

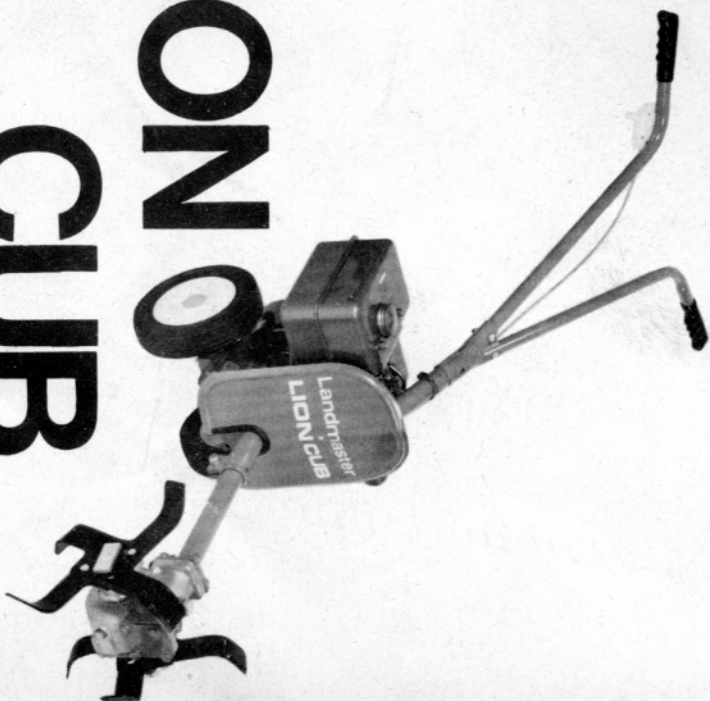
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# LANDMASTER

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**Landmaster®**  
15843



# LION CUB

## Instructions and Spare Parts Manual.

This technical drawing is an exploded view of a mechanical assembly, likely a pump or motor component. The parts are numbered 1 through 48. The main assembly consists of a central housing (1) with a shaft (3) passing through it. A spring (13) is attached to the shaft. A gear (28) is mounted on the shaft. A bracket (45) is shown in a circular inset, with a pin (46) and a washer (47) used to secure it. Other components include a flange (10), a nut (20), a washer (22), a bolt (23), a nut (24), a washer (25), a gear (28), a shaft (29), a bracket (30), a nut (31), a washer (32), a bolt (33), a nut (34), a washer (35), a bracket (36), a pin (37), a washer (38), a bolt (39), a nut (40), a washer (41), a bracket (42), a pin (43), a washer (44), a bracket (45), a pin (46), and a washer (47).

Illus. No.	Part No.	Description	Qty.	Illus. No.	Part No.	Description	Qty.
1	A253	1" Fibre Washer ...	1	34	A49	1" S.C.F.S. Spring Washer ...	3
2	A2060	Filler Plug ...	1	35	A1469	1" B.S.W. x 1/2" Bolt ...	3
3	ED27	Gearbox Gasket ...	2			<b>TOOL CLAMPING ASSEMBLY - INSET</b>	
4	F1057	Spacer Washer ...	1	42	A299	5/16" B.S.F. x 1 1/2" Bolt ...	2
5	A2163	Glacier D.U.08 Thrust Washer	1	43	A100	5/16" S.C.F.S. Spring Washer ...	2
6	F1056	Worm Bearing (Rear) ...	1	44	GM31	Driving Block ...	2
7	ED350	Gearbox Mounting Tube Sub-Assembly ...	1	†45	ED53	Tool Clamp Spindle (7" & 12" wide rotors)	1
10	ED481	End Plate ...	1	46	ED193	Tool Clamp Spindle (18" wide rotors)	1
12	ED10	Worm Bearing (Front) ...	1	47	ED195	Tool Clamp Spindle (24" wide rotors)	1
13	ED87	Worm Washer ...	1	*48	ED207	Tool Clamp Nut ...	1
14	ED351	Worm ...	1				
15	A1361	Oil-Seal 13P/13708725 ...	2				
17	A1367	Dowel 1/8" dia. x 3/4" long ...	4				
18	A1901	Oil-Seal W.13106225 R.4 ...	1				
20	A2061	5/16" B.S.W. x 7/8" Set Screw ...	8				
22	A100	5/16" S.C.F.S. Spring Washer ...	8				
23	A1368	5/16" B.S.W. x 1/2" Set Screw ...	1				
24	A1369	5/16" Fibre Washer ...	1				
25	ED11	Gearbox ...	1				
28	A1375	Woodruff Key No. 505 ...	2				
29	ED88	Worm Shaft Assembly ...	1				
30	ED89	Worm Wheel Washer ...	2				
31	ED15	Bush ...	2				
32	ED28	Cover Gasket ...	1				
33	ED12	Gearbox Cover ...	1				

