



# John Berends Implements Pty Ltd

AGRICULTURAL ENGINEERS

## OPERATOR'S MANUAL PARTS LIST



### Folding 'S' Tine Cultivators

**PRODUCT NO.**

0319

5.4m (54 Tines) with crumblers/wheels/hydraulic lift

130 FRANKSTON/DANDENONG RD, DANDENONG SOUTH, VIC. 3175 AUSTRALIA

Phone: (03) 9791 2494 Fax: (03) 9794 5568

[www.johnberendsimplements.com.au](http://www.johnberendsimplements.com.au)

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## Safety Features

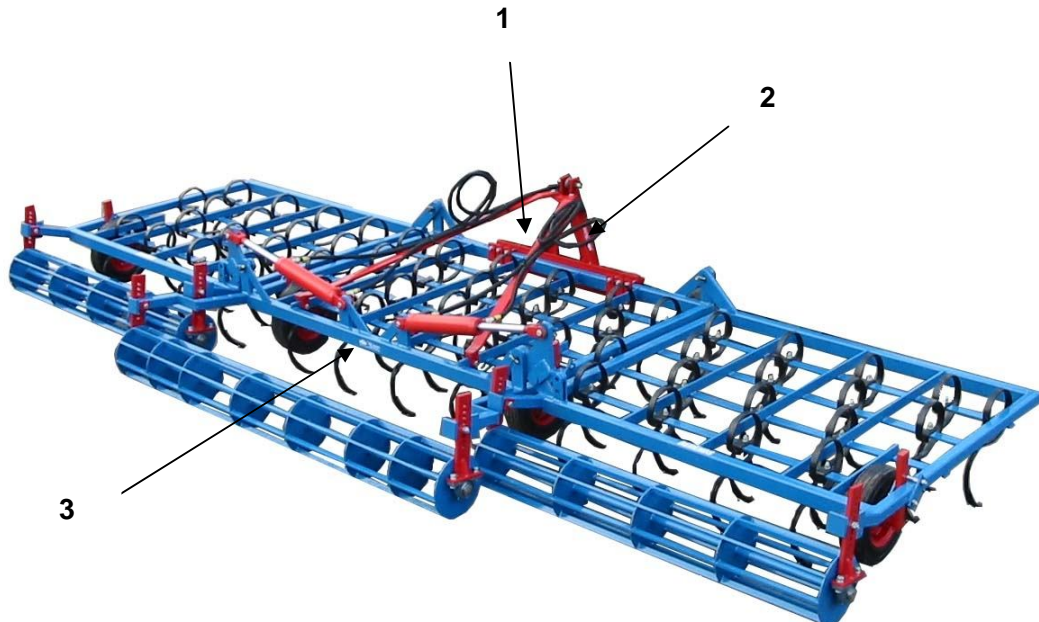
1. SERIAL NUMBER (Decal)



2. WARNING DECAL



3. BERENDS DECAL



## **INTRODUCTION:**

This manual was developed specifically for the machine you have purchased. The information within is to assist you in preparing, operating and maintaining your machine. Please read and understand the contents of the manual completely before attempting to operate your machine, paying special attention to all safety details. With our policy of continuous improvement, products and specifications may change without notice and without incurring the obligation to install such changes on any unit previously delivered.

## **'S' Tine Cultivators**

The "S" Tine cultivators are most commonly used for secondary cultivation, although they can be used for primary cultivation in lighter soils. The factors which determine which cultivator one should purchase are the conditions of the soil, the horsepower of the tractor and, most importantly, what ones objectives are. For example, are we turning the soil over to plant a crop or do we just wish to aerate an old pasture. All cultivators have the option of a wheel kit for depth control, and in the case of the "S" Tine cultivator, a crumbler is also available for controlling depth and levelling out clumps and clods. All machines have reversible points and all spare parts are available from the manufacturer

## **MACHINE SPECIFICATIONS**

<b>MODEL</b>	<b>Folding 'S' Tines</b>
No. Tines	54
Tine Size	32mm x 10mm
Machine Width	5.5m
Frame Size	50mm x 12mm flat
Tractor H.P.	2 HP per tine
Tractor CAT connection	3 Point Linkage – Cat 1/2

## **WARRANTY**

John Berends Implements P/L warrants each new product sold to be free from defects in material and workmanship, under normal use and service, as outlined in the operators manual, for a period of 12 months.

This warranty is void if any damage to the machine has been caused by misuse or non genuine parts have been used or any repairs have been made by any persons other than authorised dealer service personnel.

The manufacturer/dealer is not obligated to any transportation charges incurred in the repair or replacement of parts.


