



Better Tillage. Better Tomorrow.

# Operating Instruction Manual

KTOM-G-01052024



SERIAL NUMBER:



Phone +61 8 8667 2253  
Email [sales@kellytillage.com](mailto:sales@kellytillage.com)  
[kellytillage.com](http://kellytillage.com)

**Booleroo (Head Office)**  
684 Kelly Road,  
Booleroo Centre SA 5482

**Adelaide Office**  
28 Greenhill Road,  
Wayville SA 5034





# Thank you for choosing a KELLY product.

We trust that you find the following manual clear and easy to follow. If you should require additional customer support or assistance, please do not hesitate to contact us.

Spare parts can be purchased, as required, through your local dealer or by contacting KELLY directly.

The KELLY team values your feedback. Should you have any difficulties that you wish to raise, suggestions for improvement or modifications that you feel would enhance our products we look forward to hearing from you.

## Contact Us

### Australia

#### Booleroo (Head Office)

684 Kelly Road,  
Booleroo Centre SA 5482

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Monday - Friday  
8am - 4pm ACDT

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8am - 4pm ACDT

## Global Locations

#### Eastern Canada

Leading Edge Equipment  
[www.leadingedgeequipment.ca](http://www.leadingedgeequipment.ca)

1-519-421-3223

Monday - Friday  
8am - 4pm EST

#### Western Canada

Adair Sales & Marketing Co Inc  
[www.adairreps.com](http://www.adairreps.com)

1-306-773-0996

Monday - Friday  
8am - 5pm CST

#### United States

Hood & Company

+1 417-865-2100

Monday - Friday  
8am - 4pm CST

#### Europe

[kellytillage.com](http://kellytillage.com)

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#### Argentina

Giorgi Sa Maquinarias Agrícolas  
[www.giorgi.com.ar](http://www.giorgi.com.ar)

+54 3464 493512

Monday - Friday  
8am - 5pm ART

#### South Africa

Desmond Whitfield CC

+27 82 567 8245

Monday - Friday  
8am - 4pm SAST

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**Register within 2 months of purchasing your machine to receive an additional 12 months warranty.** Find the registration information on page 11.

# Safety Information



**Read all assembly instructions and study all photographs thoroughly before assembling the unit.**

**Please note:** Left and right is determined by standing behind the machine and looking to the front.

## Signal Words

A signal word - DANGER, WARNING, or CAUTION, is used with the safety alert symbol.

When you see this symbol on your machine or in this manual, be alert to instructions involving your personal safety and the safety of others. Failure to follow these instructions can result in injury or death.



**DANGER** - Indicates an immediate hazardous situation that, if not avoided, will result in **DEATH OR SERIOUS INJURY**.



**WARNING** - Indicates a potentially hazardous situation that, if not avoided, could result in **DEATH OR SERIOUS INJURY**.



**CAUTION** - Indicates a potentially hazardous situation that, if not avoided, may result in a **MINOR OR MODERATE INJURY**.

Carefully read all safety points in this manual and on your machine. Keep all safety decals in good condition and replace ones that have been worn or lost. Replacement decals are available by contacting your local dealer.

***If any safety decals are missing please contact your local dealer immediately and do not use the machine.***

## General Operation

- Proceed cautiously under overhead powerlines and around power poles, as contact may result in the operator suffering a severe electrical shock.
- Never allow anyone within the immediate area when operating machinery.
- Stand clear when raising or lowering wings.

## Transporting

- Always travel at a safe speed. NEVER EXCEED 25kph.
- Engage transport safety stops, lock them with pin, and then lower machine before transporting.
- Ensure transporting transport safety lock valves are closed during transport to ensure machine is transported safely (Fig.13 & 14).
- Ensure your speed is low enough for an emergency stop to be safe and secure and reduce speed prior to turns.
- Please refer to your own country, state, provincial, county or municipality laws on the rules of transporting farm machinery on roads.
- Ensure that disc or prickle chains are engaged in chain guides and supports. Disc or prickle chain should be clear of the ground.
- Be aware of the height, length and width of the machine. Beware of obstacles and overhead powerlines.
- Use approved accessory and necessary warning devices on the road during both day and night time transporting.

## Hydraulics

- **NEVER** remove hydraulic hoses or ends unless the machine is in either transport position or fully extended in working position. Relieve all hydraulic pressure before disconnecting hydraulic hoses and fittings.
- Ensure all fittings and hoses are in good condition.
- Do not search for high pressure hydraulic leaks without hand and face protection. A leak can penetrate the skin, thereby requiring immediate medical attention.
- Double check that all is clear before operating hydraulics.
- Maintain proper hydraulic fluid levels and pressure.

## Maintenance and Inspection

- Good maintenance is your responsibility.
  - Regular maintenance and inspection is imperative
- Maintenance guidelines can be found in section 4.*

### Safety Decals - Individual Placement

Fig 32.

