



OPERATOR'S MANUAL TERRABLADE

REVISION: 02

UPDATED: 15/10/18



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WARRANTY REGISTRATION

COMMISSIONING CHECK SHEET AND CONFORMATION FORM

All points in this form must be completed on the commissioning of a new Claydon machine with the end user. This form, along with a completed Warranty Card (located on the next page of this instruction manual) must be fully completed, signed by the customer and returned to: The Service Department, Claydon Yield-O-Meter Ltd, Bunters Road, Wickhambrook, Newmarket, Suffolk, CB8 8XY, UK within 7 days of the commissioning of the machine for warranty to be valid. **It is the customer's responsibility to return these forms.**

CUSTOMER NAME	<input type="text"/>	TELEPHONE NUMBER	<input type="text"/>
MACHINE SERIAL NUMBER	<input type="text"/>	DATE OF COMMISSIONING	<input type="text" value="DD/MM/YYYY"/>
ADDRESS	<input style="width: 100%;" type="text"/>		
COUNTY	<input type="text"/>	COUNTRY	<input type="text"/>
		POST CODE	<input type="text"/>

TASK	COMPLETED
The customer (and any operator of the machine) has been issued with and read the operator's manual.	<input type="checkbox"/>
The customer understands how to correctly set the working depth of the blade.	<input type="checkbox"/>
The customer understands how to adjust the pressure of the blade.	<input type="checkbox"/>
The customer understands how to set the machine level (left to right).	<input type="checkbox"/>
The customer understands how to change to a trailed configuration.	<input type="checkbox"/>
The customer understands how to store the TerraBlade.	<input type="checkbox"/>
The customer knows all the lubrication/maintenance points on the machine.	<input type="checkbox"/>

<p>I(representative name) have on behalf of (dealer name) commissioned the machine above to the best of my ability and have covered all the points in this check as a minimum requirement.</p> <p>Signed.....</p> <p>Date <input type="text" value="DD"/> <input type="text" value="MM"/> <input type="text" value="YYYY"/></p>	<p>I(end user name) have received the commissioning of my machine from a qualified Claydon representative and am happy with the competence of the representative and the level of service I have received. All the details on this form are correct to the best of my knowledge.</p> <p>Signed.....</p> <p>Date <input type="text" value="DD"/> <input type="text" value="MM"/> <input type="text" value="YYYY"/></p>
---	---

PLEASE RETURN A COPY OF THIS FORM TO CLAYDON

or email a copy to service@claydondrill.com

WARRANTY REGISTRATION

WARRANTY CARD TERRABLADE

IN ORDER TO ACTIVATE YOUR CLAYDON WARRANTY A COPY OF THESE PAGES MUST BE COMPLETED AND RETURNED TO

Claydon Yield-O-Meter Ltd
Bunters Road,
Wickhambrook,
Newmarket,
Suffolk,
CB8 8XY
Tel: +44 (0) 1440 820 327
Fax: +44 (0) 1440 820 642

or email a copy to service@claydondrill.com

IF THE REGISTRATION DOCUMENT IS NOT RETURNED THEN THE MACHINE'S WARRANTY WILL BE VOID

NAME:

ADDRESS:

CONTACT NUMBER:

DELIVERY DATE:

SERIAL NUMBER:

PLEASE ENSURE

- The machine is washed off upon delivery to remove any road salt.

SIGNATURE:

PLEASE RETURN WITH A COPY OF YOUR INVOICE AND THE DELIVERY NOTE.

IDENTIFICATION OF MACHINE

This operator's manual is specific to a hydraulically folding Claydon TerraBlade, of which there are 4 different models to match our direct drill range. Please make sure you understand which model you have and take note of the relevant information in the table below.

MACHINE	WORKING WIDTH (m)	TRANSPORT WIDTH (m)	TRANSPORT HEIGHT (m)	WEIGHT (kg)	NUMBER OF WORKING ROWS	HORSEPOWER REQUIREMENTS
TB3	3.6	2.6	1.8	450	10	30
TB4	4.2	2.6	2.1	475	14	40
TB4.8	5.0	2.6	2.5	500	16	48
TB6	6.4	2.6	3.2	550	20	60

There are two numbers used to identify your machine: the serial number, which is provided on a data plate, and VIN (Vehicle Identification Number) which is stamped on the side of your machine. The two numbers are used to identify your machine's warranty date, and specific parts related to it. Please ensure you have recorded these numbers on the previous pages before progressing further.

The serial number of your Claydon TerraBlade is on the data plate which is located on top of the lower box section of the chassis, as shown in figure below.



The VIN number of your Claydon TerraBlade is located on the outside of the left hand side main chassis plate, next to the manual holder, as shown in figure below.



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INTRODUCTION

Thank you for purchasing a new TerraBlade.

The purpose of this Operator's Manual is to comprehensively explain to the operator how to set up, use and maintain the machine.

It is important that the operator reads this manual carefully to correctly set up, use and maintain the machine safely. It is essential that the Warnings and Cautions section has been read carefully.

The Claydon TerraBlade will give many years of excellent service with little maintenance due to its robust construction and its small number of moving parts. However, for optimum machine life, some maintenance will be necessary.

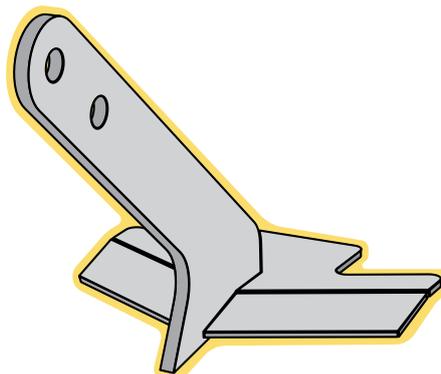
We reserve the right to make modifications to the machine that could make some diagrams and descriptions in this manual 'out of date'. While the clarity of the manual should not be affected by this, please bring any concerns to the attention of Claydon Yield-O-Meter Ltd for us to resolve the problem.

For any further assistance or explanation, please contact Claydon Yield-O-Meter using the contact details on the front cover. The serial number on the data plate will also need to be quoted.

INTRODUCTION INTENDED USE

The Claydon TerraBlade has been designed to eradicate weeds between the rows / bands sown with a Claydon drill. This is achieved by cutting weeds off at the growing crown just below the surface between the sown bands in a growing crop. For best results, this is carried out in spring when the crop is rapidly growing.

The benefits of the crop having rapid growth and ground cover at this time of year, in both winter and spring crops, ensures any small weeds germinating are smothered and suppressed by the growing crop. Removing weed competition helps the crop achieve its maximum yield by having more nutrients and moisture available and being able to harvest more sunlight ensures the crop reaches its full potential. Removing weeds also reduces their seed return, particularly important when resistant weeds are more common.



