plug $\frac{1}{2}$ " B.S.P.	1
D.45	Pinion	1
D.46	Extension Shaft Ball Bearing	1
D.47	Extension Shaft Nut Special	1
D.48	Split Pin $\frac{3}{8}$ " dia. $\times 2$ "	1
D.49	End Cover Gasket	1
D.50	End Cover	1
D.51	End Cover Bolt $\frac{7}{16}$ " A.N.C. $\times 1$ " Hx. Hd. Spring Washer $\frac{7}{16}$ " dia.	4
D.52	Side Plate Gasket	2
D.53	Jackshaft Nut Special	1
D.54	Split Pin $\frac{3}{8}$ " $\times 2$ "	1
D.55	Crown Wheel	1
D.56	Ball Bearing	1
D.57	Gear Box Side Plate—left	1
D.58	Jackshaft	1
D.59	Clutch Yoke	1
D.60	Clutch Arm	1
D.61	Gear Box Side Plate—right	1
D.62	Gear Box Side Plate Bolt—short $\frac{7}{16}$ " A.N.C. $\times 1$ " Hx. Gear Box Side Plate Bolt—long $\frac{7}{16}$ " A.N.C. $\times 1\frac{1}{2}$ " Hx. Spring Washer $\frac{7}{16}$ " dia.	12 4 16
D.63	Staytube Trunnion	1
D.64	Staytube Trunnion Grease Nipple	1
D.65	Staytube Trunnion Keeper Plate	1
D.66	Staytube Trunnion Keeper Plate Bolt $\frac{7}{16}$ " A.N.C. $\times \frac{7}{8}$ " Hx. Hd. Spring Washer $\frac{7}{16}$ " dia.	3 3
D.67	Staytube Support Angle	1
D.68	Bolt $\frac{1}{2}$ " A.N.C. $\times 1\frac{1}{4}$ " Hx. Hd. Spring Washer $\frac{1}{2}$ " dia. Nut $\frac{1}{2}$ " A.N.C. Hx.	2 2 2
D.69	Clutch Lever	1
D.70	Key	1
D.71	Bolt $\frac{5}{16}$ " A.N.C. $\times 1$ " Hx. Hd. Spring Washer $\frac{5}{16}$ " dia.	1 1
D.72	Trunnion	1
D.73	Slotted Nut $\frac{5}{16}$ " A.N.C.	1
D.74	Split Pin $\frac{3}{32}$ " dia. $\times \frac{3}{4}$ " Washer Flat Bright $\frac{5}{16}$ " dia.	1 1

Diagram No. 5 Part No.	Nomenclature	No. off.
D.75	Clutch Operating Rod	1
D.76	Spring	1
D.77	Locknut $\frac{5}{16}$ " A.N.C.	2
D.78	Split Pin $\frac{3}{32}$ " dia. $\times$ $\frac{3}{4}$ "	1
D.79	Clutch Hand Lever	1
D.80	Clutch Hand Lever Quadrant	1
D.81	Bolt $\frac{5}{16}$ " A.N.C. $\times$ 1" Hx. Hd.	2
D.82	Spacer	2
	Spring Washer $\frac{5}{16}$ " dia.	2
	Nut $\frac{5}{16}$ " A.N.C.	2
D.83	Spring	1
D.84	$\frac{5}{16}$ " Flat Washer	1
D.85	Nut Slotted $\frac{5}{16}$ " A.N.C.	1
D.86	Split Pin $\frac{3}{32}$ " dia. $\times$ $\frac{3}{4}$ "	1
D.87	Staytube Attachment Stud—short	7
D.88	Staytube Attachment Stud—long	1
	Spring Washer $\frac{3}{8}$ " dia.	8
D.89	Nut $\frac{1}{2}$ " A.N.C.	8

Diagram No. 6	Nomenclature	No. off.