\* On 7" wide rotor with inward facing blades, Item No. 48 is replaced by a Nyloc Nut (Part No. B59).

† Item No. 45 (Spindle) is used with the Spin Weeder and Lawn Rake.

Note: When fitting a rotor hood item no. 10 is replaced by a fixing bracket supplied with the hood.

(Not illus.) F1048 Assembly of gearbox ... 1

WHEN ORDERING SPARE PARTS, ALWAYS QUOTE MACHINE SERIAL NUMBER, SPARE PART NUMBER, FULL DESCRIPTION AND QUANTITY

## INTRODUCTION

**CONGRATULATIONS!** You now own a LANDMASTER LION CUB. You have chosen wisely. The LION CUB is the latest in a long line of sturdy, reliable and versatile LANDMASTER cultivators. By using the range of available ancillary tools, you will be able to make light work of hoeing, spin weeding, grass cutting and raking. We think you will soon agree that even heavy digging (forwards or in reverse) can be a pleasure rather than a tedious chore with your LION CUB. Get to know your machine. Look after it and it will give you years of service.

## IMPORTANT

Check that the machine and its engine have had their preliminary service before it is used for the first time. Always check the engine oil levels before starting the machine. There are two manuals - this book for the machine itself, and the engine manufacturer's instructions for the engine. Study them both before you use the machine.

## SAFETY PRECAUTIONS

1. The ROTOR BLADES WILL TURN IMMEDIATELY when you start the machine. Keep WELL AWAY from them.
2. Do not wear loose clothing which could get entangled in moving parts.
3. NEVER leave the machine unattended with the engine running.
4. NEVER fill the fuel tank whilst the engine is running.
5. Keep observers well away from the machine when it's working.
6. These simple but important rules must be observed by all who use the machine.

## MAIN FEATURES

Get to know the engine. Familiarise yourself with its main features and maintenance routine, as outlined in the engine manufacturer's instructions.

Power is provided by a 3h.p. 4-stroke engine run on ordinary 2-star petrol. The engine is started by means of a recoil starter situated in the centre of the engine cowl. NOTE: To stop the engine push the shorting strip (located adjacent to the sparking plug) against the sparking plug, it will remain in this position until reset.

Fuel capacity is approximately 2.8-litres (5 pints), sump oil capacity is approximately 0.7-litre (1.25 pints). The oil

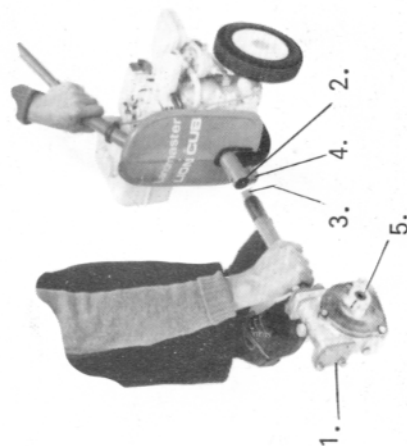
fill and level plug is situated behind the guard on the right-hand side of the machine. Oil drain plugs are fitted on either side of the engine's sump base. When replacing a drain plug ensure that it is fully tightened.

Engine speed is controlled by a handlebar mounted throttle control which allows a speed range of 1750-3500 r.p.m. This enables you to vary the speed according to the work load. In cold weather you may need to use the choke to assist starting.

The choke lever is situated beneath the air filter on the carburettor body and it is marked 'On-Off' with an arrow pointing to the choked position.

Drive from the engine is transmitted by a square drive shaft to the head. The tool to be used should be located in the engine drive tube and fixed by the clamp bolt. In certain applications where the digging head has to be rotated the bolt should be retightened. When the engine is started the attached implement revolves at a speed related to the throttle setting, so before starting, the engine, lift the digging head clear of the ground.