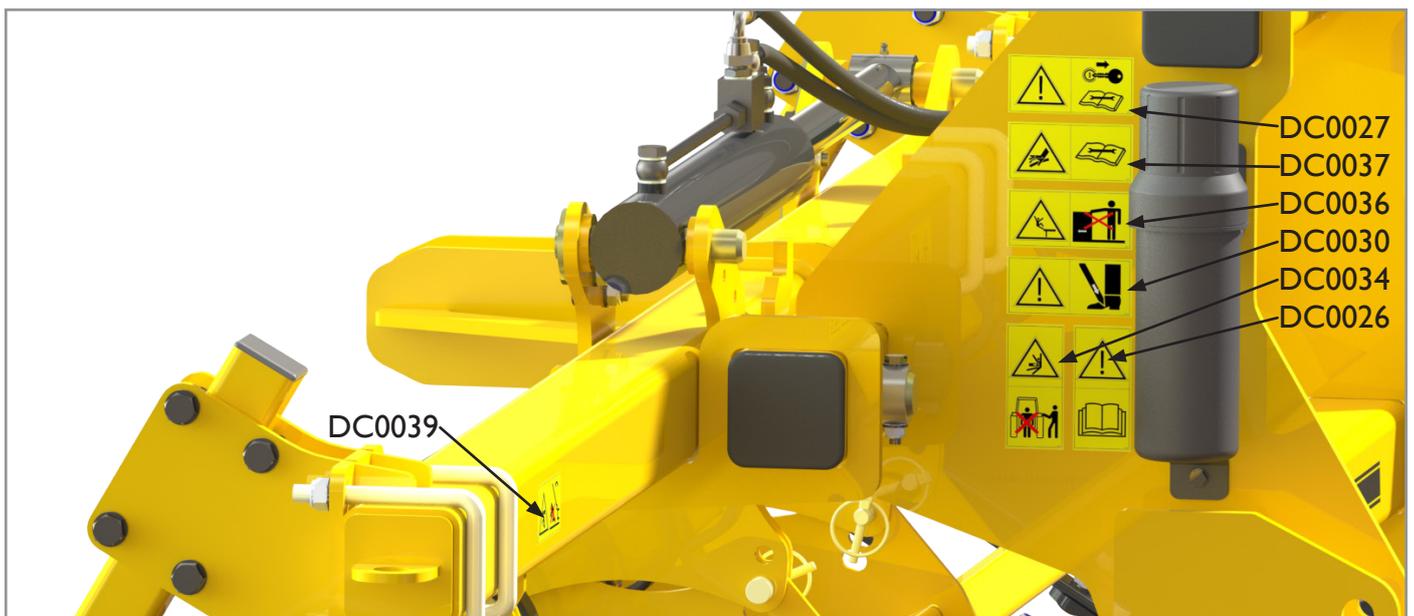
SAFETY

SAFETY STICKER LOCATION

Safety stickers can be found on your Claydon TerraBlade at numerous locations. These stickers must be heeded to ensure your safety and that the machine is operated in a safe manner.

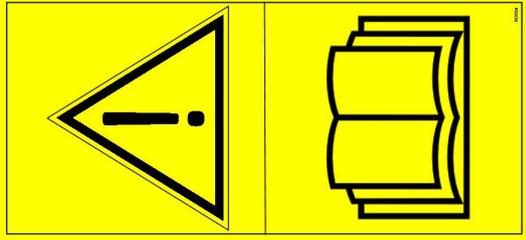
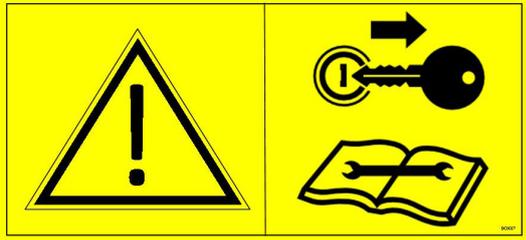
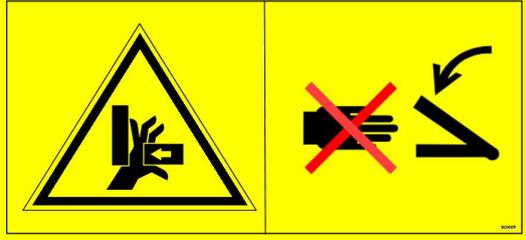
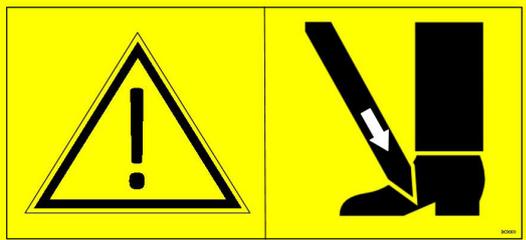
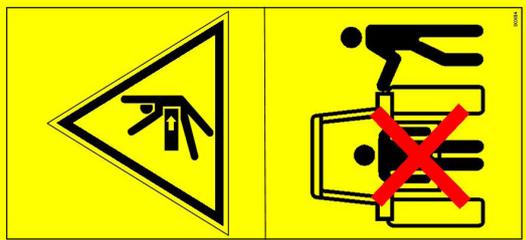
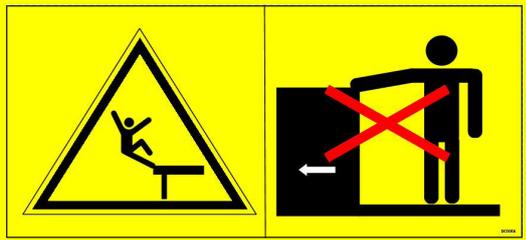
Replacing Stickers

If any of the stickers become illegible or peel off, new stickers can be ordered from Claydon and attached in the appropriate position. The stickers must not be removed.



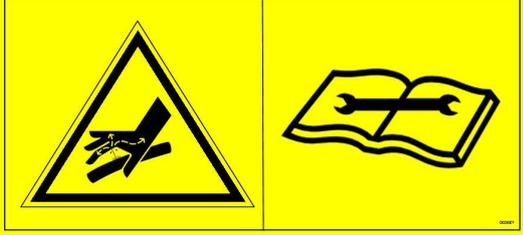
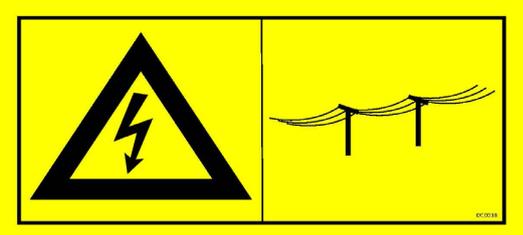
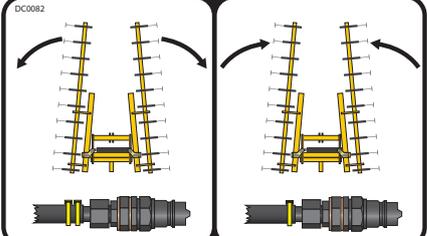
SAFETY

SAFETY STICKER MEANING

STICKER	MEANING
	<p style="text-align: center;">READ THE OPERATOR'S MANUAL CAREFULLY</p> <p>Prior to operating the machine the manual must be read fully and understood.</p>
	<p style="text-align: center;">REMOVE THE KEY BEFORE SERVICING</p> <p>Before any repairs or servicing, turn off the engine and take out the key.</p>
	<p style="text-align: center;">RISK OF CRUSHING</p> <p>Gaps between components may become smaller, or disappear completely.</p>
	<p style="text-align: center;">RISK OF CRUSHING</p> <p>Gaps between or under components may become smaller or disappear completely.</p>
	<p style="text-align: center;">DO NOT STAND BETWEEN THE TRACTOR AND THE MACHINE</p> <p>Standing between tractor and the machine is prohibited during coupling and uncoupling.</p>
	<p style="text-align: center;">RIDING THE MACHINE IS PROHIBITED</p> <p>Serious or fatal injury can occur as a result of riding on the machine.</p>

