

Toptilth

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TOPTILTH 2
3M TO 4M MOUNTED AND TRAILED
AND
4M TO 6M FOLDING WING
OPERATORS MANUAL & PARTS BOOK



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Please fill in the general details below (Where applicable)

MODEL	
WIDTH	
MOUNTED/TRAILED	
HOPPER TYPE	
SPECIAL	

Please fill in Serial plate details: Serial plate is located on headstock or drawbar

MODEL NO.	
SERIAL NO.	

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DECLARATION OF CONFORMITY

Simba International Limited hereby declare that the Product described in this Operators Manual, and defined by the Serial Number Plate attached to the Chassis of the Machine (a part copy of which is detailed overleaf and must be completed indicating the relevant machine details), conforms with the following Directives and Regulations, and has been certified accordingly.

EC Machinery Directive 89/392/EEC, as amended by 91/3688/EEC, 93/44/EEC, and 93/688/EEC.

In order to fulfill the requirements of health and safety described in the EC Directive, the following standards and technical specifications have been taken into account:

**EN 292 - 1
EN 292 - 2**

THE MANUFACTURER

Simba International Limited
Woodbridge Road
SLEAFORD
NG34 7EW
Lincolnshire
NG34 7EW
England.

Telephone 01529 304654.

CERTIFIED ON BEHALF OF SIMBA INTERNATIONAL LIMITED.

Philip J. Wright. BSc (Hons) C Eng. MI Agr.E
Technical Director.



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WARRANTY
TERMS AND CONDITIONS
2004

In this warranty Simba International Ltd., is referred to as "the Company".

1. Subject to the provisions of this warranty the Company warrants each new machine sold by it to be sold free from any defect in material or workmanship for a period of 12 months from date of receipt by the end-user.

Some specific items have additional warranty over and above the standard 12 months. Details of these can be obtained upon request directly from the distributor or Simba International Ltd.

2. If the machine or part thereof supplied by the Company is not in accordance with the warranty given in clause 1 the Company will at its option:
 - (a) make good the machine at the Company's expense, or
 - (b) make an allowance to the purchaser against the purchase price, or
 - (c) accept the return of the machine and at the buyers option either:
 - I) repay or allow the buyer the invoice price thereof, or
 - II) replace the machine as is reasonably practical.
3. This warranty shall not oblige the Company to make any payment in respect of loss of profit or other consequential loss or contingent liability of the Purchaser alleged to arise from any defect in the machine or impose any liability on the Company other than that contained in clause 2.
4. Any claim under this warranty must be notified to the Company in writing specifying the matters complained of within 12 months from the date of receipt by the Purchaser or his nominee of the machine.
5. Any claim under this warranty must be made by the original purchaser of the machine and is not assignable to any third party.
6. If the purchaser hires out the machine to any third party the warranty shall apply only to matters notified to the Company in writing within 90 days of the date of delivery and clause 4 shall be read as if the period of 90 days were substituted for the period of 12 months.
7. The warranty will cease to apply if:
 - (a) any parts not made, supplied or approved in writing by the Company are fitted to the machine or
 - (b) any repair is carried out to the machine other than by or with the express written approval of the Company or
 - (c) any alterations not expressly authorized by the Company in writing are made to the machine or
 - (d) the machine is damaged by accident or
 - (e) the machine is abused or overloaded or used for a purpose or load beyond its design capabilities, or used in conjunction with a tractor whose power output capability exceeds the stated implement power requirement by more than 40%.
 - (f) the machine is operated as part of a 'cultivation train' where more than one implement is being towed, without the express written approval of Simba International Ltd.
 - (g) any maintenance is not carried out in accordance with the service schedules in the operator's manual.
 - (h) the Installation and Warranty Registration Certificate is not received by Simba International Ltd., Service Dept., Woodbridge Road, Sleaford, Lincs. England. NG34 7EW, within 7 days of installing a new machine.

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SAFETY GUIDELINES FOR TOPTILTHS

It is the responsibility of the operator to ensure that the following essential safety requirements are adhered to at all times.

- !-** Never work on/or under machine unless it is fully supported.
- !-** Always close taps on drawbar, axle and wing (folding machines) prior to transport.
- !-** During transport do not exceed 18 Mph.
- !-** Do not fold/unfold the machine on side slopes, face combination downhill
- !-** As with any hydraulic system never place hands over suspected leaks, high pressure oil can penetrate skin.

Safety Inspection

(see also Maintenance section)

- !-** Check Hydraulic hoses for signs of damage especially where movement is involved eg. pivot points.
- !-** Check tyres where used in road transport for pressure and condition.
- !-** Check all nuts and bolts regularly.

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TOP TILTH

HIGH OUTPUT SEEDBED CULTIVATOR

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1. INTRODUCTION

The toptilth cultivator is a non powered implement designed to produce a consolidated level seedbed on heavier land, especially following ploughing and drying, or directly into cleared stubble.