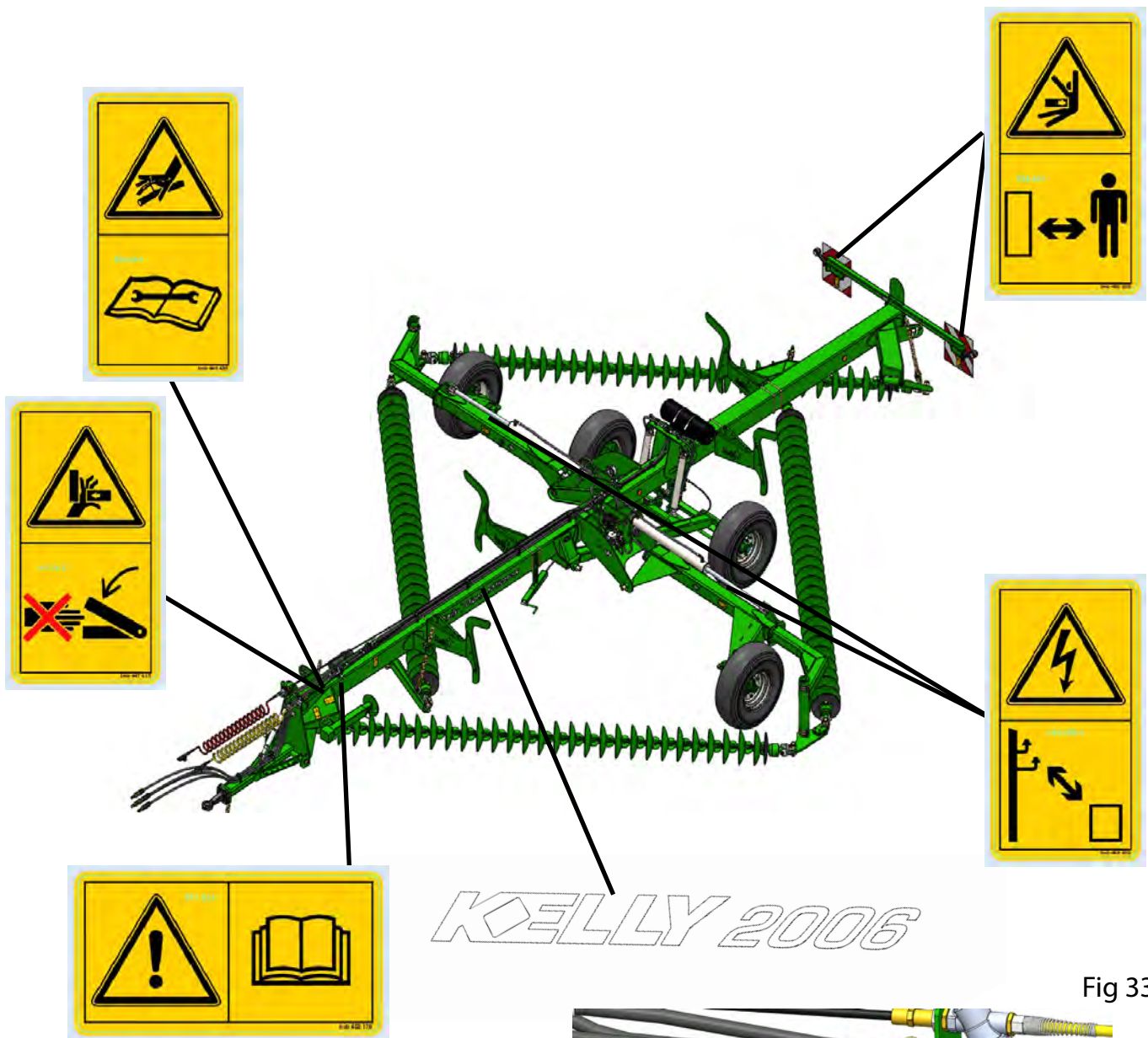
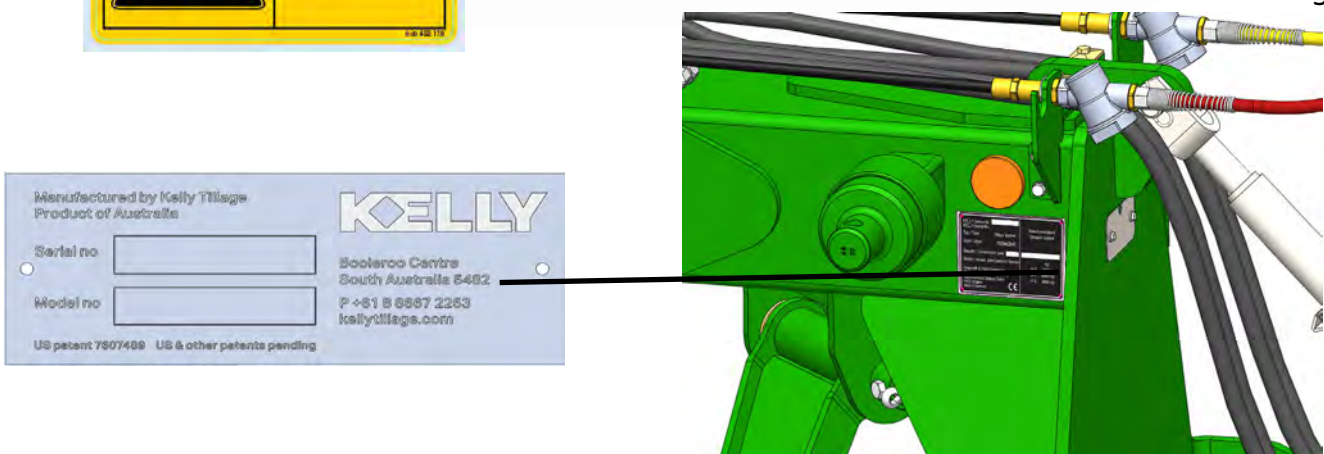
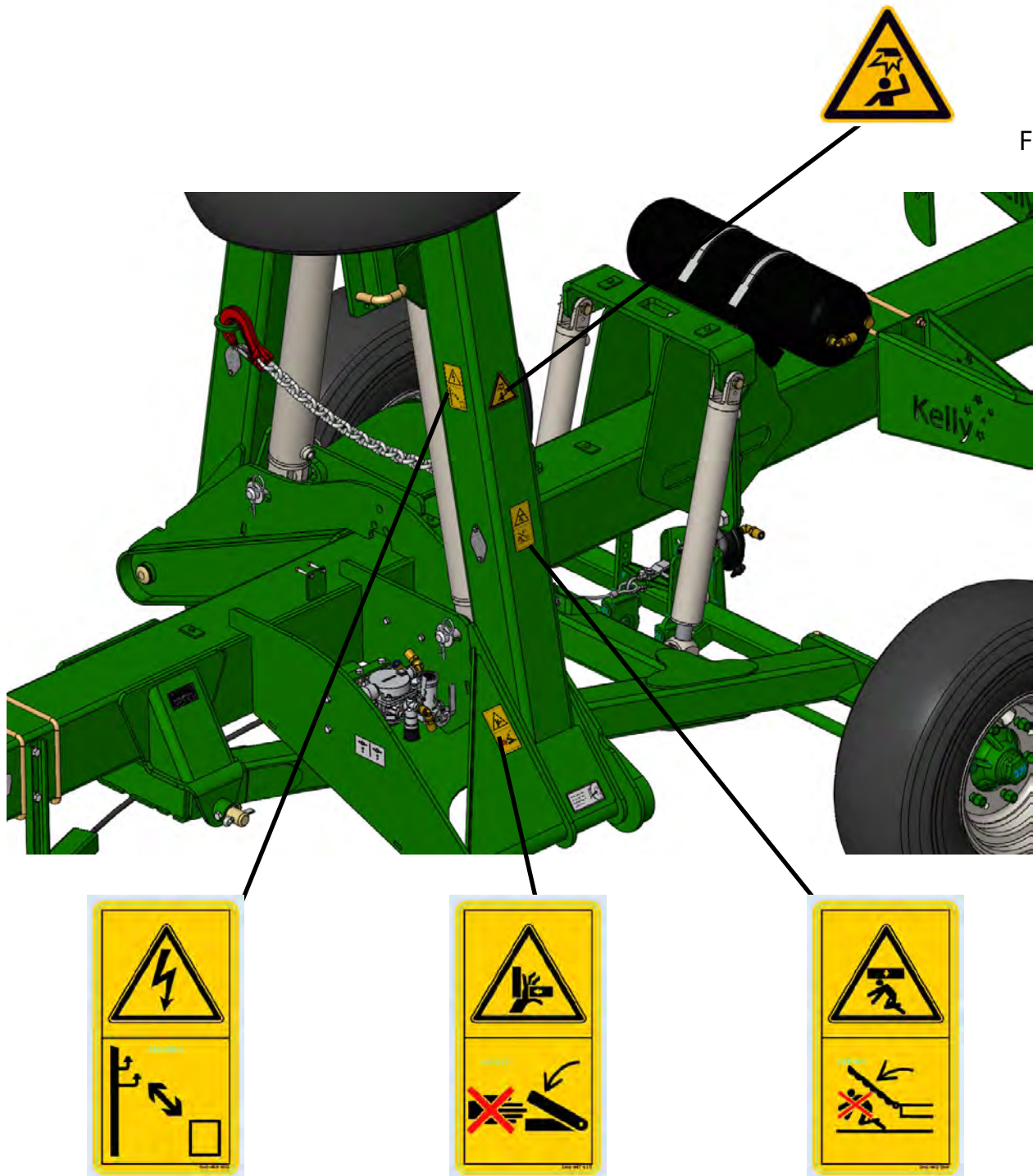


Fig 33.



*If any safety decals are missing please contact your local dealer immediately and do not use the machine.*

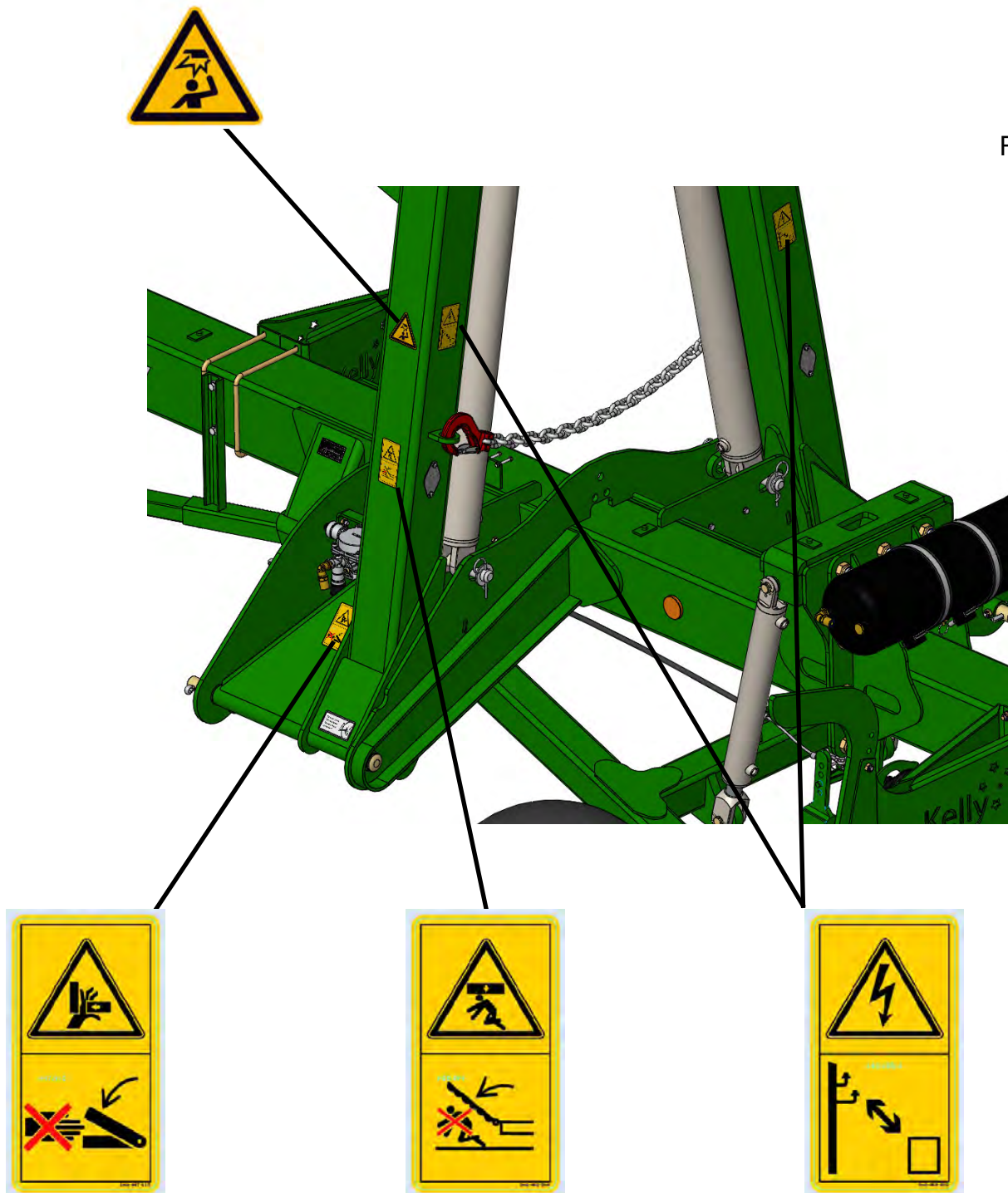
## Safety Decals - Individual Placement



*If any safety decals are missing please contact your local dealer immediately and do not use the machine.*

## Safety Decals - Individual Placement

Fig 35.