SAFETY

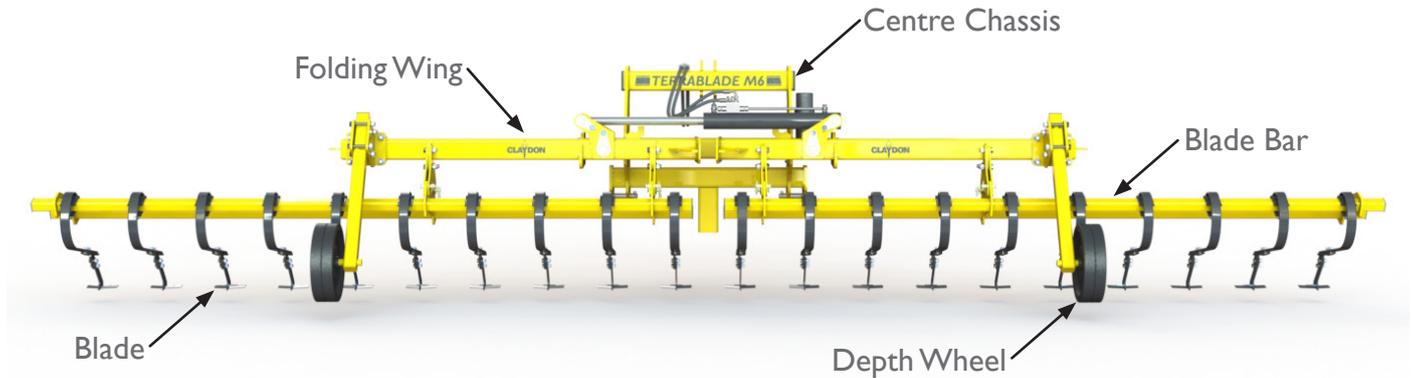
SAFETY STICKER MEANING

STICKER	MEANING
	<p>PROCEED WITH CARE IN THE EVENT OF LEAKING HYDRAULIC FLUID</p> <p>Defective hydraulic hoses or incorrectly seated hydraulic couplings can trigger unpredictable machine movements and cause injury.</p>
	<p>OVERHEAD CABLES</p> <p>When folding the wings and when in transport watch out for overhead electricity cables.</p>
	<p>KEEP CLEAR OF SLEWING RANGE</p> <p>There is an extreme risk of injury from slewing or folding machine parts.</p>
	<p>HYDRAULIC FOLDING</p> <p>Instructions for the hydraulic system.</p>

OPERATION

MACHINE OVERVIEW

The hydraulically folding Claydon TerraBlade consists of a centre chassis with hydraulic folding wings. The machine width will determine the widths of the 2 blade bars. These are simply fixed, using 4 pins, onto the folding wings.



The machine can be mounted on the front linkage of the tractor, for manual steering guidance operations, or the blade bars and depth wheels can be rotated for rear linkage mounting on the tractor. This is the preferred option when used with a suitable RTK guidance system or with a camera guidance system. In both cases the TerraBlade is connected to the ISO standard CAT II 3-point linkage.



Front mounted set up as standard

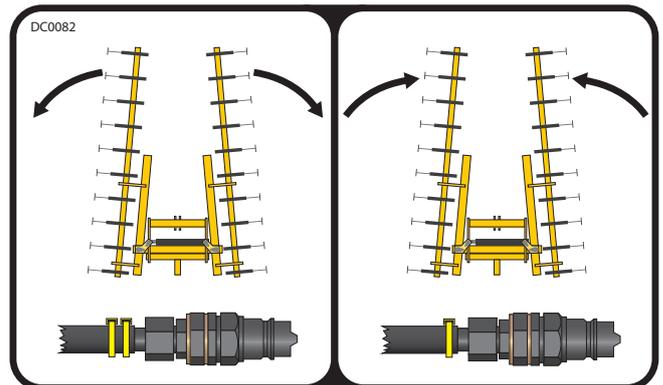


Rear mounted option, refer to page 21 for more detail on the set up.

OPERATION

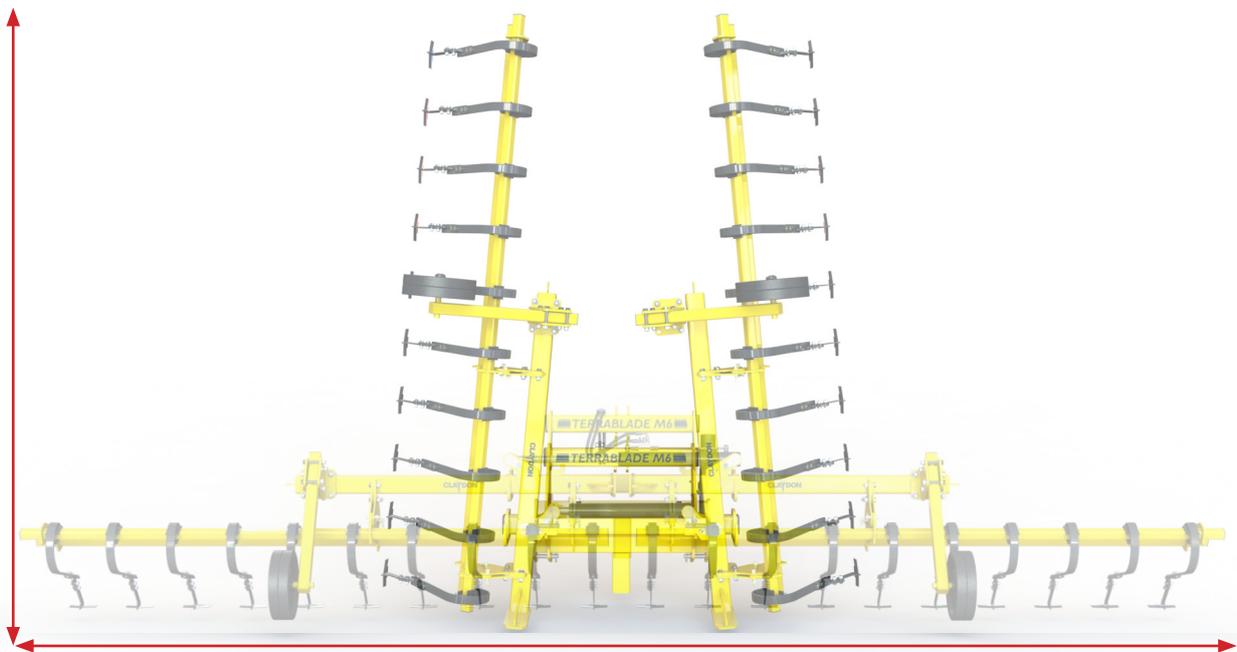
HYDRAULICS AND FOLDING

The TerraBlade hydraulics consist of one double-acting ram, with a double-acting pilot operated check valve to stop unintentional unfolding of the machine in transport. This also locks the machine in work. The TerraBlade will require one double-acting hydraulic service to fold the machine from the tractor. The folding and unfolding hose is distinguished by cable ties.



Folding and unfolding the machine is carried out with the 3-point linkage fully raised, using the tractor spool valve. Connect the fold and unfold 1/2" ISO connectors (1 & 2) to the tractor.

Before operating the folding mechanism, please ensure there is room to unfold/fold up and, most importantly, nobody is within the operational zone.