An initial heavy duty levelling board, which is adjustable for pitch and height, is designed to cut or crush surface clods. The levelling board can be of either rigid type or sprung leaves (see pages ***) Secondly, two rows of staggered vertical pigtail tines, (both fitted with 37mm reversible points) are then followed by a fully adjustable, crumbler unit, the type dependant on preference and conditions. Two additional rows of pigtail tines and a second crumbler unit then give the desired seedbed finish, again the type of crumbler can be chosen to suit conditions and the type of seedbed required.

2. INITIAL SETTING UP PROCEDURE

The method of operation will depend upon the type of seedbed and finish required and upon the machine specifications chosen, for example a toptilth fitted with light duty tines at the rear will require a different set up than for the same machine fitted with h/duty rigid tines. The following points will act as a guide to setting up of the machine, however best results will be obtained by adjusting the machine on a trial and error basis to tailor the machine both to soil conditions and desired seedbed finish, which due to the simplicity of adjustment is a relatively simple and worthwhile operation.

For mounted machines, ensure that the tractor linkage arms are both level by measuring and adjusting their heights on level ground. The arms must be checked prior to setting up the toptilth, otherwise the implement will not be level in work.

For trailedd machines, setup procedure is the same as for mounted versions, except that the drawbar cylinder is set for closed centres by adjusting the stroke limiter (see page **). This sets the implement pitch in the same way as the tractor toplink in the mounted machine case. Turning out of work is accomplished by extending the drawbar cylinder, returning to the preset pitch governed by the limiter. If required, the rear axle can also be lowered when it is desired to turn on the wheels, or reverse into corners.

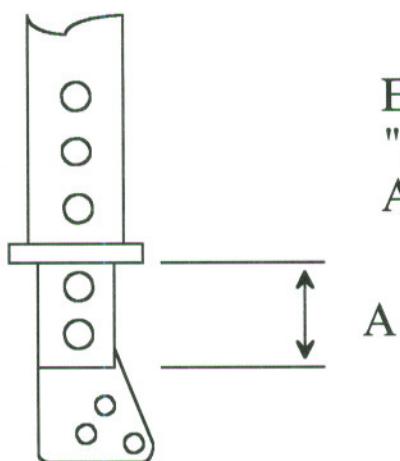
Initially lift the levelling board out of work and concentrate on achieving the desired effect and depth with the tines, by altering the crumbler adjusters on centre and rear crumblers. Most cases will result in the toptilth being slightly tail low, therefore producing progressive cultivation effect.

Once the correct depth has been obtained drop the levelling board to suit conditions as described below.

A. LEVELLING BOARDS

a). The height of the levelling boards is set by measuring from the underside of the drop arms to the underside of the vertical box sections on the frame (see fig. 1 page 2). Setting the levelling board too low will cause the board to bulldoze the soil and increase the draft requirements significantly, the levelling board should be set at a height where it is working to break down clods and blocks and not to pre engage the majority of the soil surface.

FIGURE 1



ENSURE DIMENSION
"A" IS CONSISTENT
ACROSS MACHINE.

NOTE:

Ensure that all of the drop arms are set equally across the width of machine using the levelling board adjusters.

b). The pitch of the levelling boards is initially set with the leading edge uppermost (shallowest), but is best set when operating the implement in the field, a levelling board with a steep pitch will induce a submarining effect pulling the front end of the machine into the ground, increasing draught, a shallow pitch will cause the reverse, unless the board is set very low. See diagram below.

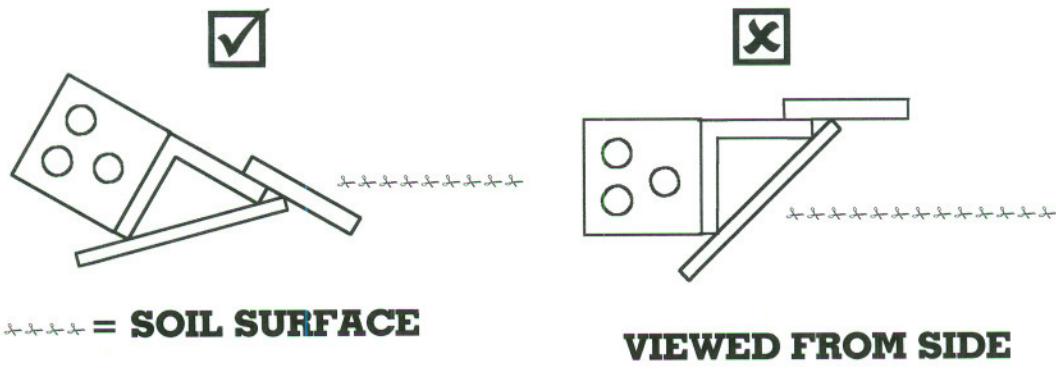


DIAGRAM TO SHOW NORMAL LEVELLING BOARD SETTING

B. CENTRE CRUMBLER

The crumbler height is set using the telescopic adjusters provided. the deeper the machine is required to work the shorter the adjusters and vice versa. Always ensure that the crumbler adjusters are set identically from left to right to maintain level working depth across machine. The scale on the inner units of the adjusters can be used to ensure depth is even across the machine width.

C. REAR CRUMBLER

The method for setting the rear crumbler is the same as for the centre crumbler however the adjustment is unlikely to be at the same setting if a progressive cultivation effect is desired.