*If any safety decals are missing please contact your local dealer immediately and do not use the machine.*

## Safety Decals - Individual Placement

### Orange reflectors - quantity: 8

Locate facing outwards on central section

Facing forward on outer face of chain catch

Orange reflectors

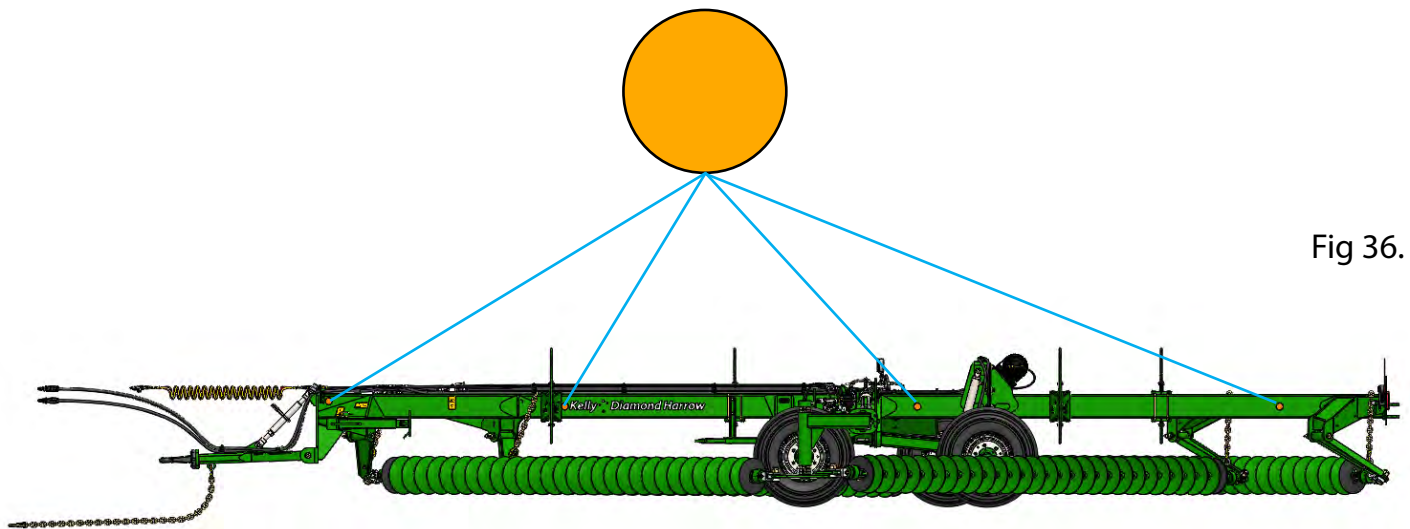
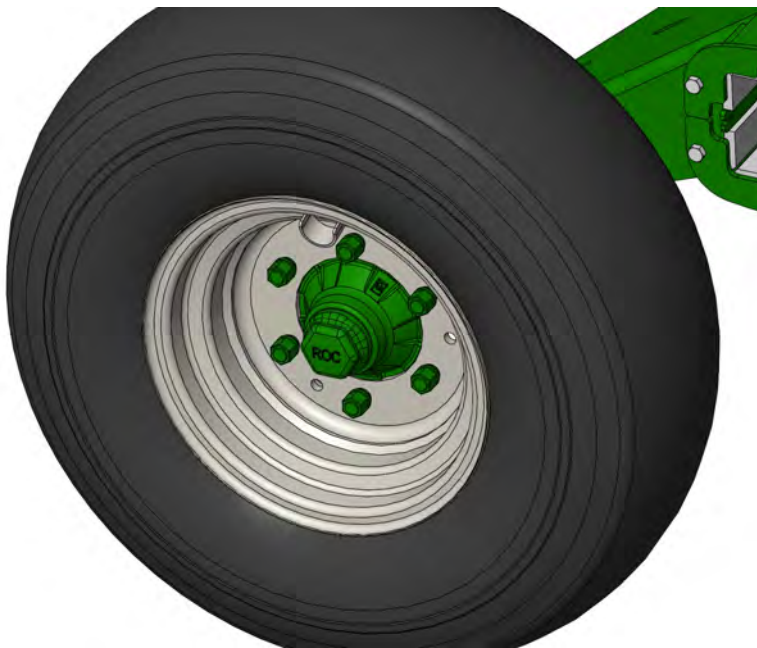


Fig 36.

Fig 37.



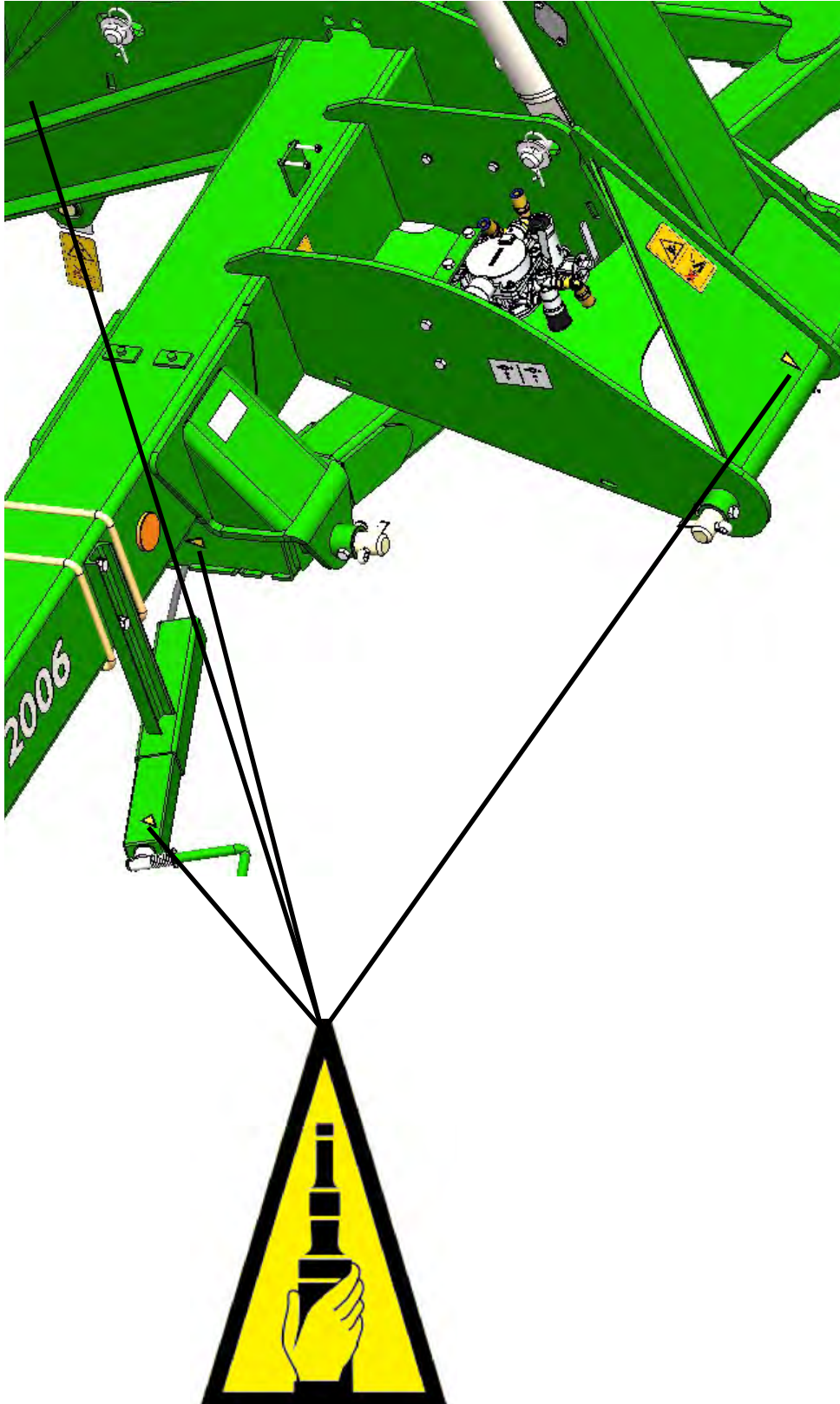
**CHECK WHEEL NUTS  
AFTER FIRST .5 HRS  
AND AT REGULAR INTERVALS**



*If any safety decals are missing please contact your local dealer immediately and do not use the machine.*



## Safety Decals - Individual Placement



*If any safety decals are missing please contact your local dealer immediately and do not use the machine.*



# Section 1 - Warranty

## Global Warranty Policy

KELLY guarantees its products against faulty workmanship and materials for twelve (12) months from date of delivery to the customer. This manufacturer guarantee supplements in scope the statutory warranty applicable in the relevant country.