Dimensions found on page 5

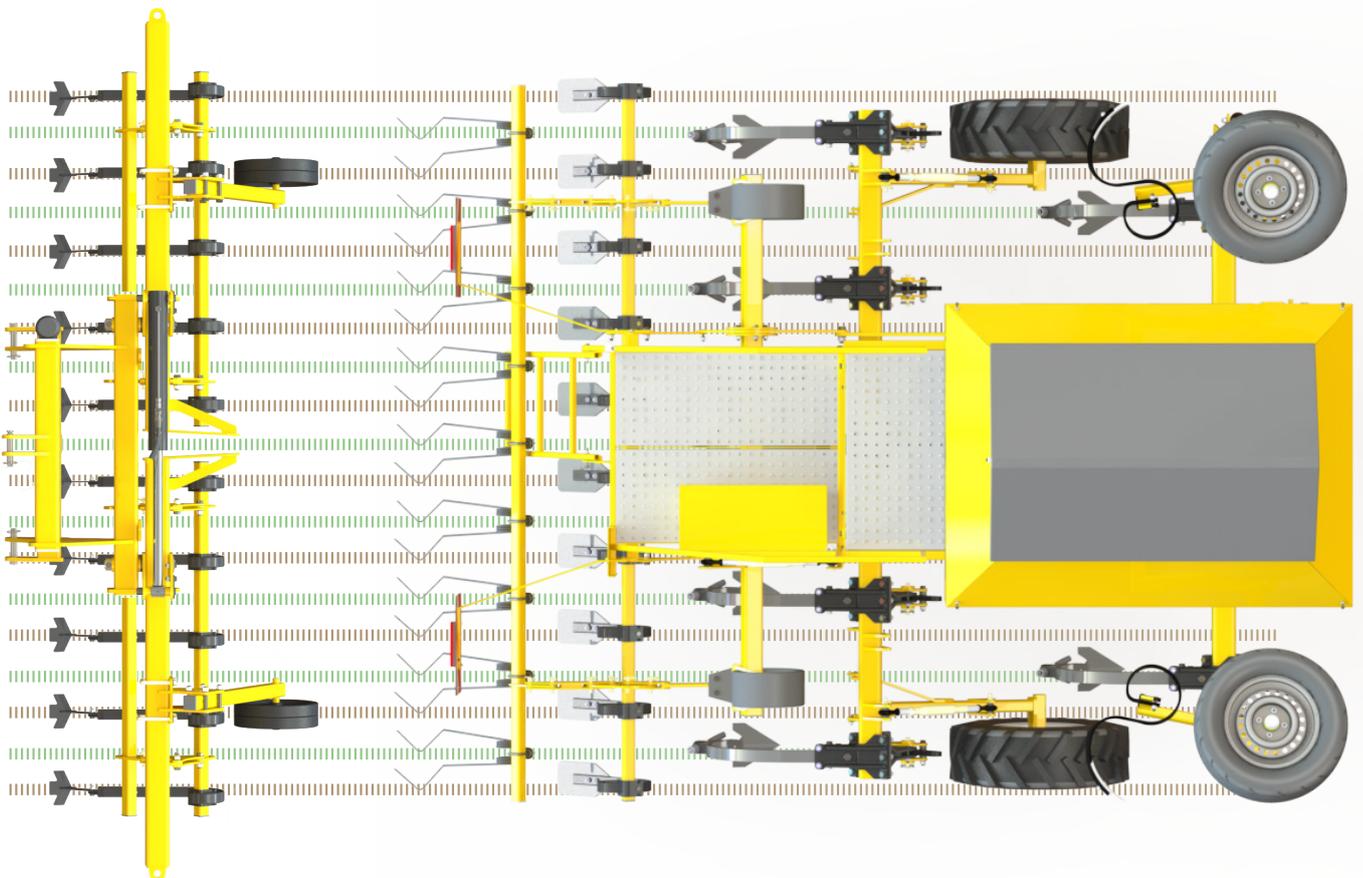
Tip: please ensure the lower link arms are centralised and fixed to ensure the TerraBlade does not wander off track.

OPERATION

FIELD GUIDE

The TerraBlade is designed to remove weeds between the sown bands in any crop established, winter or spring, by a Claydon Drill, but will also work with other strip/row drilled crops. The best time of operation is when the crop is actively growing, and the weeds are small. It can be used in the autumn, but often better results are obtained in the spring with winter sown crops. This is because, when the crop starts to rapidly grow away, it will give the ultimate competition, the surface being dry to effectively scalp the weeds that grow between the bands. The best results are obtained when followed by a couple of dry days, reducing the risk of transplanting small plants.

Speed is important, depending on soil type, level of stones, down pressure of blades, as well as operational guidance, which will determine the forward speed, typically 5-10kph works well. A Hoe travelling too fast will bounce and be less effective, potentially missing the targets. The soil should be firm/dry enough to shear the weeds off. Most crops are safe to hoe up to rapid stem extension (wheat Gs 32) with little or no damage. Tip: during testing, it was observed that good tyres on the tractor resulted in less damage to the crops than worn ones. Combined with dry soil conditions and fast crop growth, the wheel marks will quickly dissipate.



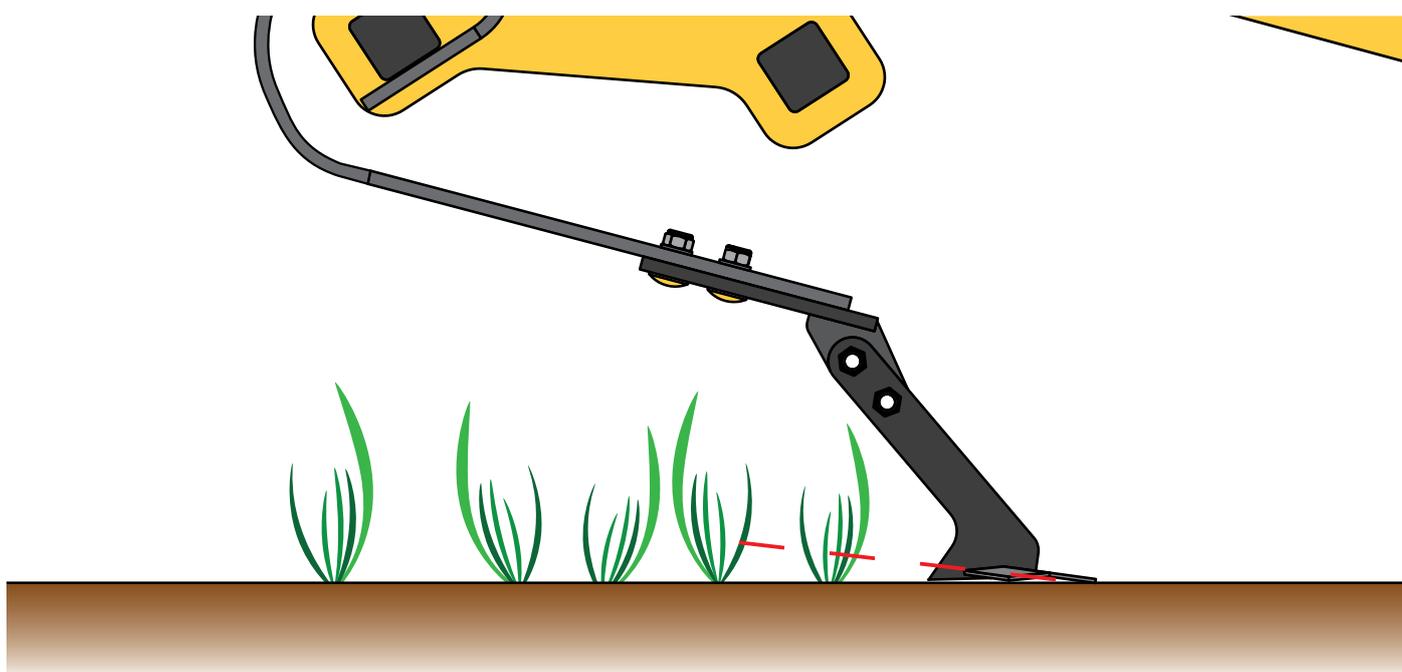
For the best results the TerraBlade width should be matched to the drill width, and follow in the same tracks as the drill. This avoids problems with operational misalignment. However the end blade should always overlap, and in some circumstances, may damage the end row of the adjacent drilling. In testing the wing of the outer blade was reduced on the outer side to help reduce this problem.