NOTE:

Ensure that the crumbler units are set to exactly the same height at both sides, otherwise tines on one side of the machine will be working deeper than the other side causing uneven finish and possible crabbing of toptilth unit.

D). Adjust the scrapers so that they are just clear of the crumbler reel, ensuring that the crumbler can rotate freely. Once the crumbler is worked it will become shiny, leading to better results. The scrapers generally require retightening after an initial bedding in period. The scraper rail position can be varied by the end screws after scrapers are individually set.

E). Draw the machine into work until a stable working position is achieved. It is recommended that single adjustments are carried out and the machine worked to help identify setting up problems and therefore speed up the process by not wasting time altering the wrong adjustment.

F). Adjust the tractor top link or stroke limiter (trailed machines) until the mainframe is level or slightly tail low in the fore to aft plane when in work, to ensure an even or progressive depth of operation, and set crumbler adjusters to ensure an even weight distribution between the crumblers.

3 OPERATION

BEFORE OPERATING ENSURE ALL NUTS & BOLTS ARE TIGHT, SPECIAL CONSIDERATION SHOULD BE GIVEN TO ALL BOLTS ASSOCIATED WITH THE CRUMBLER UNITS AS SEVERE DAMAGE MAY RESULT IF THESE ARE NEGLECTED.

The toptilth cultivator is capable of reducing much ploughed land to a level seedbed in one pass, but as a guide, the unit will require as many passes as a power harrow to achieve a similar end result. To reduce compaction from tractor wheels the implement should be used in conjunction with dual or flotation wheels on the tractor.

When in work the operating speed should ideally be maintained at as fast as ground conditions will permit to provide the optimum seedbed finish required. Excessive speed may damage the tractor and/or the implement and will be uncomfortable for the operator. Additionally a reduction in output quality is generally experienced at faster speeds (due to less consistency of depth for example). The use of the trailing kit will enable more stable operation at higher speeds as the Toptilth is then not close coupled to the tractor.

Ensure that the mounted implement is operated with any draft control setting minimised or turned off. Position control should be set to lower or full depth for maximum consolidation.

Under normal ground conditions the pitch of the levelling boards should be set so that the wear blade is slightly up, (ie the bottom hole in the levelling board aligns with the lower hole in the drop arm) so that consolidation of the soil takes place against the underside of the levelling boards. If possible work obliquely to or at right angles to the ploughing. This has the best levelling effect. When working ploughed land that has become hard and dry, the levelling boards can be set so that they just cut the soil surface (ie the upper hole in the levelling board aligns with the top hole in the drop arm). A small amount of soil flow over the levelling

boards is permissible, if this soil flow is excessive then the boards must be adjusted upwards to reduce this.

If excessive soil flow over the levelling board is not reduced, clods will be able to pass into the centre of the implement without being broken down. These conditions may require two passes, by working obliquely to, or at right angles between passes, a good seedbed, depending upon soil type and soil moisture content, should be achieved.

Minor adjustments to the top link between tractor and implement are permissible to regulate the pressure on the rear crumbler reel to suit conditions and requirements. Lengthening the toplink serves to increase reel pressure.

TRAILED IMPLEMENTS

Setting drawbar to tractor.

During work the cylinder is usually set by the stroke limiter to enable the frame to run level or slightly tail low at the desired depth. Extend the cylinder during headland turns, returning to preset pitch in work. If required, the axle cylinder can be extended to enable turns or reversing without the rear roller.

Utilising drawbar cylinder during operation.

If during operation the cylinder is used in float the machine will find its own level (dictated by machine settings and conditions). However if too much soil is flowing over the levelling board or a constant machine position is desired irrespective of varying ground conditions, set the cylinder centres with the stroke limiter. It is normal practice to set the machine with the stroke limiter.

Extend the cylinder as normal at headlands to lift toplith onto rear roller the lower again into work, the machine will always return to set position.

A stroke limiter unit is currently fitted on trailed machine applications to enable infinite control of cylinder closed centre length. There are a number of important features associated with this valve system, and its adjustment.

The cylinder is extended in the normal manner by pressurising the fullbore (cylinder) side. When the cylinder is retracted, the plunger on the rod actuates a small slave cylinder attached to the side of the main cylinder. The valve on the fullbore port senses an increase in pressure which locks the valve, preventing oil flow from the cylinder, thereby setting the minimum centres.