D.90	Staytube	1
D.91	Staytube Trunnion Bolt $\frac{5}{8}$ " A.N.C. $\times$ 1 $\frac{3}{4}$ " Hx. Hd.	2
	Spring Washer $\frac{5}{8}$ " dia.	2
	Nut $\frac{5}{8}$ " A.N.C.	2
D.92	Connecting Link Bolt—lower $\frac{1}{2}$ " A.N.C. $\times$ 2 $\frac{3}{4}$ " Hx. Hd.	1
	Nut $\frac{1}{2}$ " A.N.C.	2
	Tab. Washer Special	4
D.93	Connecting Link	2
D.94	Connecting Link Bolt—upper $\frac{1}{2}$ " A.N.C. $\times$ 2 $\frac{3}{4}$ " Hx. Hd.	1
D.95	Lifting Arm End Bush	1
	Locknut $\frac{1}{2}$ " A.N.C.	2
D.96	Lifting Arm Clamp	1
D.97	Bolt $\frac{7}{16}$ " A.N.C. $\times$ 1 $\frac{1}{2}$ " Hx. Hd.	1
	Spring Washer $\frac{7}{16}$ " dia.	1
	Nut $\frac{7}{16}$ " A.N.C.	1
D.98	Lifting Arm Bracket	1
D.99	Bolt $\frac{3}{8}$ " A.N.C. $\times$ 1 $\frac{3}{4}$ " Hx. Hd.	1
	Spring Washer $\frac{3}{8}$ " dia.	1
	Nut $\frac{3}{8}$ " A.N.C.	1
D.100	Gear Box Support Arm—right	1
D.101	Gear Box Support Arm—small bush	1
D.102	Gear Box Support Arm—left	1
D.103	Gear Box Support Arm—large bush	1
	Flat Black Washer $\frac{5}{8}$ " dia.	2
	Spring Washer $\frac{5}{8}$ " dia.	2
	Nut $\frac{5}{8}$ " A.N.C.	2
D.104	Bolt $\frac{3}{4}$ " A.N.C. $\times$ 2 $\frac{1}{4}$ " Hx. Hd.	2

Diagram No. 6 Part No.	Nomenclature	No. off.
D.105	Forward Shield Attachment Bolt $\frac{5}{16}$ " A.N.C. $\times$ $1\frac{1}{4}$ " Hx. Hd.	1
D.106	Distance Piece	1
	Spring Washer $\frac{5}{16}$ " dia.	1
	Nut $\frac{5}{16}$ " A.N.C.	1
D.107	Forward Shield	1
D.108	Rear Shield Hinge Quadrant—right	1
D.109	Rear Shield Hinge Quadrant—left	1
D.110	Bolt $\frac{3}{8}$ " A.N.C. $\times$ $\frac{7}{8}$ " L Hx. Hd.	3
	Spring Washer $\frac{3}{8}$ " dia.	3
	Nut $\frac{3}{8}$ " A.N.C.	3
D.111	Forward Shield Attachment Bolt $\frac{1}{2}$ " A.N.C. $\times$ $1\frac{3}{4}$ " Hx. Hd.	1
	Spring Washer $\frac{1}{2}$ " dia.	1
	Nut $\frac{1}{2}$ " A.N.C.	1
D.112	Rear Shield	1
D.113	Rear Shield Hinge Rod	1
D.114	Rear Shield Hinge Rod Bolt $\frac{3}{8}$ " A.N.C. $\times$ 1" Hx. Hd.	1
	Spring Washer $\frac{3}{8}$ " dia.	1
D.115	Rear Shield Locking Lever—right	1
D.116	Rear Shield Locking Lever—left	1
D.117	Rear Shield Locking Lever—Spring	2
D.118	Rear Shield Locking Lever Bolt $\frac{5}{16}$ " A.N.C. $\times$ 2" Hx. Hd.	2
	Rear Shield Locking Lever Nut $\frac{5}{16}$ " A.N.C.	2
D.119	Presser Plate	1
D.120	Presser Plate Attachment Bolt $\frac{5}{16}$ " A.N.C. $\times$ $\frac{3}{4}$ " Hx. Hd.	5
	Spring Washer $\frac{5}{16}$ " dia.	5
	Nut $\frac{5}{16}$ " A.N.C.	5
D.121	Shield Support Strut	1
D.123	Cutter Blade	1
D.124	Cutter Blade Attachment Bolt $\frac{5}{16}$ " A.N.C. $\times$ $\frac{3}{4}$ " Hx.	2
	Spring Washer $\frac{5}{16}$ " dia.	2
D.125	Shield Support Strut Top Bolt $\frac{3}{8}$ " A.N.C. $\times$ $1\frac{1}{4}$ " Hx.	1
	Spring Washer $\frac{3}{8}$ " dia.	1
	Nut $\frac{3}{8}$ " A.N.C.	1
D.126	Shield Support Stay Top Bolt $\frac{3}{8}$ " A.N.C. $\times$ $1\frac{1}{4}$ " Hx.	1
	Spring Washer $\frac{3}{8}$ " dia.	1
	Nut $\frac{3}{8}$ " A.N.C.	1
D.128	Shield Support Strut Bottom Bolt $\frac{7}{16}$ " A.N.C. $\times$ $\frac{7}{8}$ " Hx.	1
	Spring Washer $\frac{7}{16}$ " dia.	1
D.129	Rotor Support Arm	1
D.130	Rotor Support Arm Attachment Bolt $\frac{1}{2}$ " A.N.C. $\times$ $1\frac{1}{2}$ " Hx.	5
	Spring Washer $\frac{1}{2}$ " dia.	5
	Nut $\frac{1}{2}$ " A.N.C.	5
D.131	Depth Skid	1
D.132	Depth Skid Forward Bolt $\frac{7}{16}$ " A.N.C. $\times$ $\frac{7}{8}$ " Hx.	1
	Spring Washer $\frac{7}{16}$ " dia.	1

Diagram No. 6 Part No.	Nomenclature	No. off.