OPERATION

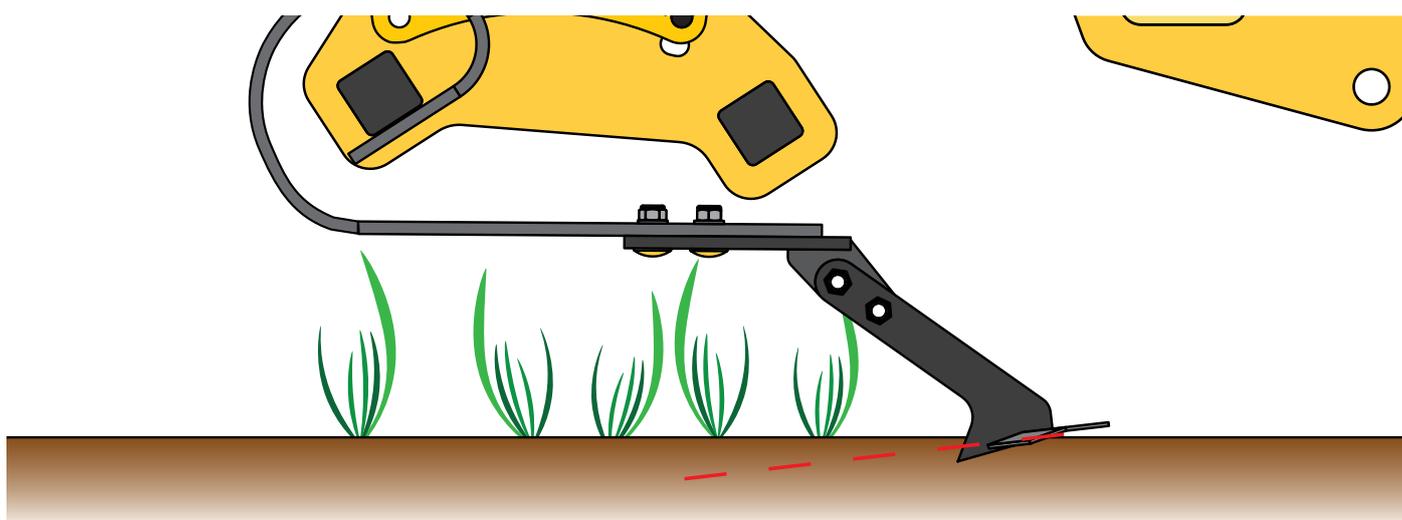
SETTING THE BLADE WORKING DEPTH

THIS MACHINE SHOULD ONLY BE USED WITH THE LINKAGE SET IN FLOAT POSITION

The TerraBlade has been designed to scalp weeds at the growing crowns. This requires the blade to dig into the ground 2cm to effectively kill weeds. This 2cm working depth is achieved by the inclination of the blade, the blade angle setting the working depth. The blades will run parallel to the ground.



The blade inclination indicated by the red line will “ski” the blade to the surface, the blade will not dig into the ground but bounce across the surface.

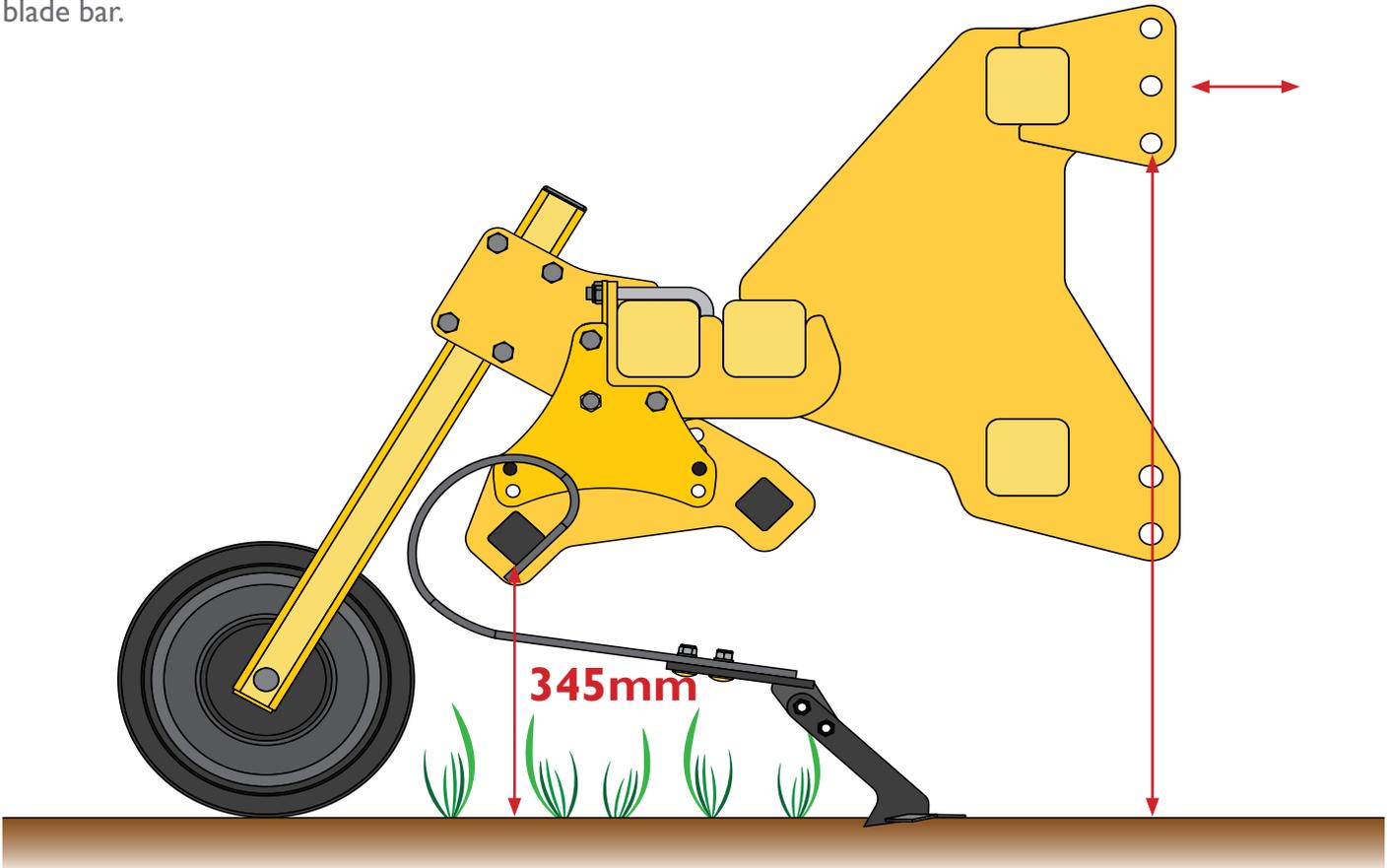


The blade inclination above is too great trying to dig into the ground. It will continue to the depth where the blade levels out. This could easily be too deep, causing too much soil movement, irregular depth, and uproot plants, which could regrow. Getting the blade to “ski” at the right depth is crucial. This, combined with the right pressure to hold the blade in position, will give the desired result.

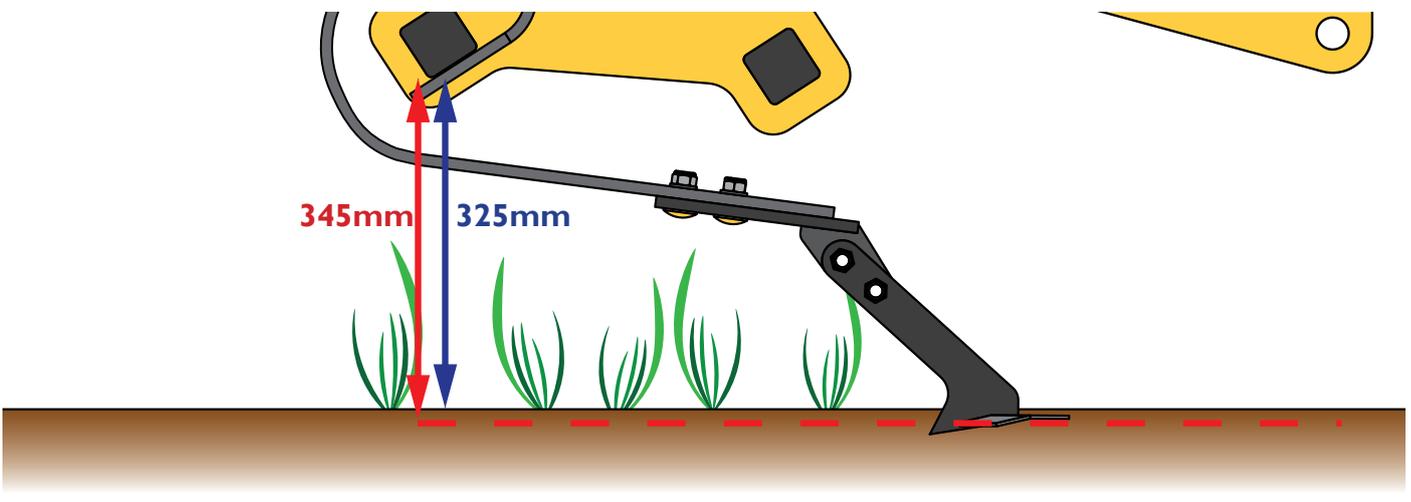
OPERATION

SETTING THE BLADE WORKING DEPTH

This correct angle is achieved by setting the front blade bar to a specified height. To achieve, this put the front linkage into float and allow the machine to drop its weight onto the depth wheels, then adjust the top link so the chassis link pins are vertical. Finally, adjust the front depth wheels, to achieve 345mm to the base of the blade bar.