The toolhead is a reduction gear box containing a worm and wheel gear. The wheel is connected to a cross shaft which turns the two driving blocks to which the cultivating blades are attached. Insert the square section drive shaft into the toolhead and rotate it by hand until you feel it engage with the square of the worm gear. Place the toolhead and drive shaft into the engine drive tube, twist the toolhead from side to side until it engages with the engine crankshaft drive adaptor. Finally, tighten the clamp bolt.

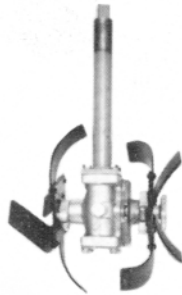


1. Toolhead
2. Engine Drive Tube
3. Drive Shaft
4. Toolhead Clamp Bolt
5. Driving Pegs On Drive Blocks

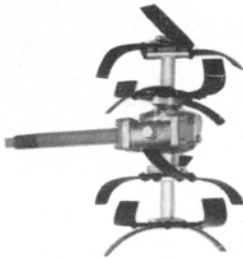
To safeguard against gear box overload two woodruff keys are located in the drive blocks, these should be periodically inspected for wear or damage.



Fitted as standard to the Lion Cub are two slasher blades for general purpose work. These are fitted to the driving blocks and secured by a short spindle and hand nut. This configuration gives a nominal 12" width of cut. To increase the width of cut another pair of blades can be added giving a nominal 18" width. To fit the extra blades you will need a longer spindle and two blade spacers. These components are available as a blade extension kit, obtainable from your Landmaster stockist.



Standard Blade Assembly As Fitted To The Lion Cub.

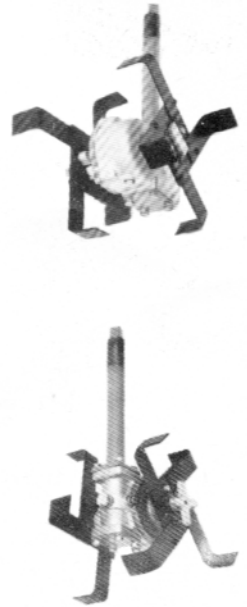


Extension Blade Assembly Showing Additional Components

## ANCILLIARY EQUIPMENT

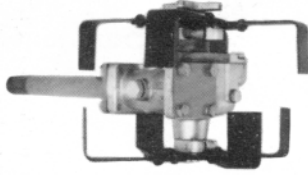
Blades for tackling a variety of gardening tasks are available in the following forms,-----

1. Standard hoe blades, for use in general hoeing applications available in 12" or 18" widths. These can also be used in the reverse digging position. To do so, set the throttle between one third and one half open and allow the blades to penetrate the soil to a shallow depth. Proceed over the work area, gently moving the machine from side to side. The action of moving the toolhead from side to side should be used with all cultivating tools.



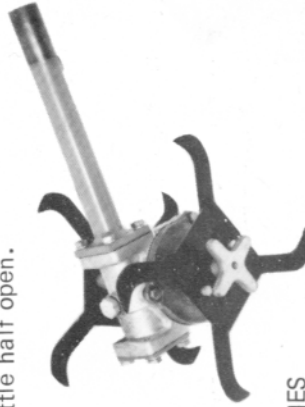
Shown opposite are the standard hoe blades that can be used in forward or reverse digging configurations.

2. Inward facing hoe blades which give a nominal 7" cut width for use between narrow rows, are used in conjunction with the narrow wheel conversion. These can be used only in the forward digging position. Set the throttle between one third and half open and allow the blades to penetrate to a shallow depth. Move carefully between rows to prevent accidental damage to crops.



Inward Facing Hoe Blades

3. Pick tynes, used in single pairs due to the heavy conditions in which they normally operate, are used in the forward digging position only. Set the throttle half open.