Disc Chain, Prickle Chain and Swivel Bearings units are wear items and it is reasonable to expect that these parts may need to be replaced over time. Swivel Bearing units are guaranteed for a period of twelve (12) months or 4000 hectares/10,000 acres, whichever occurs first. Replaceable cutting disc blades are warrantied against faulty materials and workmanship only. All other ground engaging tools carry a 20,000 hectare/50,000 acre wear warranty.

If the machine is registered within 2 months of delivery to the customer and all documentation is returned as per the Terms and Conditions of KELLY extended Warranty Offer, KELLY then offers an additional 36-month framework warranty. Machine registrations can be completed by the customer or dealer on the KELLY website or by returning the registration form in the KELLY operators manual.

The KELLY warranty policy does not cover incorrect assembly after handover to the purchaser, misuse, modifications, damage during transit, nor product that has not been maintained as per the KELLY maintenance procedures outlined in the relevant product manual. Failure to properly maintain the machine or blatant misuse shall result in the warranty being null and void.

Any warranty repair, service or modification to products must be performed by an authorised KELLY repairer or pre-approved by KELLY in writing prior to any work being completed. If service parts are required these must be ordered through KELLY parts distribution.

To ensure the continuity of warranty, it is expected that all warranty repair works are completed in a timely manner, as specified by KELLY. A returns authority will be issued to the Dealer for any faulty parts to be returned at the request of the company.

Claims for warranty, labour or parts must be completed by the authorised dealer on the prescribed warranty claim form found on the KELLY website. KELLY reserves the right to request written, photographic, or video documentation prior to any warranty approval. Warranty claims are to be lodged within 30 days of completion of work. If further information is requested by KELLY, an additional period of 30 days will be allowed to provide the requested information.

For any uncertainties regarding warranty coverage or inquiries about whether a product concern falls under warranty, kindly direct all queries to [warranty@kellytillage.com](mailto:warranty@kellytillage.com). Our dedicated team will promptly assist you in resolving any concerns and ensuring a satisfactory resolution in accordance with our warranty policy.

Failure to adhere with the above instructions may result in the warranty claim being declined. Upon completion and approval of the claim, the dealer will receive a credit to their KELLY account.

The warranty will be immediately void if non-genuine KELLY approved parts & accessories are fitted.

**To activate the warranty a Machine Registration form must be lodged with the manufacturer.**

**Complete the Machine Registration form online**  
Visit the **Resources** page on our website

Receive an additional 36-month frame warranty by registering your product within 2 months of purchasing. Simply return your completed machine registration form, dealer pre-delivery checklist KEFM317 and customer machine delivery form KEFM301 via email or post, or fill the online form to be eligible.

## Purchaser/Owner

Name: \_\_\_\_\_

Address: \_\_\_\_\_

\_\_\_\_\_

Email Address: \_\_\_\_\_

Contact number: \_\_\_\_\_

Occupation: \_\_\_\_\_

## Purchasing Details

Date of Purchase: \_\_\_\_\_

Place of Purchase: \_\_\_\_\_

\_\_\_\_\_

Model Purchase: \_\_\_\_\_

Serial Number: \_\_\_\_\_

### What brought KELLY Tillage products to your attention?

Field Day	Family	Magazine/Newspaper: _____
Dealer	Website	Demonstration: _____
Friend/Neighbor	Radio	Referral Source: _____

On a scale of 1 to 10 (10 being highest) how likely are you to recommend us to friends and family?

1	2	3	4	5	6	7	8	9	10
---	---	---	---	---	---	---	---	---	----

If you scored 8 or below then what must we do to become a 10 in your opinion?

\_\_\_\_\_

\_\_\_\_\_

If you scored 9 or above then please tell us why you gave us this score:

\_\_\_\_\_

\_\_\_\_\_

### Satisfaction with dealer/agent:

Was the machine pre-delivered satisfactorily?	Yes	No	_____
Were agents well informed about the product?	Yes	No	_____
Would you recommend the agent to other farmers?	Yes	No	_____

**Please return the completed form to:**  
**Mail to:** PO Box 100, Booleroo Centre SA 5482 Australia  
**Email to:** sales@kellytillage.com

**OR complete the Machine Registration form online:**  
 Visit the **Resources** page on our website



# Section 2 - Machine Operation

## Before Operation

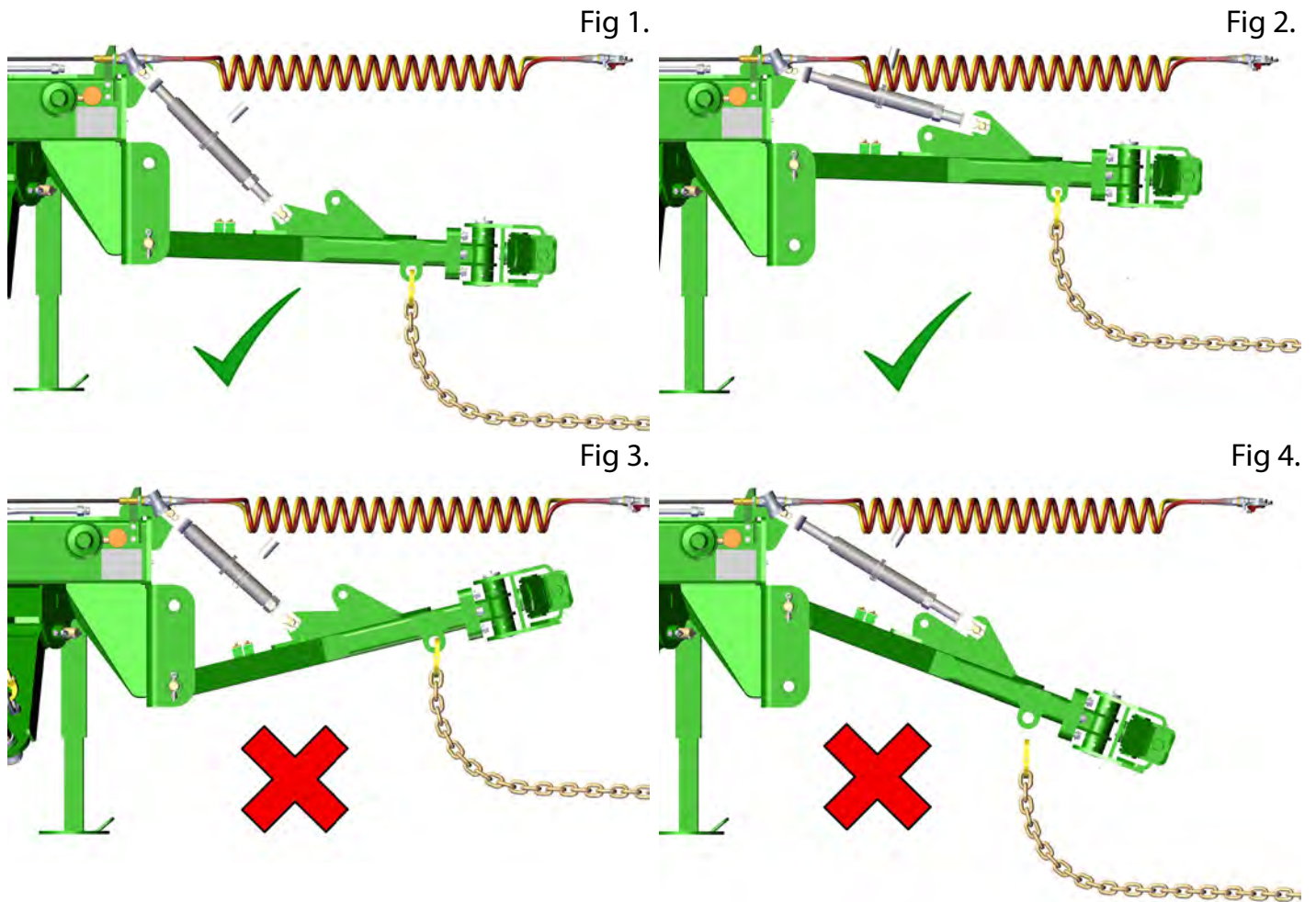
- Carefully study and understand this manual.
- Do not wear loose fitting clothing that may catch in moving parts.
- Always wear protective clothing and footwear.
- Be sure that there are no tools lying in or on the equipment.
- Do not use the machine until you are sure that the area is clear, particularly of children or animals.
- If this machine is being used in a dry area, or in the presence of combustibles, care should be taken to prevent fires and fire fighting equipment should be readily available.
- Familiarise yourself and other operators with the machine's operation before using.