At a height of 345mm, the hoe will be set neutral at ground level and ski the surface. To lower the blade bar, shorten the top link, or move the front pin to the lower hole, thus giving the blade more inclination to work deeper. The top link is the fine adjustment and the front hole is the coarse adjustment. The depth wheel setting should remain the same once the machine has been set.



OPERATION

SETTING THE BLADE PRESSURE

It is very important to set the depth of the blade to scalp the grass weeds off at the crown. Too high and it will cut the leaves off and the plant will regrow. Too deep and the plant can be transplanted, thus regrowing. The target depth is approximately 2cms but can vary a little depending on the weeds.



The blade pressure and depth can be finely adjusted using the top link when front mounted. Shortening the top link increases the pressure on the blades. It also changes the angle/ digging to increase the depth the blade penetrates the soil surface.

Increase the pressure to the next level by moving the pin setting as seen below, rotating the whole frame down and increasing the pressure holding the blade into work. In wetter conditions, the blade pressure can be reduced by changing the pin setting.



The blades will require more pressure when the ground is hard; if too little pressure is put on them then they will not dig into the soil. Instead, they will skip over the surface and not cut the crown of the weed.

In wet weather, the blades require less pressure. If too much pressure is put on them they will dig in aggressively. This will cause the blade to uproot the weed without cutting and not kill the weed.

OPERATION

DRIVING THE TERRABLADE

The TerraBlade can be front or rear-mounted. With the option of manual steering, it is relatively easy to drive on the front linkage using the tractor steering to steer the TerraBlade, pushing it along and watching the blades between the rows.

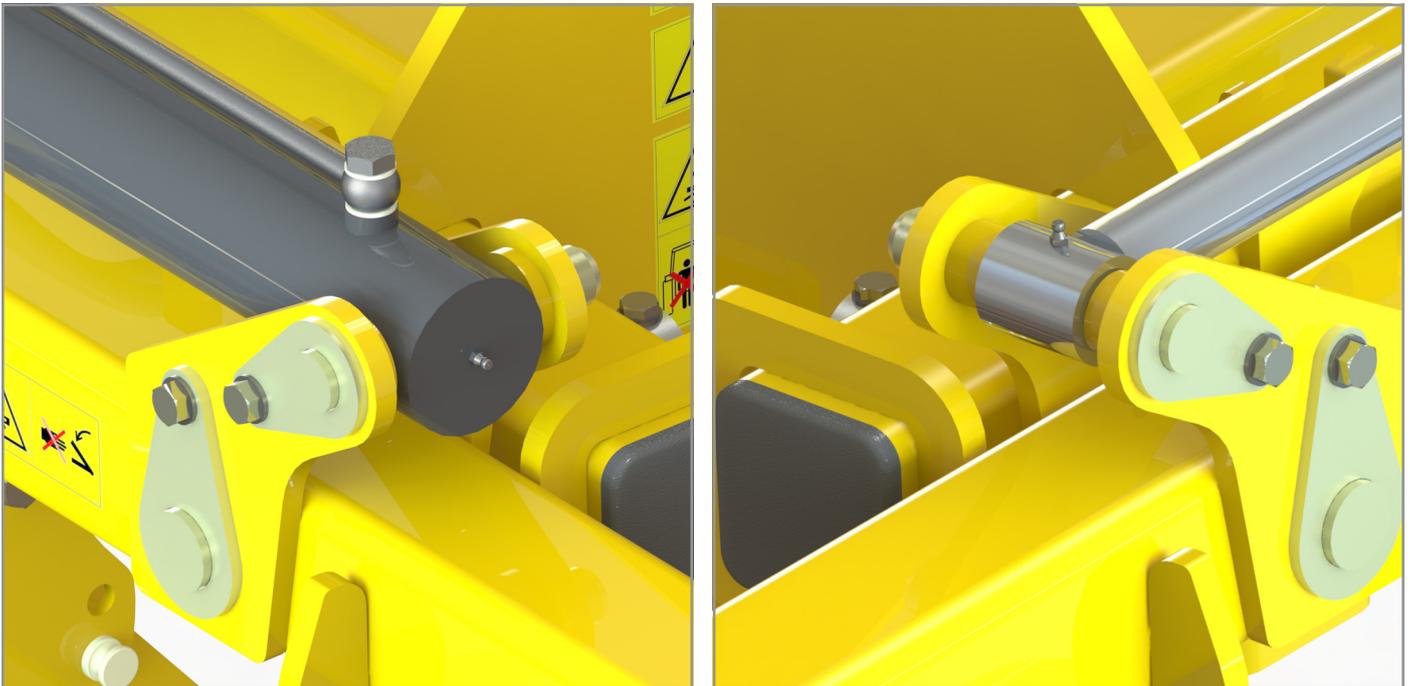
If you are trying to use auto-steer on the tractor, the TerraBlade can overreact on the front linkage. Moving the GPS dome and mounting it on the TerraBlade could give better results. However, with this application it is probably better to change the hoe, reversing the blade bars, and rear mounting it, enabling it to be towed for auto-steer applications. Depending on the accuracy of the system, it may also require the addition of a camera/eye combined with a side shift linkage steering system for precise row following.

MAINTENANCE SCHEDULE

Your machine will require maintenance before and after use. Prior to using the machine, check for broken blades or hydraulic fluid leaks. Ensure all bolts are re-tightened after the first eight hours of use.

MAINTENANCE LUBRICATION

The only lubrication that is required is for the ram, the location of these grease nipples is shown below.



The recommended lubrication to use is EPT-1 or EPT-2 grease.

MAINTENANCE BUSHES

The bushes on the TerraBlade are polytetrafluoroethylene-coated. This material is dry-working and must remain dry to operate effectively. Please do not power wash the area around the pins as this will cause them to seize.