This warranty does not exclude any condition or warranty implied by the Trade Practices Act 1974 or any other legislation which implies any condition which cannot be excluded.





# SAFETY





Farm machinery is dangerous if operated incorrectly so please read this manual in its entirety prior to operating the machine.


 No operator, however experienced in farm machinery operation, should attempt to use any machine they have not been competently trained to use. Your local Department of Agriculture can help you with training, as can most Occupational Health and Safety offices, Agricultural schools and colleges and farm equipment dealerships.


 All instructions relating to tractor safety as per the tractor operators manual should be followed. When making any machine adjustments, stop the tractor engine first and wait for all moving parts to stop. Maintain the tractor to ensure it remains safe to use. Do not operate faulty or damaged equipment.


 Extreme caution should be taken when fitting equipment to the tractor's three point linkage. Avoid standing between the implement and the tractor when coupling machinery.


 All machines should be mounted and retained correctly. All guards must be kept in place and correctly maintained. P.T.O. shafts must be correctly attached and secured to both the tractor and the machine. Decals must be visible and legible at all times. Keep well clear of all moving parts.

 Keep all people and animals at a safe distance from all moving parts. Children must not be allowed to operate this equipment and all passengers must have the same level of protection as the operator.


 Wear protective clothing where appropriate.


 Never operate when tired (not alert) or in poorly lit areas and stay alert for humps and other hidden hazards. Remove all timber, rocks and foreign objects prior to operation.


 Avoid operating the machine in wet conditions.


 Exercise extreme caution when changing direction on hills. Avoid sudden movement, sudden breaking, high speeds, rough terrain and steep slopes.


 If machine starts to vibrate, stop tractor, turn off engine and investigate.


 After striking a foreign object or if there are doubts about the performance of the machine, stop the tractor as described and check if machine is making excessive noise.

 Extreme caution must be taken when working in public areas (roadsides etc). It is recommended that flaps and chains are fitted to slashers when operating in public areas. These are available as optional extras. Rear flaps are compulsory in public areas.

 Watch overhead clearance and beware of underground pipes and cables.

 Where fitted, hydraulic hoses and fittings must be maintained so as to prevent damage.

 Do not modify this equipment in anyway, or use it for any other purpose than it was designed to do.

 Never work under unsupported machines or adjust unsupported machines. Do not enter the danger zone where a load being carried by a machine could fall on you, for example a round bale from a bale fork, a log from a carryall or material from a rear end loader.

These instructions should be used in conjunction with any local regulations regarding safety ie OHS.

**Maintenance is essential for safe operation. Ensure maintenance is carried out regularly by people qualified to do so. This is of particular importance on P.T.O. drive machines where driven parts can fly off at high speed if wearing parts are not properly maintained.**

**FAILURE TO FOLLOW THESE INSTRUCTIONS AND PROCEDURES MAY RESULT IN EQUIPMENT MALFUNCTION, OR DAMAGE, SERIOUS INJURY OR EVEN DEATH.**

## **ASSEMBLY**

### **Main Frame**

The three frames can either be assembled individually and then connected together. Alternatively, the frames can be connected together first and then the tines mounted to the frame afterwards.

Attach the headstock (A-frame) and secure with plates and 3 ½" x ½" bolts provided. Attach long support stays to headstock with 2" x ¾" and secure with plates and 4" x ½" bolts (centre stay) and 3 ½" x ½" bolts/50 x 16mm bolts. The tine positions will be marked out on the frame.

When mounting the tines there are two main methods of doing it:

- a) Raise the frame horizontally off the ground allowing enough clearance underneath to mount the tines without them touching the ground (approx 500mm). Support the frame adequately so that it can't fall over. This process would require a forklift or similar and should be used only if the three frames are connected together first.

**or**

- b) Using a crane or jib, lift the rear of the cultivator so that the frame is standing vertically, resting with the headstock on the ground. Ensure that the frame is securely supported at all times whilst in this position. This method should only be used if the three frames are separate.

Always ensure that assembly is carried out on flat even ground.

Secure the tines with the clamps and 50 x 12mm bolts provided. When all tines are fitted, lower the frame to the ground so that it is resting on the tines.

### **Crumbler (optional)**

Insert bearing into bearing housing and secure to outside of main arm (angle) with 1 ¾" x ½" bolts. Attach main crumbler arm onto the crumbler shaft and secure bearings with grub screw. Position crumbler behind the frame and secure crumbler brackets to the appropriate hole mounting on the frame.