## Pre-Operation Checklist

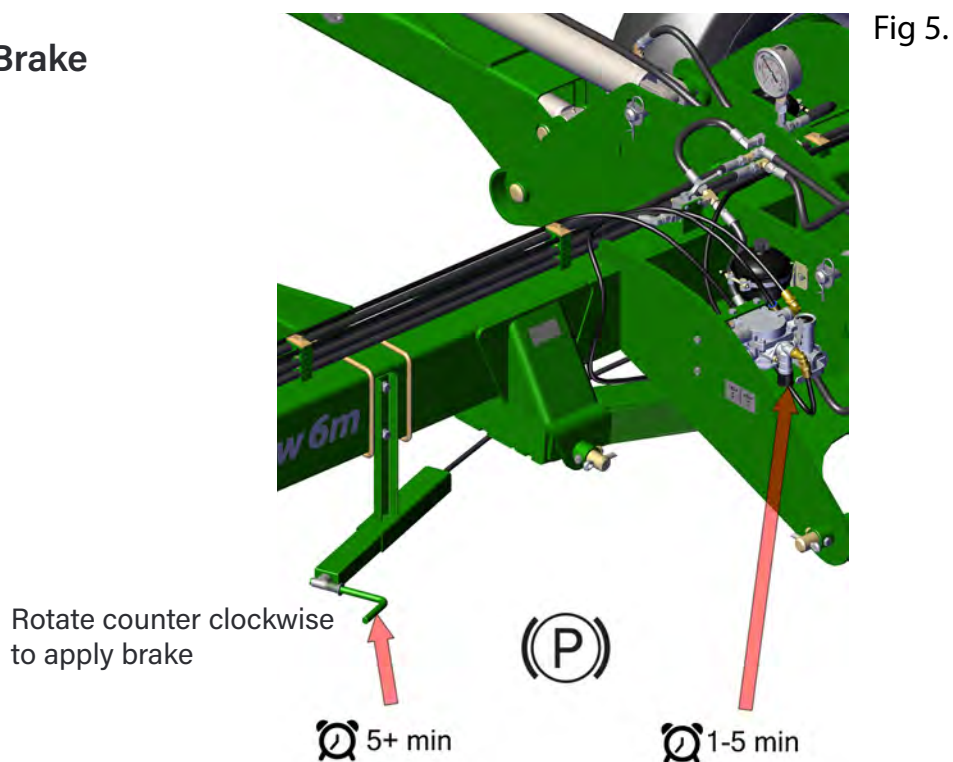
1	All bolts and nuts are tightened to the correct torque values
2	Split pins are in place
3	Stickers and warning signs are in place
4	Hydraulic fittings are tight
5	Wheel nuts are tight
6	Chains are adjusted so that there is still travel in the adjustors and chains are tight
7	Fold machine to ensure chains engage chain hangers

## Dual Drawbar

Make sure to adjust drawbar level to suit your tractor hitch.



## Park Brake



## Brake setup

Full load for chain configuration (front/ rear)

(CL2/CL2, CL2/CL1, CL2/SD49, CL1/CL1, CL1/W36, CL1/SD49 SD49/SD49, R300/R300)

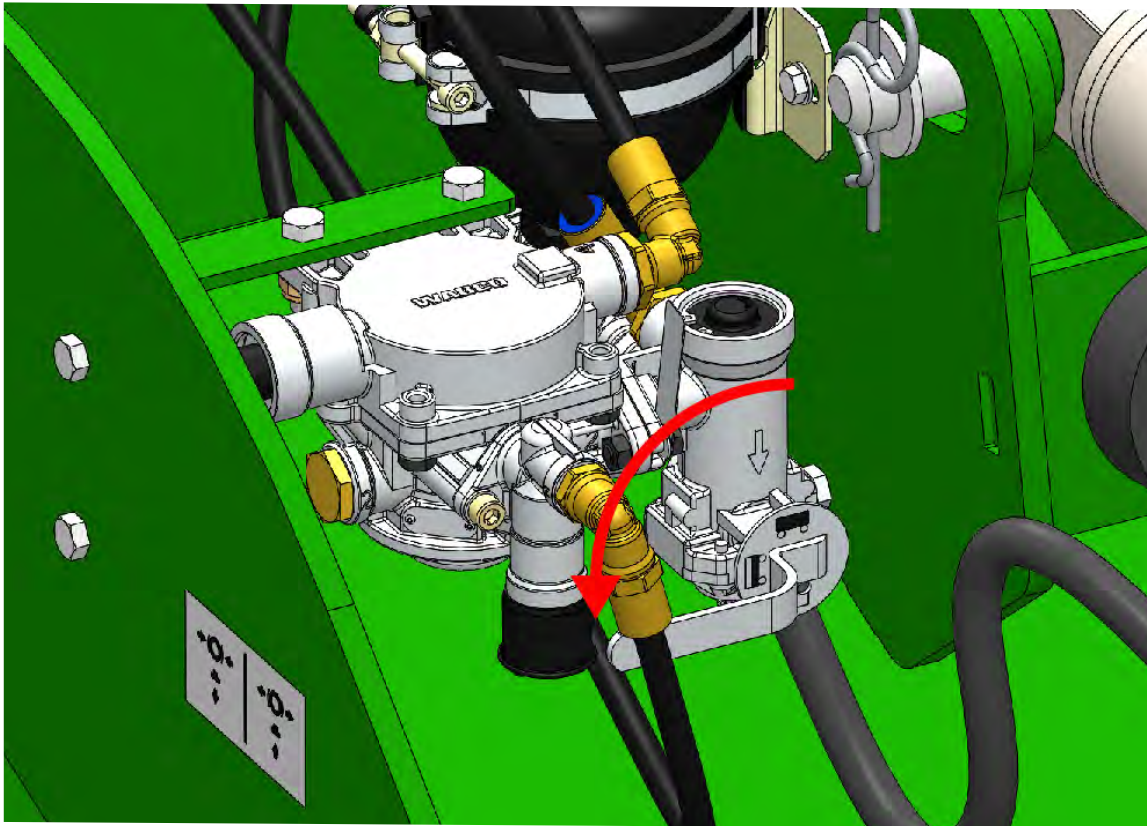


Fig 6.

Half load for chain configuration (front/ rear)

(W36/W36, Prickle Chain/ Prickle Chain)

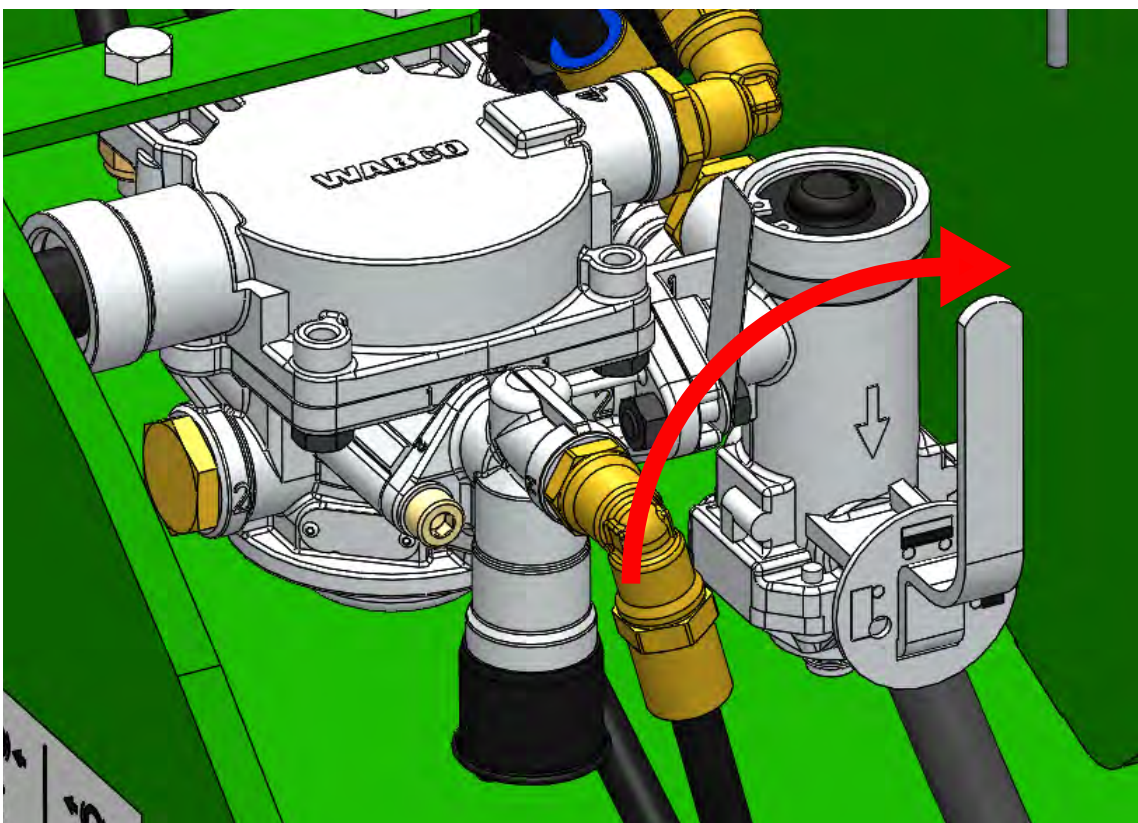
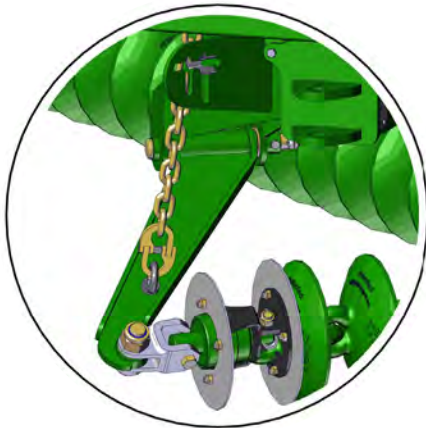