D.133	Depth Skid Adjustment Bar .. .. .	1
D.134	Depth Skid Rear Bolt $\frac{7}{16}$ " A.N.C. $\times$ 1" Hx. ..	1
	Spring Washer $\frac{7}{16}$ " dia. .. .. .	1
D.135	Depth Skid Adjustment Bolt Special .. .. .	1
	Spring Washer $\frac{7}{16}$ " dia. .. .. .	1
D.136	Rotor Stub Axle Grease Nipple .. .. .	1
D.137	Rotor Stub Axle Nut Special .. .. .	1
D.138	Rotor Stub Axle Shakeproof Washer .. .. .	1
D.139	Rotor Stub Axle Inner Dust Cover .. .. .	1
D.140	Rotor Stub Axle Centre Dust Cover .. .. .	1
D.141	Rotor Stub Axle Oil Seal .. .. .	1
D.142	Rotor Stub Axle Spacer .. .. .	1
D.143	Rotor Stub Axle Bearing Housing .. .. .	1
D.144	Rotor Stub Axle Ball Bearing .. .. .	1
D.145	Rotor Stub Axle .. .. .	1
D.146	Rotor Stub Axle Outer Dust Cover .. .. .	1
D.147	Bearing Housing Attachment Bolt $\frac{7}{16}$ " A.N.C. $\times$ 1" Hx. .. .. .	6
	Spring Washer $\frac{7}{16}$ " dia. .. .. .	6
D.148	Rotor (state whether Standard or Picktine) ..	1
D.149	Rotor Blade Attachment Bolt $\frac{7}{16}$ " A.N.C. $\times$ $1\frac{1}{8}$ " ..	60
	Spring Washer $\frac{7}{16}$ " dia. .. .. .	60
	Nut $\frac{7}{16}$ " A.N.C. .. .. .	60
D.150	Hoe Blade—left .. .. .	15
D.151	Hoe Blade—right .. .. .	15
D.152	Lucerne Tine (or Picktine, Pasture Renovating) ..	18
D.153	Picktine Chisel (or Grubber) .. .. .	18
D.154	Blade Setting Bar .. .. .	1
Diagram No. 3		
D.155	Safety Clutch Clamping Nut $\frac{1}{2}$ " A.N.C. .. .. .	9
D.156	Safety Clutch Washer $\frac{1}{2}$ " dia. .. .. .	9
D.157	Safety Clutch Spring .. .. .	9
D.158	Rotor Axle Nut Special .. .. .	1
D.159	Split Pin $\frac{3}{32}$ " dia. $\times$ 2" .. .. .	1
D.160	Safety Clutch Wearing Plate .. .. .	1
D.161	Safety Clutch Drive Disc .. .. .	1
D.162	Safety Clutch Friction Disc .. .. .	1
D.163	Safety Clutch Pressure Plate .. .. .	1
D.164	Safety Clutch Dust Cover .. .. .	1
D.165	Rotor Axle Spacer .. .. .	1
D.166	Rotor Axle Oil Seal .. .. .	1
D.167	Jackshaft Bearing Housing .. .. .	1
D.168	Bearing Housing Rivets .. .. .	8
D.169	†Chain Case Backplate .. .. .	1
D.170	Chain Case Gasket .. .. .	1
D.171	Rotor Axle Bearing Housing .. .. .	1
D.172	Rotor Axle Ball Bearing .. .. .	1
	† Supplied complete with D.167 or D.171 riveted, or as Backplate only.	

Diagram No. 5 Part No.	Nomenclature	No. off.