PICK TYNES

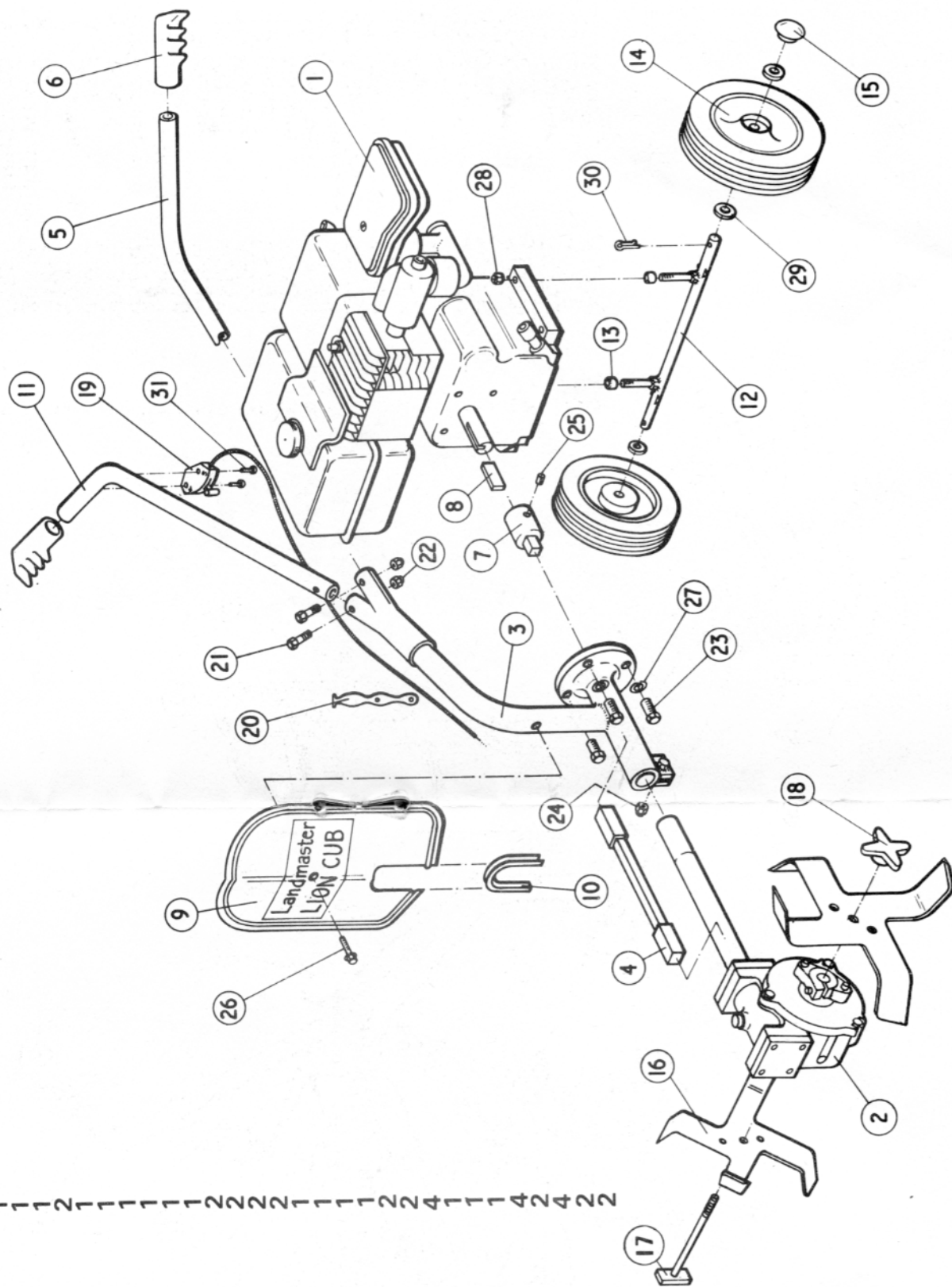
4. The Spin weeder is a tool for working closely around plants under low bushes, and in close planted herbaceous borders. It is fitted to the tool head with a short spindle and clamped with a hand nut. The tool head must be turned through 90 degrees with the side cover uppermost. Set the throttle half open.



SPIN WEEDER

FIT AS SHOWN ABOVE.