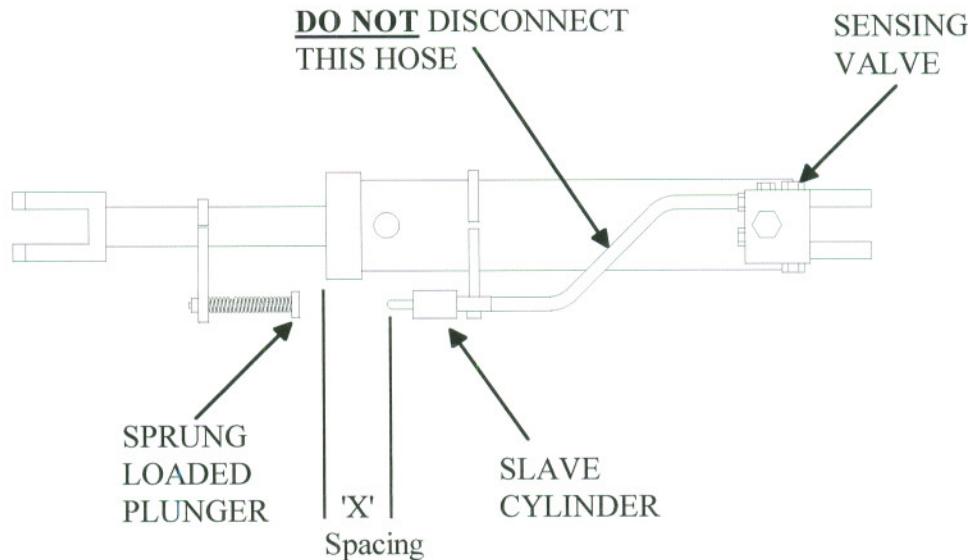
Slide and clamp the plunger collar at the desired position on the rod to control closed centres.

Ensure the slave cylinder is fitted with dimension 'X' not exceeding 70 to 75mm, otherwise the spring may not compress sufficiently to lock the valve (at high cylinder pressures) before the plunger collar hits the endcap. This will result in failure to lock, sliding the plunger collar to the end of the rod as the cylinder closes. Also, ensure the sensing hose is not crimped/ twisted.

Refer to the illustration on the next page.



WARNING: DO NOT LOOSEN OR DISCONNECT THE SENSOR HOSE!



The amount of spring compression required to lock the valve depends on operating pressure. For low pressure applications, there will be a gap, when closed, between the plunger collar and cylinder endcap which is greater than that under high pressure. Increasing dimension 'X' will, in this case, be acceptable, **providing there is a 5mm or greater clearance between the plunger collar and the cylinder endcap when locked**. This clearance is required to ensure any pressure variations are accounted for by the spring.

IMPORTANT.

1. Do not allow the plunger collar to trap between the clevis end and cylinder endcap.
2. Ensure when fitting that components of the kit do not foul framework or moving parts.

Folding models: Transport to field setting.

1. Ensure the machine is fully raised, with wings and accumulator isolated (taps off).
2. Remove transport strap, ensuring ground area around wings is clear.
3. Slowly unfold wings to fully down positon, with machine raised.
4. Isolate wing cylinders to tractor and open accumulator. This allows the wings to float, the accumulator absorbing variations in contour and evenly loading the wings across their full width.
5. Lower the machine onto the ground, raise and isolate the axle as required, and set the drawbar according to the aforementioned procedure.

Folding models: Field to transport setting.

1. Fully raise the machine and isolate both axle and drawbar cylinders when fully extended.
2. Open isolators from wings to tractor, and close accumulator isolator.
3. Fold wings, isolate cylinders and fit transport strap. The machine is ready for transport.

4. TRANSPORT

When transporting the implement on public highways maximum transport speed should be restricted to 15 m.p.h. (24 k.p.h.). Before leaving the field to travel on the road ensure that any large clods of soil are removed from the implement to prevent them from fouling the road. Ensure the drawbar and axle taps are turned to closed position before road transport (Trailed models only) and wings are folded, taps closed, and transport straps fitted.

5. MAINTENANCE

WARNING - WHEN WORKING UNDER THE MACHINE ALWAYS ENSURE THAT IT IS FULLY SUPPORTED AND WILL NOT TIP UP SHOULD THE BALANCE OF WEIGHT BE ALTERED. (e.g - SHOULD A CRUMBLER BE DETACHED)

NEW MACHINES

On a new machine tighten all nuts and bolts after 5 hours work and again after 15 hours. This also applies to parts that have been moved or replaced. After initial 15 hours of work a once a week check is sufficient. See daily and weekly service sections for routine maintenance details (page 5).

DAILY SERVICE

1. **Do not** grease crumbler roll bearings. Over greasing of these bearing units may lead to the grease seal being forced out of the housing and bearing failure will follow almost immediately.
2. Grease all pivot points until grease shows using a standard agricultural grease as indicated in the parts section of this manual.
3. Check point bolts and tighten if necessary.
4. Check points and levelling boards for wear.
5. Check for broken or bent scrapers/star cleaners or rails, any damage to these may cause inefficiency and/or further damage to crumbler.
6. Check hydraulic connections for leaks. Leaking hydraulics may allow machine to lower in transport or in work.

WEEKLY SERVICE

1. Do not grease crumbler bearings. (see daily service)
2. Tighten all nuts and bolts including wheel nuts. Vibration through the machine may cause nuts and bolts to become loose leading to wear.

Check the scraper rail to crumbler arm retaining bolts and the crumbler arm to main frame bracket retaining bolts to ensure that they are fully tight as a significant load is transmitted through these areas during turning.

NUTS AND BOLTS

Keep all nuts and bolts tight and check them regularly, more often when the implement is working in hard / dry ground conditions as vibration may loosen them.
Keep to the maintenance schedule to maximise wearing part life and overall machine condition.