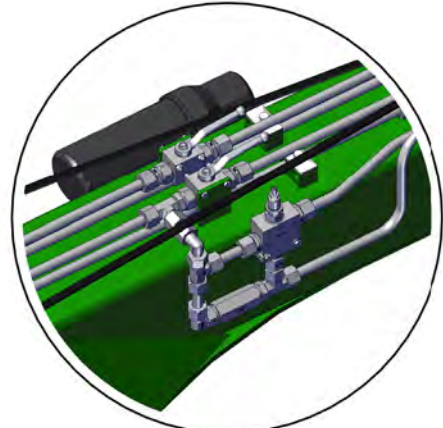
Fig 7.

# Basic operation

## Important Locations



Height Adjusting Chains and Slotted Plates



Transport Safety Lock Valves

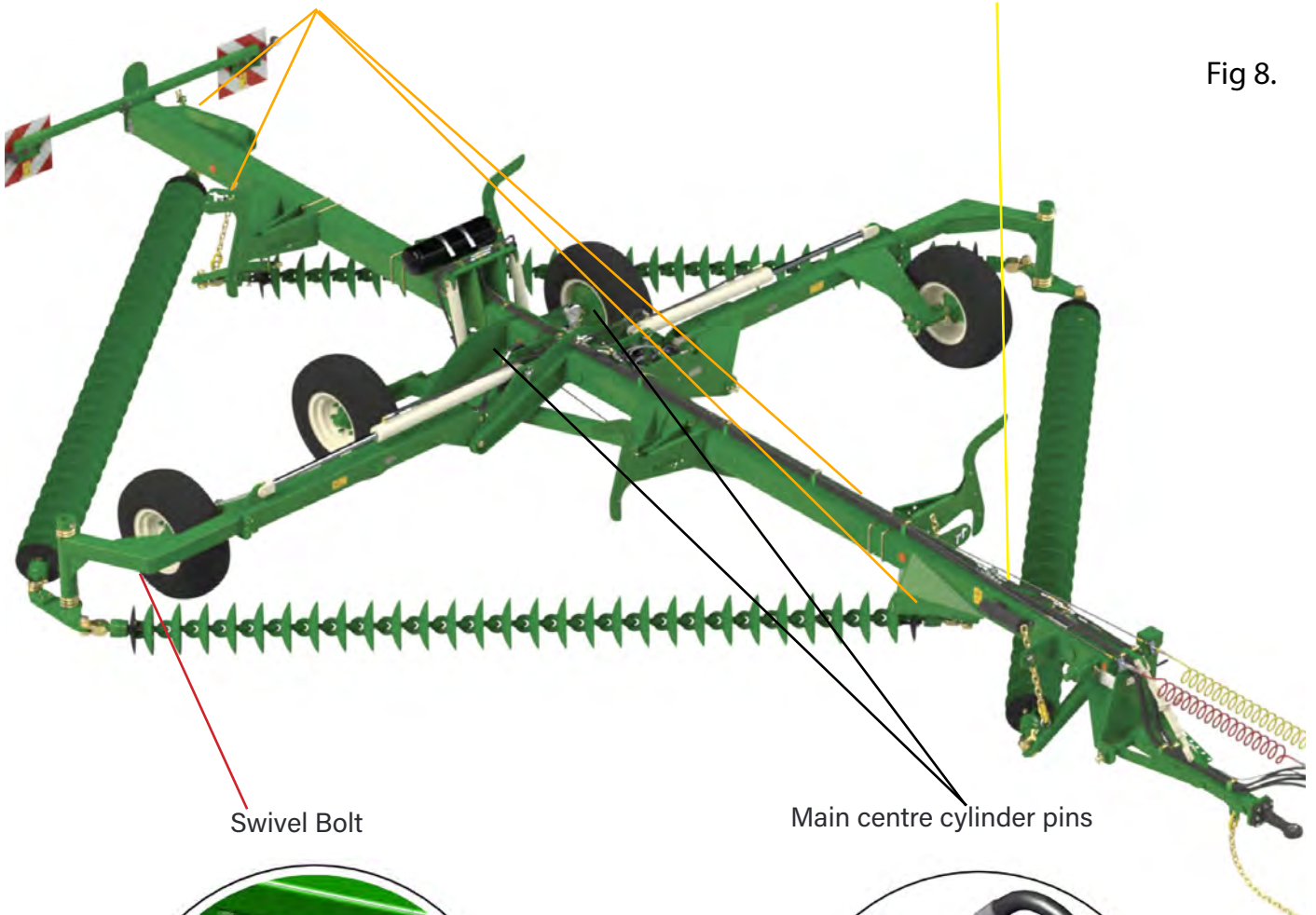


Fig 8.

Swivel Bolt

Main centre cylinder pins



## Unfolding:

1. Walk around and inspect the machine.
  - a. Check that chains are not hooked on framework
  - b. Check swivel bolts are in place and not broken
  - c. Check that height adjusting chains have not fallen out of their slotted plates during transport.
2. Open both transport safety lock valves at the front of the machine (see Fig 8 for location of valves)
3. Raise Front A Frame until the cylinders are fully extended.
4. Unlock both pins and lower transport safety stops with cylinders.
5. Lower Front A Frame to working height.
6. Unfold wings, holding the hydraulic lever until the main center cylinder pins have centered in their slots.

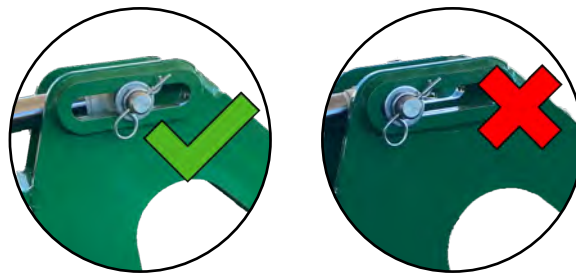


Fig 9.

7. Make sure tap is open and keep holding the pressure on the unfold lever until the tension pressure gauge reads 69 Bar/ 1000 psi. Please note pressure control valve is pre-set to correct pressure.