Line the lower linkage arms between the lower linkage plates of the cultivator, slide the linkage pins through the holes and secure with linch pins. Attach the top link to the cultivator. The lower linkage arms must be level with each other. The tractor top link may need to be adjusted to ensure the cultivator is parallel to the ground when working. However, never have the top link horizontal as this will cause the cultivator to move sideways and make it difficult to track

Once the machine is assembled, connect the rams and hoses. Attach the main body section of the hydraulic cylinder to the centre frame and connect the extending rod end of the cylinder to the outer frame. Secure with clevis pins and clips. Attach the hydraulic hoses to the ram and fit couplings to the other end of the hoses. Keep the hoses well clear of the tines using the cable ties provided. Connect the hoses to the remote hydraulics of the tractor.

If transporting with the wings folded up ensure that the hydraulics are all connected and are engaged. A safety chain has been provided if transporting without the hydraulics connected. This prevents the wings from falling down.

## **OPERATION**

Once all safety procedures have been followed, start the tractor and raise the cultivator off the ground. Ensure the tine spacing is acceptable and all tines are secure.

**Do not remove the safety chain until the two folding wings are fully supported by the tractor remote hydraulics.**

### **Working Speed**

Depending on the soil condition, tractor speed should be at 8-12 kph. This will produce the best crumbling affect without leaving large clods. It is advised that travelling fast with a light cultivation a couple of times is more beneficial than a slow pass doing heavy cultivation. A weeks interval between passes allows weeds to germinate in between passes which are subsequently turned over in the second pass.

In undulating ground, the two wings can be allowed to float somewhat by re-positioning one of the pins each side which hold each wing on. With the wings in the lowered position, remove each pin from the bottom hole and insert it into the top hole and reattach with linch pins.

### **Turning**

Lift the cultivator out of the soil. Never turn before the tines are completely free from the soil, otherwise the innermost tines will be forced sideways and backwards. When making part turns with the cultivator in the soil, you must use so big a circle that the innermost tines never move backward.

### **Reversing**

Never reverse with the tines in the soil, but make sure the cultivator is fully raised. When reversing in the soil the tines can very easily be overloaded, which later leads to breakages.

### **Transporting**

This machine is not designed for transporting at high speeds with the linkage off the ground. Therefore when travelling on roads do not travel at too fast a speed which allows the unit to bounce up and down excessively. This may cause undue stress to the headstock, rear stays and pivoting connections between the frames.

### **Stopping**

Lower both wings of the cultivator onto the ground, stop the tractor engine (removing the ignition key) and apply the park brake. Ensure that the cultivator is well supported when not in use.

**CAUTION:** When the cultivator is on the ground, yet not linked to the tractor, it may be unstable. Make sure something is put in place to keep the machine balanced. ie chock up the linkage with a block of wood. Do not leave the wings of the cultivator in the air at any time whilst not in use.





## **MAINTENANCE**

When doing any type of maintenance on this machine, always follow the safety steps described in this manual. Use only authorised genuine parts for replacement. The cultivator must be adequately supported under its body (Make certain it cannot fall).

### **Hydraulic Fittings and Hoses**

Before doing any maintenance on the hydraulic system, release the oil pressure. Be careful when searching for oil leaks as oil escaping under pressure can be invisible and may penetrate the skin.

### **Wheel kit**

Wheel must run freely on axle.  
Note: Bearings are replaceable if necessary.

### **Crumbler**

Ensure both bearings are kept lubricated with bearing grease.

## **SPARE PARTS**

ORDER SPARE PARTS THROUGH YOUR ORIGINAL SUPPLIER OR YOUR LOCAL JOHN BERENDS IMPLEMENTS DEALER.

Always quote the machine serial number or product number, spare part number and its part name as stated in the operator's manual.

### 5.4m Folding Wing 'S' tine cultivator

Key No.	Part No.	Quantity	Description
1	1670	53	Tine with point 32 x 10
2	1672	53	Clamp bracket, bolt/nut/sw to fit 1670 to 50 x 12 frame
3	1678	53	Reversible point
	1680	ar	2 1/2" Goosefoot
	1682	ar	4" Duckfoot
	1684	ar	Lucerne or grass point
4	1686	53	Plough bolt/nut
5	1927	6	Bearing to suit crumbler roller
6	1965	6	Bearing housing to suit crumbler
7	3866	6	Crumbler mounting arms
8	3867	1	Headstock
9	3868	2	Rear stays </td
10	3693	2	Hydraulic Rams (inc pins/clips)
11	3869	2	Hydraulic Hoses (pair)
12	3870	4	Pins (inc R-clips) for wing mounting
13	1972	2	Cat 2 push thru pin
14	1595	4	Solid rubber tyre only
15	3227	4	Solid rubber tyre and rim – no hub
16	3767	4	HT hub (inc studs/nuts/bearings/seals)
17	3871	4	Wheelkit mounting arm and axle (inc. plate/bolts/nuts/sw)