 Never use a hammer to assist the tightening of nuts and bolts.
Using an incorrect size or grade of bolt may result in damage to the implement.

BOLT SIZE	GRADE	TORQUE
M16	4.6	10 KG/M (73lb/ft)
	8.8	24 KG/M (176lb/ft)
M20	4.6	20 KG/M (146lb/ft)
	8.8	48 KG/M (352lb/ft)
M24	4.6	30 KG/M (220lb/ft)
	8.8	80 KG/M (587lb/ft)
M30	10.9	110 KG/M (807lb/ft)
	4.6	60 KG/M (440lb/ft)
M36	8.8	150 KG/M (1100lb/ft)
	4.6	110 KG/M (807lb/ft)
	8.8	280 KG/M (2055lb/ft)
NUMBER OF STUDS	STUD SIZE	TORQUE
5	5/8" BSF	20.7 KG/M (150lb/ft)
6	M18	27.7 KG/M (200lb/ft)

END OF SEASON SERVICE

- Supply **ONE PUMP ONLY** to each of the crumbler roll bearings from grease gun.

NOTE: The grease lubricates the bearing to housing mating faces, this is the **MAXIMUM** amount required. Any more than this is to the detriment of bearing. The seals in the cast bearing units can be displaced by over greasing. Misaligned seals not identified will result in rapid failure of the bearing.

- Grease any exposed areas of hydraulic cylinder rods to prevent them from becoming pitted
- Tighten all nuts and bolts. (see weekly service section)
- Dismantle all toplink adjusters and grease all threads and inside tube.
- Wheel bearings are pre packed with grease at the factory but should be inspected and regreased.
- Check for worn or damaged components and replace as necessary.
- Grease all exposed bolt threads.

8. If possible lower machine to the ground to reduce the loading on the tyres over a long period of time, therefore reducing risk of tyre deformation.

If this is not possible ensure that the pressures are correct and check them regularly.



WARNING: IF CENTRE CRUMBLER HAS BEEN FILLED WITH WATER FOR BALLAST ENSURE IT IS DRAINED OUT PRIOR TO MACHINE BEING SUBJECTED TO SUB ZERO TEMPERATURES.

6. SPARE PARTS

SPARE PARTS ORDERS

When ordering spare parts please refer to the parts lists in this manual and quote the part number, model number and serial number of the machine, for the item required.

ABBREVIATIONS USED IN THE SPARE PARTS MANUAL

CAT.	-	CATEGORY
CSK.	-	COUNTERSUNK
DIA.	-	DIAMETER
FT	-	FEET
L/H	-	LEFT HAND
MM	-	MILLIMETRE
N.I.	-	NOT ILLUSTRATED
PT.NO.	-	PART NUMBER
R/H	-	RIGHT HAND
SQ.	-	SQUARE
MTG	-	MOUNTING
RTG	-	RETAINING

NOTE: Left and right hand items are identified by viewing the implement from the rear in the direction of travel.

NOTE: NUTS AND WASHERS TO BE ORDERED SEPARATELY UNLESS OTHERWISE STATED, ALL PART NUMBERS BELOW ARE FOR NYLOCK TYPE LOCKING NUTS.