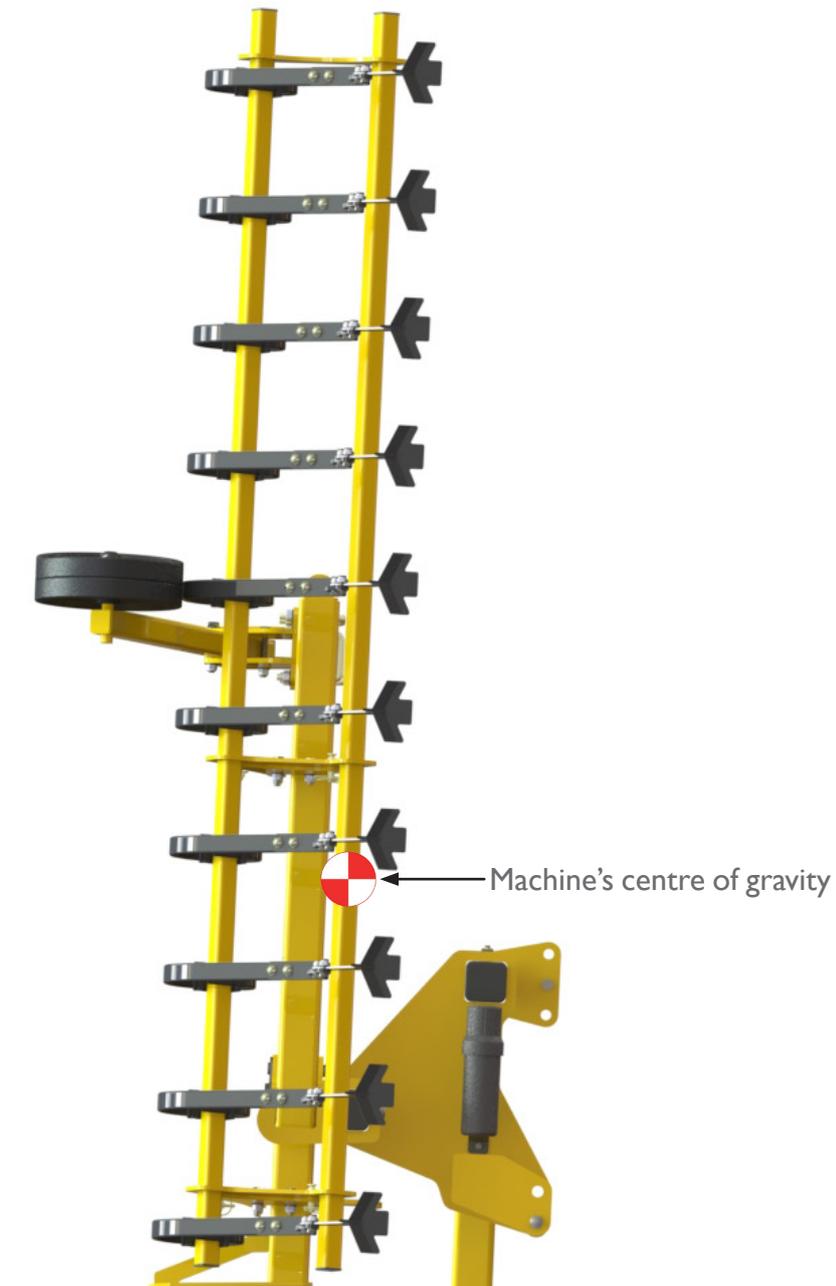
The expected life of these bushes is 7000 hours of working time therefore, should not need to be replaced or maintained for many years.

STORAGE

PARKING AND STORAGE

The TerraBlade can be parked and stored in either the folded or unfolded position.

When parking the TerraBlade in its folded position, it is critical to ensure that the machine is parked on firm and flat ground. The TerraBlade has been designed to be as light as possible. This light weight creates a high center of gravity when the machine is folded.

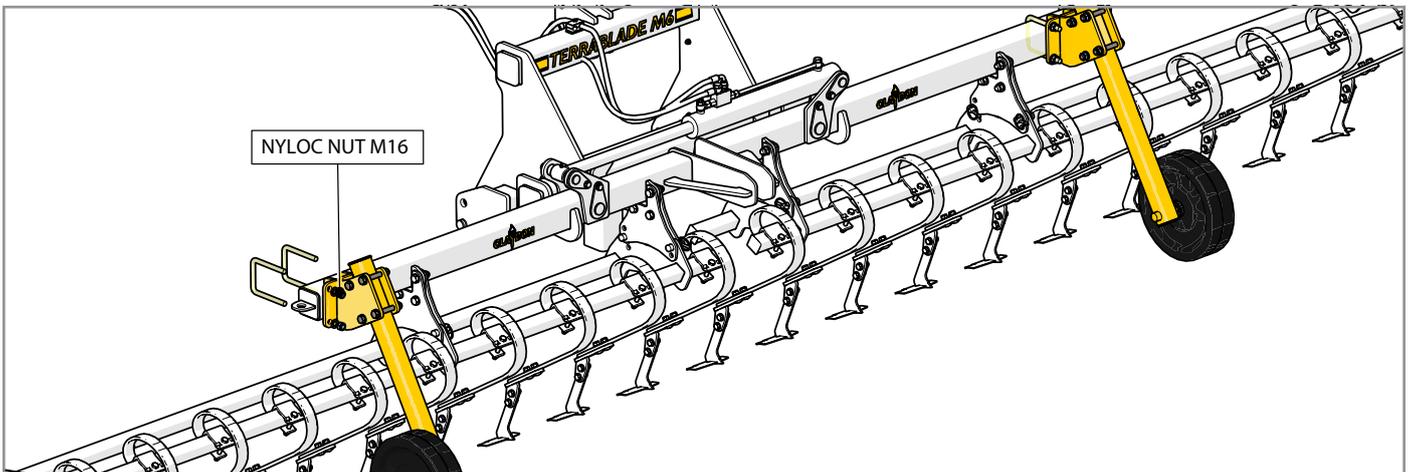


As seen in the picture above the machine is designed to lean back when parked. This ensures a stable storage position. This design requires flat and firm ground.