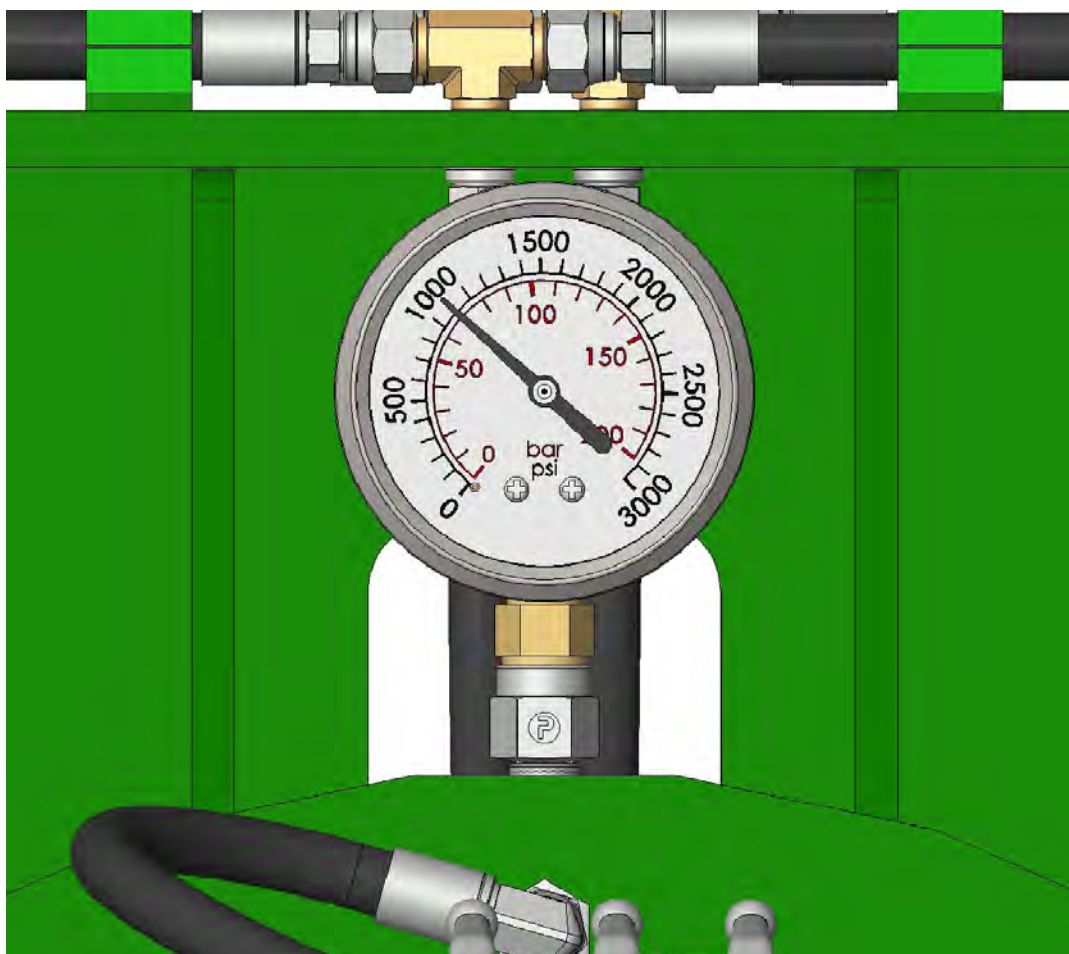


Fig 10.

The chain is set correctly at 69 Bar/1000 psi



## Basic operation

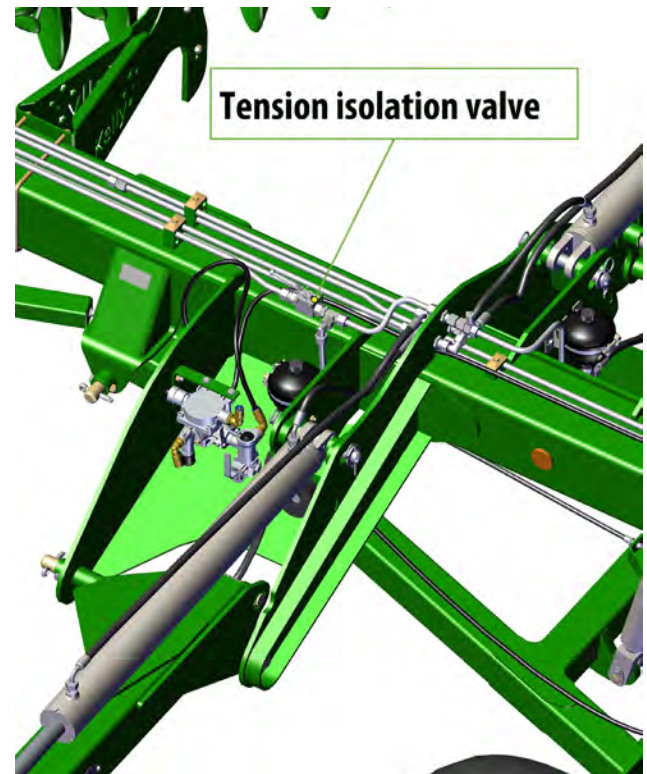
### Unfolding:

8. Turn tension isolation valve off (see Fig 12 for location of valve).
9. Walk around and check that all chain links are straight and that working height of all swivels are correct for field conditions. Adjust if necessary, see section frame height adjustment Fig 17.
10. Move off with all chains in working position. If necessary it is acceptable to raise frame to transport height. This will lift the front chains off the ground and reduce the load on the tractor. Lower the frame once operating speed is reached.

Fig 11.



Fig 12.



### Unfolding



Fig 13.

## Basic operation

### Folding

1. Walk around and inspect the machine.
  - a. Check swivel bolts are in place and not broken.
  - b. Check that height adjusting chains have not fallen out of their slotted plates during operation.
2. Open wing tension valve. (Fig. 12)
3. Open transport safety lock valves. (Fig 11)
4. Fold wings, holding the hydraulic lever until both cylinders are fully retracted.
5. Raise the machine to transport height until the cylinders are fully extended.
6. Raise transport safety stops with cylinders and lock with both pins.
7. Lower machine until cylinders contact the transport safety stops.
8. Close transport safety lock valves. (Fig. 11)
9. Attach transport safety chain. (Fig. 16)

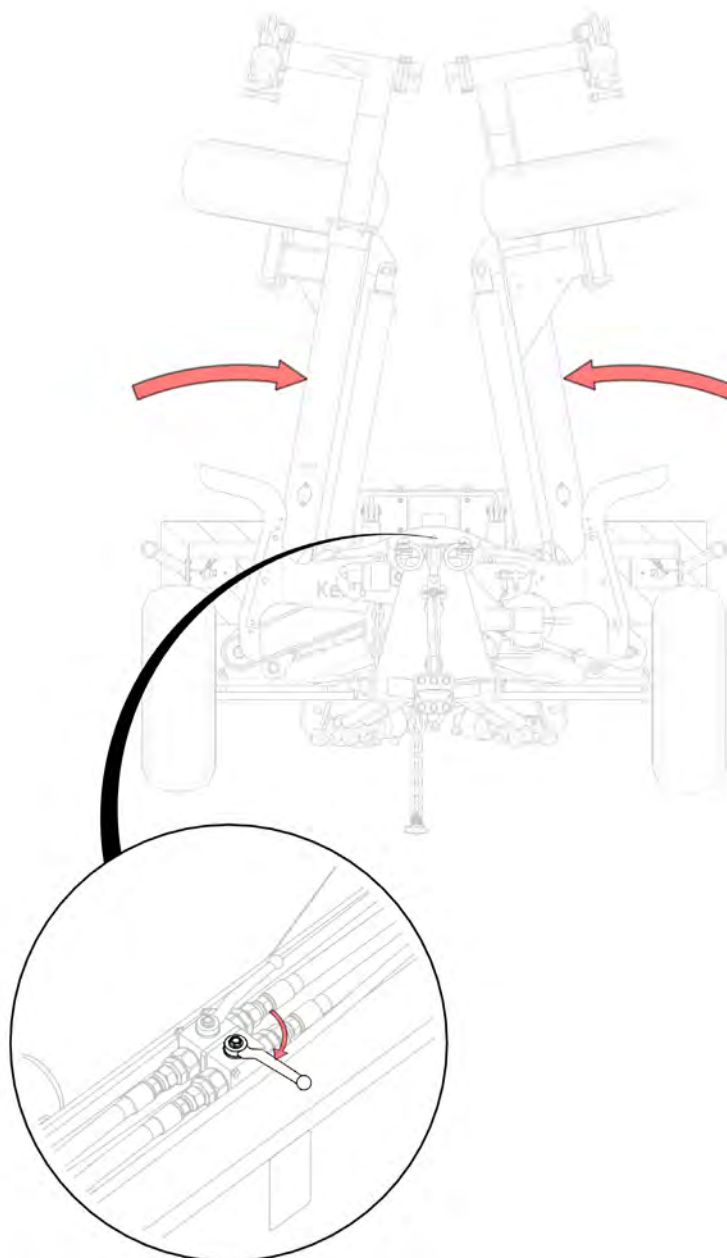
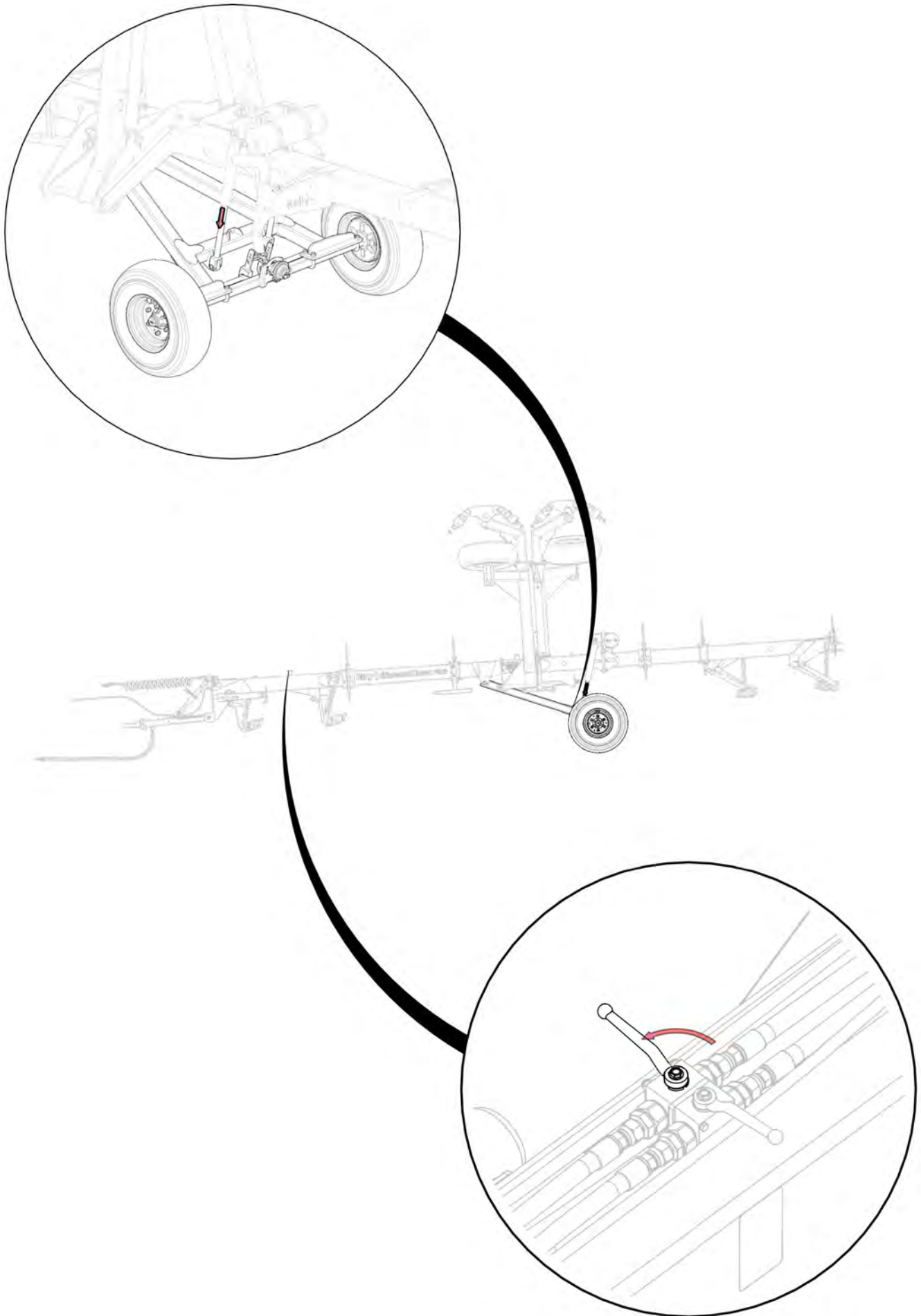