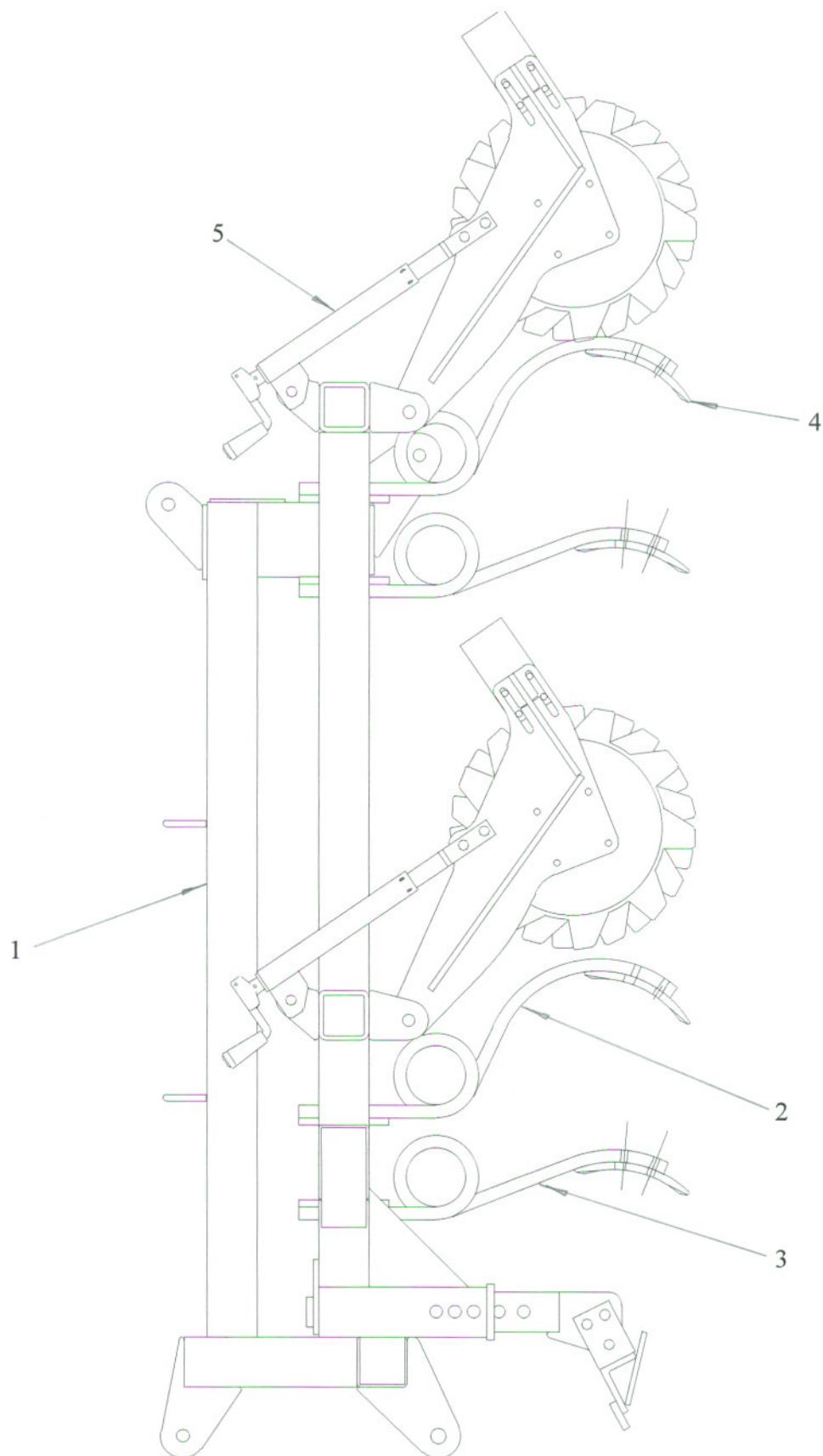
NUT SIZE	PART NUMBER	FLAT WASHER PT NO.
M12	5163	2601
M16	2008	2602
M20	2009	2603
M24	2010	2604
M30	2011	3763

WHEN ORDERING SPARE PARTS PLEASE QUOTE THE FOLLOWING:

**PART NUMBER
MODEL NUMBER
SERIAL NUMBER OF MACHINE**

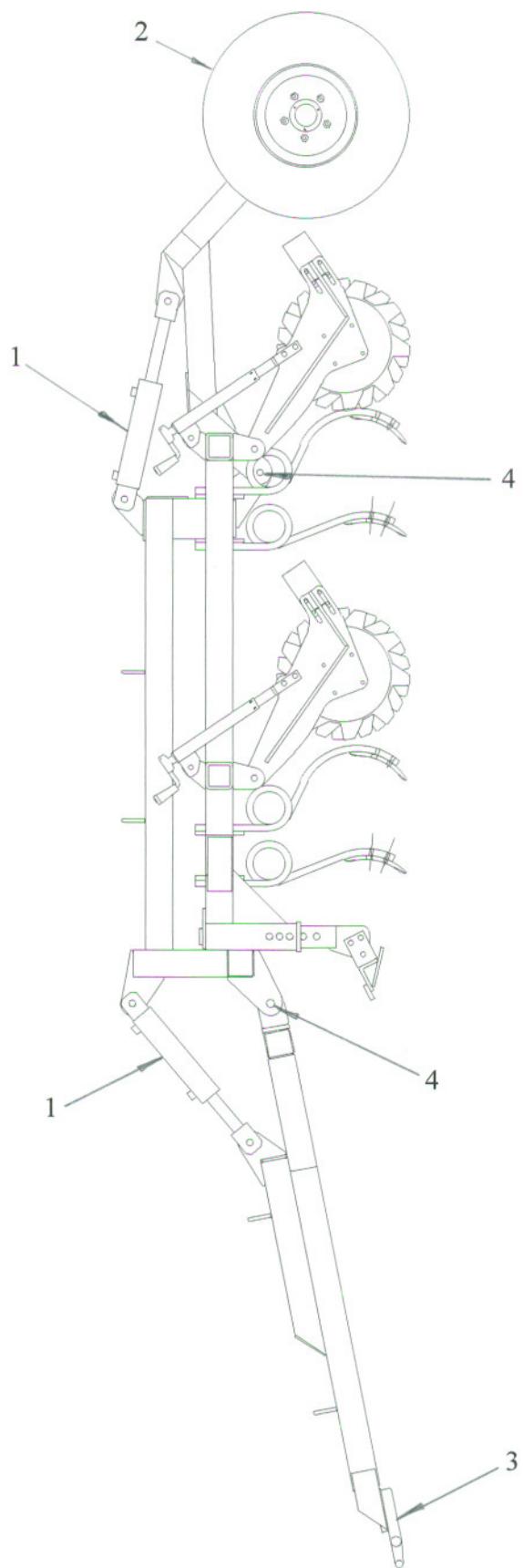
TOPTILTH - COMMUNAL PARTS

<u>ITEM NO</u>	<u>PT.NO.</u>	<u>DESCRIPTION</u>
1	-----	MAINFRAME
	3318	CAT 2 TOPLINK PIN 25 x 180(140)mm (NI)
	3010	TOPLINK CONVERTER SLEEVE CAT 3 - CAT 2 (NI)
	3217	CAT 2 LOWER LINK PIN 28 x 180(140)mm
	3449	LOWER LINK CONVERTER SLEEVE CAT 3 - CAT 2 (NI)
2	0857	25mm VERTICAL PIGTAIL
3	4154	25mm VERTICAL PIGTAIL STRAIGHT PROFILE
4	3017	37mm REVERSIBLE POINT
	0335	37mm REVERSIBLE LONG POINT (NI)
	4709	LOW RAKE ANGLE POINT (NI)
	0338	POINT BOLT 7/16" x 55mm CSK. SQ. (NI)
	1102	TINE RETAINING BOLT M16 x 70mm (NI)
	3744	TINE RETAINING 'U' BOLT M16 (NI)
	3435	LEVELLING BOARD DROP ARM L/H (NI)
	3434	LEVELLING BOARD DROP ARM R/H (NI)
	3305	LEVELLING BOARD ADJUSTER BOLT (NI)
	4236	LEVELLING BOARD ADJUSTER CAPTIVE NUT (NI)
	1071	LEVELLING BOARD DEPTH CONTROL PIN (NI)
	0407	LEVELLING BOARD MOUNTING BOLT M20x80mm(NI)
	4967	SPRUNG LEVELLING BOARD LEAF (NI)
	0003	SPRUNG LEV. BOARD LEAF RTG. BOLT M12x40mm (NI)
	4008	LEVELLING BOARD END PLATE (NI)
	0012	LEV. BOARD END PLATE RTG. BOLT M20x100mm (NI)
5	7141	JACK CRUMBLER ADJUSTER
	0874	JACK CRUMBLER ADJUSTER BOLT M20x70mm (NI)
	1834	CRUMBLER BEARING (NI)
	3088	CRUMBLER BEARING BOLT M12x60mm (NI)
	1844	CRUMBLER SCRAPER
	1360	CRUMBLER SCRAPER 'U' BOLT
	3088	CRUMBLER SCRAPER RAIL RETAINING
	5044	CRUMBLER BALLAST BUNG