- |    |                |       |
|----|----------------|-------|
| 1  | Engine         | 15824 |
| 2  | Toolhead Assy. | F1048 |
| 3  | Chassis        | 15825 |
| 4  | Drive Shaft    | F4023 |
| 5  | L.H. handlebar | 15806 |
| 6  | Grip           | 15819 |
| 7  | Adaptor        | F1062 |
| 8  | Key            | F1065 |
| 9  | Guard          | 15845 |
| 10 | Moulding       | 15820 |
| 11 | R.H. handlebar | 15807 |
| 12 | Axle           | 15840 |
| 13 | Spacer         | 15841 |
| 14 | Wheel          | A3188 |
| 15 | Hubcap         | A3327 |
| 16 | Blade          | 15786 |
| 17 | Spindle        | ED53  |
| 18 | Hand Nut       | ED207 |
| 19 | Throttle Assy. | A3103 |
| 20 | Cable Clip     | A2422 |
| 21 | Bolt           | A1587 |
| 22 | Nut            | A2053 |
| 23 | Bolt           | A1734 |
| 24 | Nut            | A2115 |
| 25 | Grub Screw     | A2240 |
| 26 | Bolt s.t.      | 15836 |
| 27 | Washer         | A1624 |
| 28 | Nut            | A1728 |
| 29 | Washer         | A2792 |
| 30 | Split Pin      | A2186 |
| 31 | Screw s.t.     | A3265 |

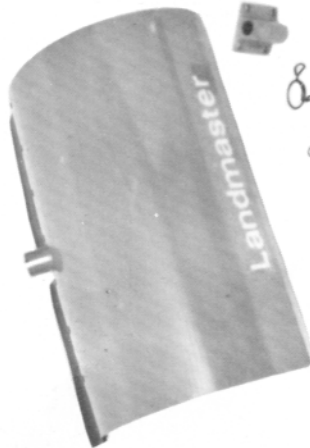


5. The narrow wheel conversion is used with the inward facing hoe blades or the ridger. To fit it to the machine, remove the existing axle and attach the unit with the nuts provided.

#### NARROW WHEEL CONVERSION

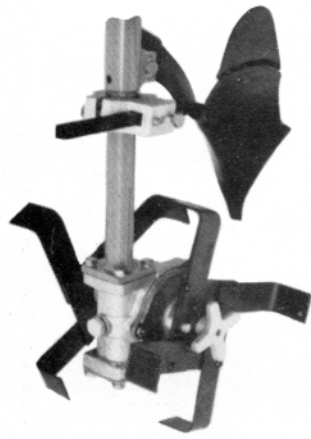


6. Rotor hoods are fitted to the machine to prevent soil scatter and damage to standing crops. They are available in 7', 12', and 18' widths. Each rotor hood is supplied with a mounting bracket and fixing clips.



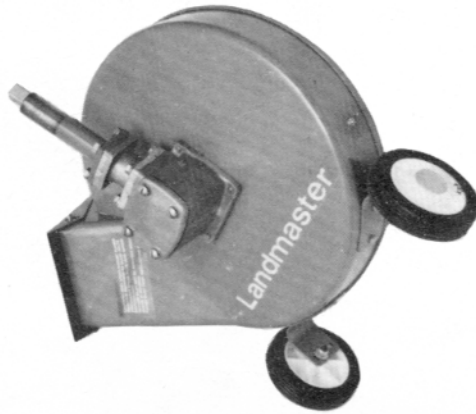
#### ROTOR HOOD AND MOUNTING BRACKET.

7. The Ridger is used on previously cultivated ground. It is a very useful tool for all ridging, trenching, furrowing, draining and earthing up operations. It is mounted behind the tool head and clamped by a bracket that allows it to be adjusted for depth. For propulsion the tool head is fitted with either one or two pairs of blades. In very light soils hoe blades give more forward propulsion especially if only one pair of blades is used. The narrow wheel conversion should be used with the ridger.

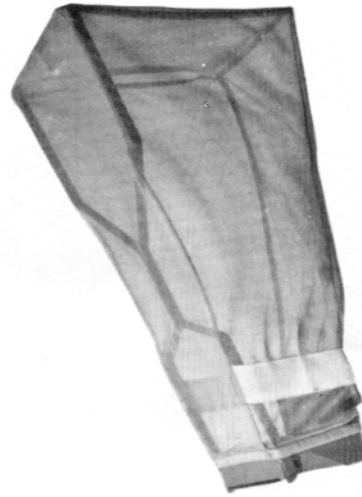


#### RIDGER AND CLAMP, SHOWN FITTED ON THE TOOL HEAD TUBE FORWARD OF THE TOOL HEAD CLAMP

8. The 16" Rotary Mower incorporates its own bevel drive gear box. The height of cut can be adjusted by setting the front wheels. A safety stone guard for the grass outlet chute is supplied fitted and a large grass collection bag is available as an optional extra. The unit should be fitted to the engine drive tube by means of the square drive shaft which is supplied.