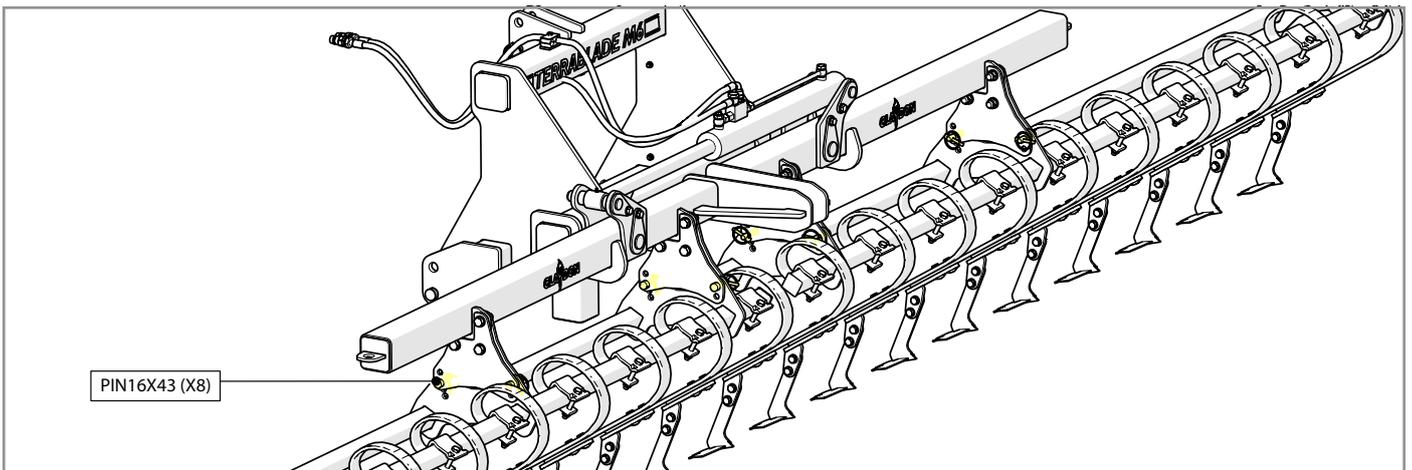
ADJUSTMENTS

CONFIGURING FOR TRAILING

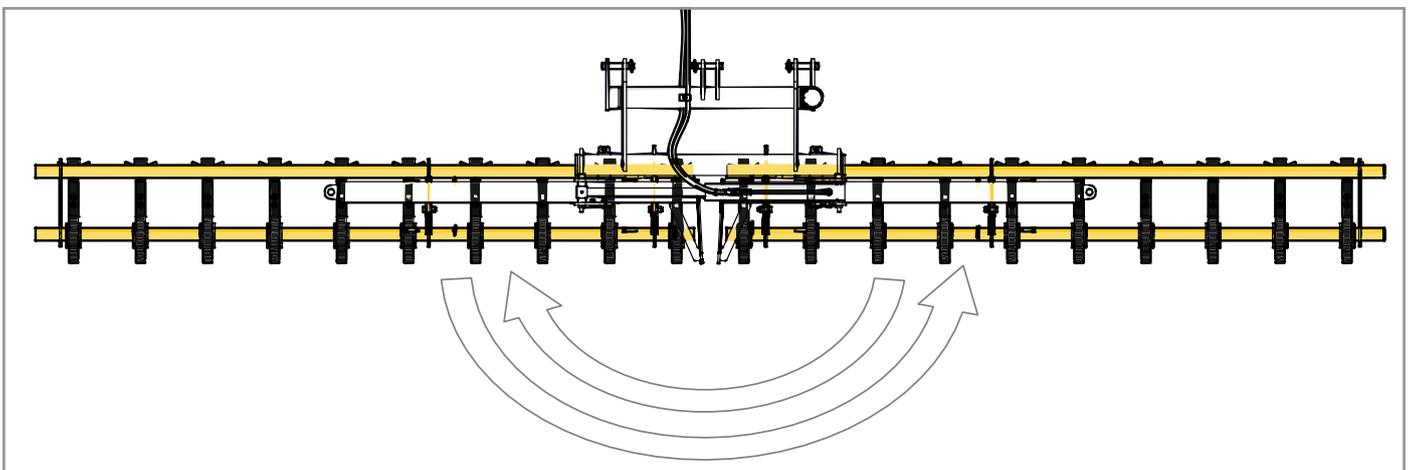
Changing your machine to a rear mounted version is detailed in a set of steps below. This task will require two people and operators must wear safety boots whilst this task is being carried out.



First step is to remove both of the depth wheels and put them to one side.



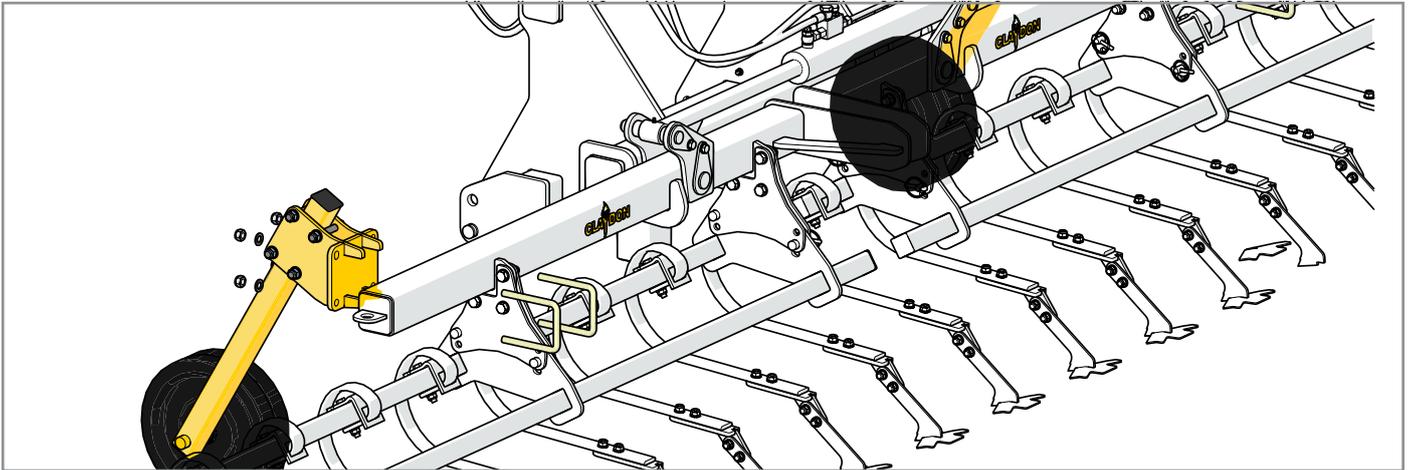
Remove the 8 pins that hold the blade bars as these need to be switched around.



These bars are up to 50kg each, so a minimum of three people will be needed to rotate and swap the side on which the bars operate.

ADJUSTMENTS

CONFIGURING FOR REAR TRAILING



Next step will be to reattach the depth wheels. The depth wheel must run between the rows, so make sure you align the depth wheel to run in front of a blade.

Please ensure that the depth wheels will not run in the tracks of the tractor tyres. This will cause the blades' working depth to increase leading to ineffective machine operation.



DECLARATION OF CONFORMITY

EC Declaration of Conformity

In accordance with EN ISO 17050-1:2004

We
of Claydon-Yield-Meter Ltd
Bunters Road.

in accordance with the following Directive(s):

2006/42/EC The Machinery Directive

hereby declare that:

Equipment Claydon Drills

Model number TERRABLADE

Serial Number

is in conformity with the applicable requirements of the following documents

Ref. No. Title Edition/ date

EN ISO 12100-1:2003 Safety of Machinery – Basic Concepts 2003

EN ISO 12100-2:2003 Safety of Machinery – Basic Concepts 2003

I hereby declare that the equipment named above has been designed to comply with the relevant sections of the above referenced specifications and is in accordance with the requirements of the Directive(s)

Signed by:



Name: *Oliver Claydon*

Position: *Operations Director*

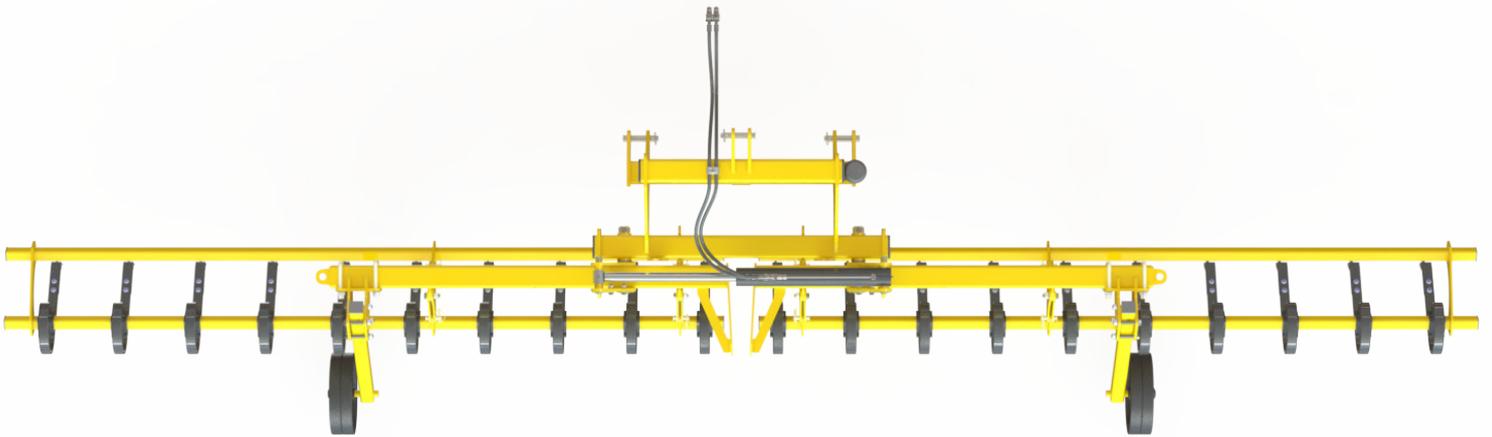
Done at
Gaines Hall
Wickham Brook

On
16/01/2018

The technical documentation for the machinery is available from:

Name: Claydon Yieldometer Ltd

Address: Bunters Road,
Wickhambrook, Newmarket
Suffolk,
CB8 8XY



CLAYDON YIELD-O-METER LTD

BUNTERS ROAD, WICKHAMBROOK, NEWMARKET, SUFFOLK, CB8 8XY

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