D.173	.. Rotor Axle Ball Bearing Circlip .. .. .	1
D.174	.. Rotor Sprocket and Axle .. .. .	1
D.175	.. Jackshaft Ball Bearing .. .. .	1
D.176	.. Jackshaft Sprocket 10 teeth .. .. .	1
	.. Jackshaft Sprocket 11 teeth .. .. .	1
D.177	.. Nut Special .. .. .	1
D.178	.. Split Pin $\frac{5}{32}$ " dia. $\times$ 2" L. .. .. .	1
D.179	.. Driving Chain (Assembly 54 Links complete) .. .. .	1
D.180	.. Chain Skid .. .. .	1
D.181	.. Chain Skid Bolt $\frac{7}{16}$ " A.N.C. $\times$ 2" Hx. .. .. .	1
	.. Nut $\frac{7}{16}$ " A.N.C. .. .. .	1
D.182	.. Chain Skid Forward Bolt $\frac{7}{16}$ " A.N.C. $\times$ 1" .. .. .	1
	.. Spring Washer $\frac{7}{16}$ " dia. .. .. .	1
D.183	.. Chain Case Cover .. .. .	1
D.184	.. Chain Case Cover Bolt $\frac{5}{16}$ " A.N.C. $\times$ $\frac{7}{8}$ " Hx. .. .. .	15
	.. Chain Case Cover Spring Washer $\frac{5}{16}$ " dia. .. .. .	15
	.. Chain Case Cover Nut $\frac{5}{16}$ " A.N.C. .. .. .	15
D.185	.. Chain Case Filling Plug $\frac{3}{4}$ " BSP $\times$ 1" .. .. .	1
D.186	.. Oil Level Plug, Chain Case $\frac{1}{2}$ " B.S.P. .. .. .	1
D.187	.. Chain Case Ground Skid .. .. .	1
D.188	.. Chain Case Ground Skid Attachment Bolt $\frac{5}{16}$ " A.N.C. $\times$ $1\frac{1}{8}$ " Hx. .. .. .	2
	.. Spring Washer $\frac{5}{16}$ " dia. .. .. .	2
	.. Nut $\frac{5}{16}$ " A.N.C. .. .. .	2
D.189	.. Depth Setting Gear to Shield Bolt $\frac{3}{8}$ " A.N.C. $\times$ 1" Hx. .. .. .	1
	.. Spring Washer $\frac{3}{8}$ " dia. .. .. .	1
	.. Nut $\frac{3}{8}$ " A.N.C. .. .. .	1
D.191	.. Depth Setting Gear to Chain Case Bolt $\frac{7}{16}$ " A.N.C. $\times$ $1\frac{1}{8}$ " Hx. .. .. .	4
	.. Spring Washer $\frac{7}{16}$ " dia. .. .. .	4
	.. Nut $\frac{7}{16}$ " A.N.C. .. .. .	4
D.192	.. Depth Setting Gear Frame .. .. .	1
D.193	.. Depth Setting Gear Bearing Bolt $\frac{5}{16}$ " A.N.C. $\times$ 1" Hx. .. .. .	1
	.. Depth Setting Gear Spring Washer $\frac{5}{16}$ " dia. .. .. .	1
D.194	.. Depth Setting Gear Bearing Block .. .. .	1
D.195	.. Depth Setting Gear Screw .. .. .	1
D.196	.. Depth Setting Gear Handle .. .. .	1
D.197	.. Depth Setting Gear Washer Special .. .. .	1
D.198	.. Depth Setting Gear Thrust Collar .. .. .	1
D.199	.. Depth Setting Gear Guide Bar .. .. .	1
D.200	.. Depth Setting Gear Guide Bar Attachment Bolt $\frac{5}{8}$ " A.N.C. $\times$ $1\frac{1}{2}$ " Hx. .. .. .	2
D.201	.. Depth Setting Gear Guide Bar Attachment Bolt Washer $\frac{5}{8}$ " dia. .. .. .	2
D.202	.. Depth Setting Gear Block .. .. .	1
D.203	.. Depth Setting Gear Hinge and Arm .. .. .	1
D.204	.. Depth Setting Wheel Axle Nut $\frac{3}{4}$ " A.N.C. .. .. .	1
D.205	.. Depth Setting Wheel Shakeproof Washer .. .. .	1
D.206	.. Depth Setting Wheel Axle Dust Cover .. .. .	1
D.207	.. Depth Setting Wheel Axle .. .. .	1

Diagram No. 5 Part No.	Nomenclature	No. off.
D.208	Depth Setting Wheel Assembly	1
D.209	Depth Setting Wheel Grease Nipple	1
D.210	Depth Setting Wheel Tyre	1
D.211	Depth Setting Wheel Bush	2
D.212	Depth Setting Wheel Axle Washer (Special)	1
D.213	Depth Setting Wheel Axle Nut $\frac{1}{2}$ " A.N.C. Slotted	1
D.214	Depth Setting Axle Split Pin $\frac{3}{32}$ " dia. $\times$ $1\frac{1}{4}$ "	1
D.215	Depth Setting Wheel Axle Cap	1
D.216	Depth Setting Wheel Axle Nib	1
D.217	Stud, Shield Hinge Pin, Nut and Spring Washer $\frac{9}{32}$ " A.N.C.	1
D.218	Depth Setting Handle Attachment Bolt $\frac{1}{4}$ " A.N.C. $1\frac{1}{4}$ " L.	2
	Nut $\frac{1}{4}$ " A.N.C.	2
	Spring Washer $\frac{1}{4}$ " dia.	2
D.219	Oil Level Plug, Gear Box	1