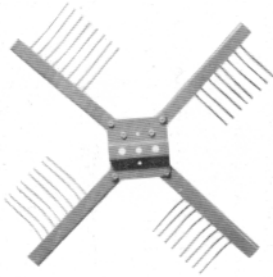
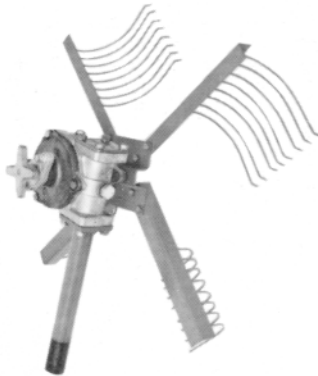
#### 16" ROTARY GRASS CUTTER ATTACHMENT COMPLETE WITH DRIVE SHAFT AND CHUTE OUTLET GUARD



#### GRASS BAG FRAME SHOWN ASSEMBLED READY TO FIT

9. The Lawn Rake. Lawns scarifying during the growing season helps to prevent accumulation of excess dead grass fibre. With regular mowing, raking helps to eliminate weeds and moss, stimulates fine grass growth and generally assists surface soil and root aeration. To ensure correct rotation of the lawn rake the gear box cover plate should be uppermost when the unit is fitted.

LAWN RAKE, SHOWN ASSEMBLED  
(ALSO KNOWN AS A SCARIFIER)



LAWN RAKE ASSEMBLED TO THE DIGGING HEAD. NOTE: FOR CORRECT ROTATION THE GEAR BOX COVER PLATE MUST ALWAYS BE UPPERMOST.

To fit the lawn rake to the machine use the standard spindle and hand nut. Set the throttle between one third and half open, and proceed either forward or backwards using a fanning action with a light pressure on the Lawn rake. After scarifying collect the grass with a lawn mower and repeat the process as necessary until all the unwanted growth is eliminated.

#### ANCILLARY EQUIPMENT DESCRIPTION AND PART NO

1. Slasher blades pair 15786 or L1082/3.
2. Hoe blades pair 15787 or ED256/7
3. Inward facing hoe blades pair 15788 or ED334/285
4. 16" Rotary grasscutter N1000.
5. Grass bag and frame Y1515
6. Rotary lawn rake ED370.
7. Spin weeder CUB78.
8. Pick tynes pair ED258
9. 7" spindle ED53.
10. 18" spindle ED193.
11. Hand nut ED207
12. Spacer (for use with L1082/3-ED256/7 -ED334/285) ED281.
13. Spacer (for use with 15786-15787-15788) 15849.
14. Ridger and clamp ED237
15. Hood for 7" cultivation ED289.
16. Hood for 12" cultivation CUB57.
17. Single wheel conversion 15850.

INCLUDE THIS LIST AFTER THE TEXT ON THE LAWN RAKE PAGE 8

#### STARTING PROCEDURE

Check that the sump is filled with the correct grade of oil to the required level.  
Check that the fitted ancillary equipment is clamped securely and fitted correctly.  
Check the gear box oil level.  
Check that the fuel is clean and uncontaminated.

#### TO START THE MACHINE

Turn the fuel tap on. It is located under the fuel tank.  
Move the choke lever to the choke "on" position.  
Set the throttle lever control to 1/4 open.  
Press down on the handle bars to ensure that the tool head is clear of the ground. Pull the recoil starter slowly until a slight resistance is felt, then pull smartly and return it slowly. When the engine fires return the choke to the run position.

#### TO STOP THE MACHINE

Close the throttle lever and press the shorting strip against the sparking plug.

**CAUTION: EXHAUST GASES CONTAIN CARBON MONOXIDE. DO NOT OPERATE THE MACHINE IN A CONFINED UNVENTILATED AREA.**

#### MAINTENANCE

Lubricants. Engine---s.a.e. 30. (see engine manufacturer's instruction booklet)  
Gear Box---S.A.E.90.  
General---S.A.E.30.