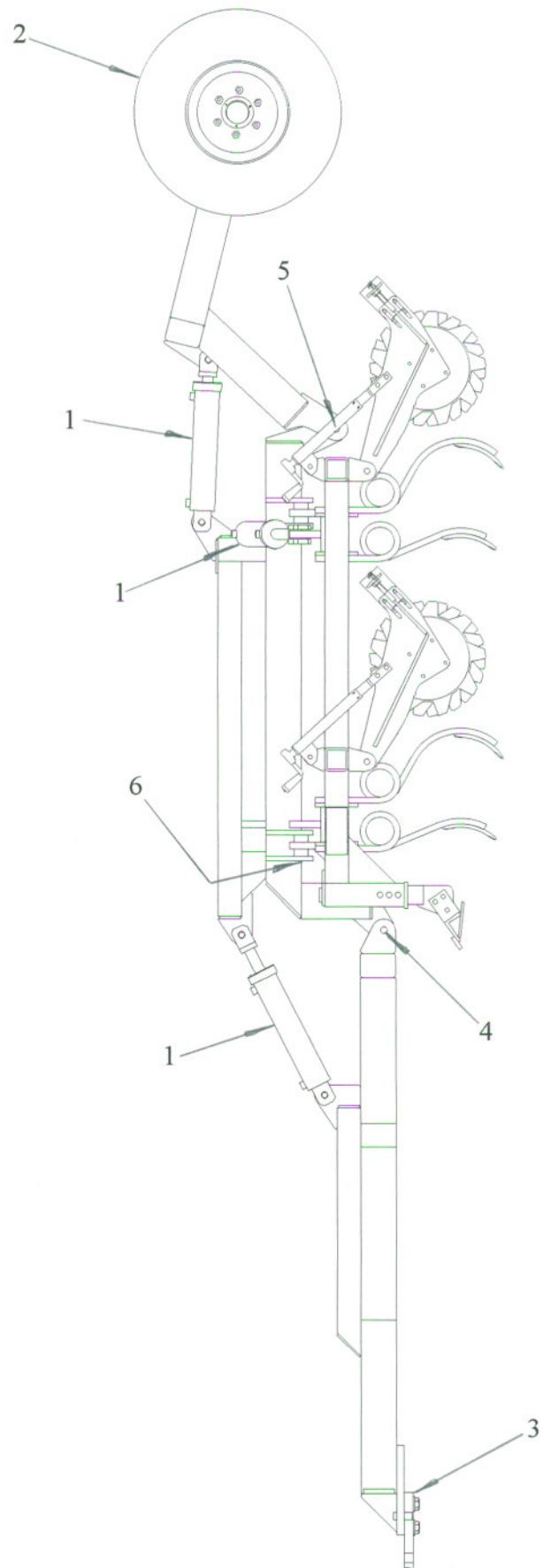
TOPTILTH - 3M-4M W.O.B. PARTS

<u>ITEM NO</u>	<u>PT.NO.</u>	<u>DESCRIPTION</u>
1	1913	AXLE & DRAWBAR CYLINDER
	7020	DRAWBAR STROKE LIMITER ASSEMBLY (NI)
	0180	6' HOSE 1/2" B.S.P. (NI)
	0183	9' HOSE 1/2" B.S.P. (NI)
	0184	10' HOSE 1/2" B.S.P. (NI)
	0201	1/2" B.S.P. BANJO BOLT (NI)
	0200	1/2" BSP BANJO BLOCK (NI)
	0203	1/2" B.S.P. MALE - MALE (NI)
	0204	1/2" B.S.P. 'T' ADAPTOR (NI)
	0205	1/2" B.S.P. MALE QR. (NI)
	0206	1/2" B.S.P. MALE - FEM. (NI)
	0774	1/2" B.S.P. FEM. TAP (NI)
	2734	1/2" B.S.P. M-F 90° (NI)
	2263	1/2" B.S.P. BONDED W. (NI)
2	0437	5 STUD WHEEL HUB (NI)
	2488	SPLIT PIN FOR 5 STUD WHEEL HUB (NI)
2	1084	10/75-15 TYRE C/W 5 STUD RIM
3	7080	DRAWBAR RING HITCH
	0017	RING HITCH RETAINING BOLT M24x100mm (NI)
4	0030	AXLE & DRAWBAR PIVOT BOLT M30x130mm
	4126	SPRUNG BUSH TO SUIT CYLINDER PIVOTS (FRAME)(NI)
	1274	CYLINDER ATTACHMENT PIN (115mm) (NI)
	1054	CYLINDER ATTACHMENT PIN (140mm) (NI)



TOPTILTH - 4M-6M FOLDING WING PARTS

<u>ITEM NO</u>	<u>PT.NO.</u>	<u>DESCRIPTION</u>
1	0164	AXLE , DRAWBAR & WING CYLINDER
	7021	DRAWBAR STROKE LIMITER ASSEMBLY (NI)
	0176	2' HOSE 1/2" B.S.P. (NI)
	0177	3' HOSE 1/2" B.S.P. (NI)
	0178	4' HOSE 1/2" B.S.P. (NI)
	0179	5' HOSE 1/2" B.S.P. (NI)
	0180	6' HOSE 1/2" B.S.P. (NI)
	0183	9' HOSE 1/2" B.S.P. (NI)
	0188	14' HOSE 1/2" B.S.P. (NI)
	0189	15' HOSE 1/2" B.S.P. (NI)
	0209	1/2" B.S.P. 'X' ADAPTOR (NI)
	3236	1/2" B.S.P. M-M REST. (NI)
	2735	1/2" B.S.P. M-M B/HEAD (NI)
	0201	1/2" B.S.P. BANJO BOLT (NI)
	7767	30 BAR ACCM. (NI)
	0200	1/2" BSP BANJO BLOCK (NI)
	0203	1/2" B.S.P. MALE - MALE (NI)
	0204	1/2" B.S.P. 'T' ADAPTOR (NI)
	0205	1/2" B.S.P. MALE QR. (NI)
	0206	1/2" B.S.P. MALE - FEM. (NI) (NI)
	0774	1/2" B.S.P. FEM. TAP (NI)
	2734	1/2" B.S.P. M-F 90° (NI)
	2263	1/2" B.S.P. BONDED W. (NI)
	0202	1/2" B.S.P. FEM. - FEM. (NI)
2	0641	6 STUD WHEEL HUB (NI)
	2488	SPLIT PIN FOR 6 STUD HUB (NI)
	4128	400/60--15.5 TYRE C/W 6 STUD RIM
3	7343	DRILLED RING HITCH (FORGED) (NI)
	7040	DRILLED RING HITCH (PROFILED Ø40mm HOLE)
4	3120	RING HITCH RETAINING BOLT M30x110mm (NI)
	0045	DRAWBAR PIVOT BOLT M36x200mm
5	0983	AXLE PIVOT BOLT M30x150mm
	0036	WING PIVOT BOLT M30x180mm
6	1274	CYLINDER ATTACHMENT PIN (115mm) (NI)
	1645	SPRUNG BUSH TO SUIT CYLINDER PIVOTS (FRAME) (NI)
	3222	WING BUFFER SPRING BOLT M30x200mm (NI)
	1023	WING BUFFER SPRING (NI)
	5361	ROAD TRANSPORT RATCHET STRAP (NI)
7	6155	RATCHET STRAP MOUNTING PLATE (NI)
	5397	HYDRAULIC HOSE CLAMP (NI)
	6924	HYDRAULIC HOSE CLAMP BOLT (NI)



TOPTILTH LEVELLING BOARDS

	RIGID L/H	RIGID R/H	FOLDING L/H	FOLDING R/H
3.0M	P07010	P07011		
3.5M	P07012	P07012		
4.0M	P07014	P07015	P07500	P07501
5.0M			P07502	P07503
6.0M			P07504	P07505