#### ENGINE

The following information includes only the briefest engine data. It is essential that you follow the engine manufacturer's instructions for complete details on engine adjustments, maintenance, care and attention.

#### IMPORTANT

On a new engine, drain and renew the engine oil after the first two hours operation. Thereafter drain and renew every 20 hours. Always drain the oil whilst it is still warm.

Keep the engine clean! Always clear the cylinder fins and blower housing of soil and dirt to prevent over heating. Clean accumulated dirt away from the oil filler, spark plug, air filter and drain plugs before they are to be removed.

### SPARK PLUG

Remove and inspect the spark plug every month. Clean it with a wire brush and remove any carbon deposits from the electrode. Set the gap to 0.030" (0.8mm). Do not overtighten it when refitting.

### AIR FILTER

Clean the air filter element every month and more frequently in dusty conditions. Detach the cover and remove the foam element. Wash the element in clean petrol or paraffin and dry it thoroughly. Recoil the element with three tablespoons of engine oil, squeezing it thoroughly for even distribution before refitting. Never run an engine without an air filter or when the filter element is very dirty.

### TOOLHEAD

Check the oil level of the head every month. Hold the toolhead horizontal and remove the top filler and front level plug, top up until oil overflows through the front level plug hole.

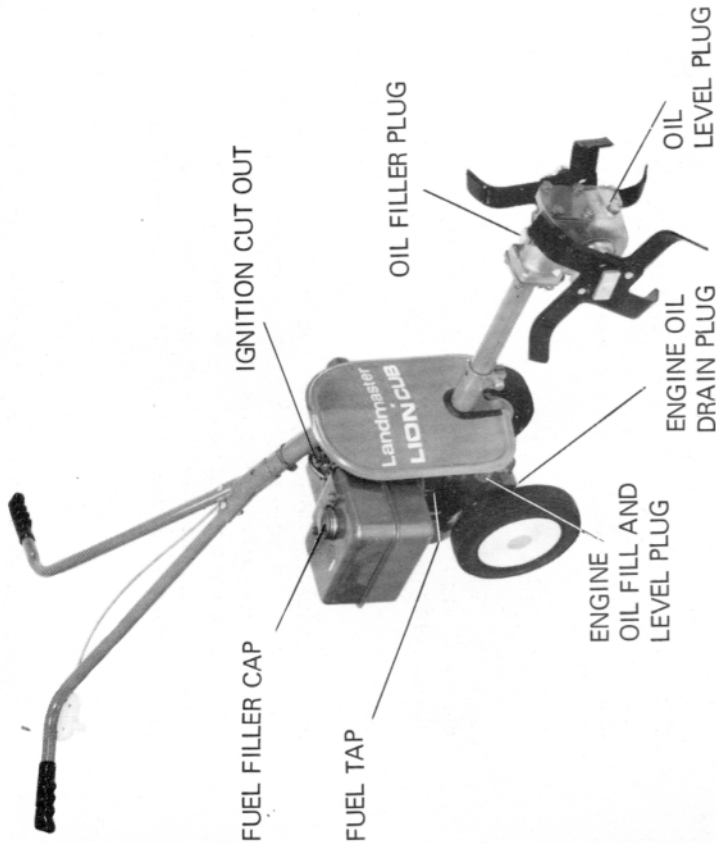
### GENERAL CARE

Clean all painted surfaces and wipe them over periodically with an oily cloth to keep down rust. When storing the unit for the winter, drain the fuel from the tank and if possible run the engine until the carburettor runs dry. Remove the spark plug and pour a tablespoon of engine oil into the plug hole, then replace the plug and crank the engine over to distribute the oil internally. Cover the machine and store it in a dry place. Every 14 days crank the engine over several times by hand to keep it from sticking.

After winter storage fill the tank with petrol and check the sump oil level. Start the machine and run the unit until it is hot. Stop the machine and drain off the old oil (this can be used for applying to the blades etc.) and refill with fresh engine oil.

RECORD YOUR MACHINE SERIAL NO. HERE FOR FUTURE REFERENCE

No. \_\_\_\_\_



Finally, we hope that you will enjoy using your LION CUB all the year round and for years to come, and that you will recommend it to other keen gardeners. Happy Gardening!