Fig 14.

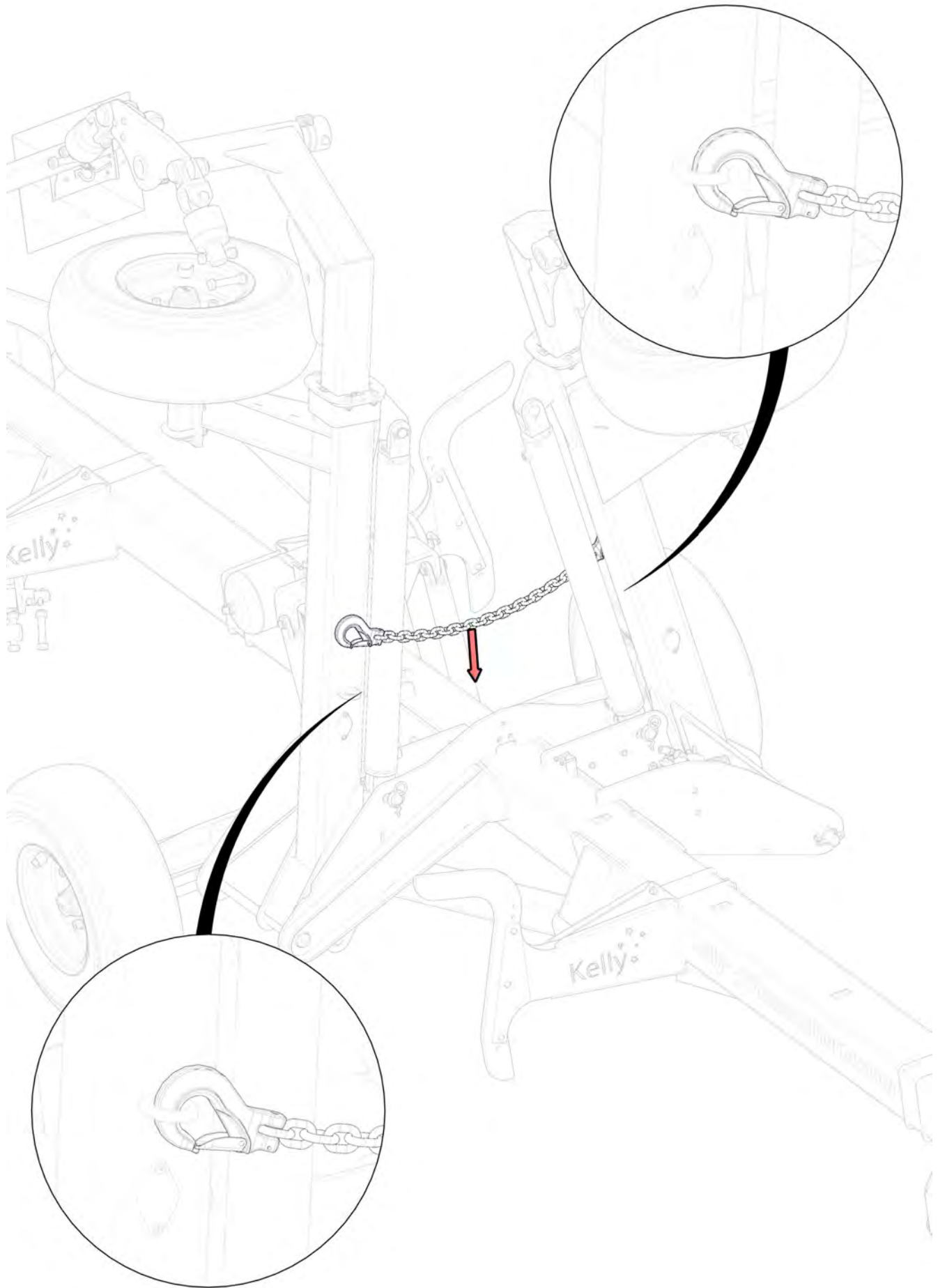
# Folding

Fig 15.



# Folding

Fig 16.







# Section 3 - Chain Operation & Correct Setup

## Importance of good chain setup

### Operational

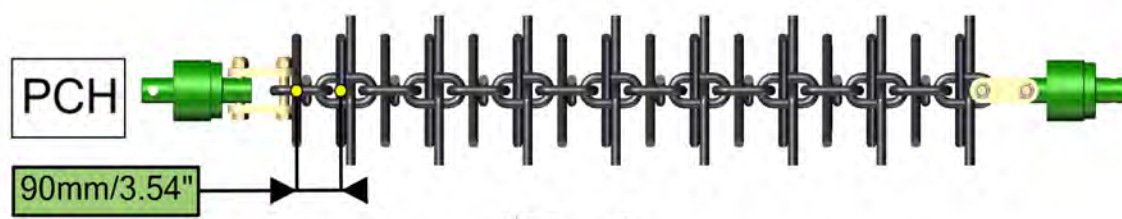
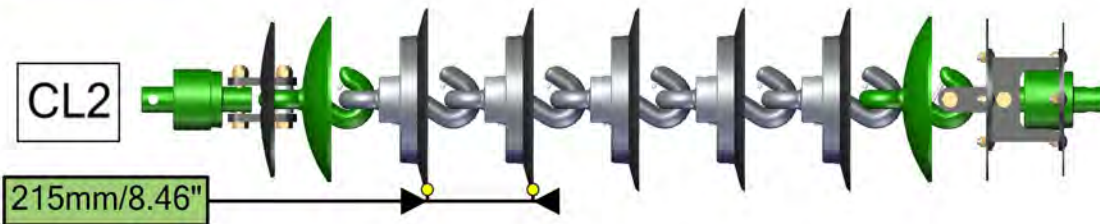
It is imperative that the correct chain tension is maintained. Only through correct tension can a smooth and level finish be achieved in field working.

Loose chains lead to :

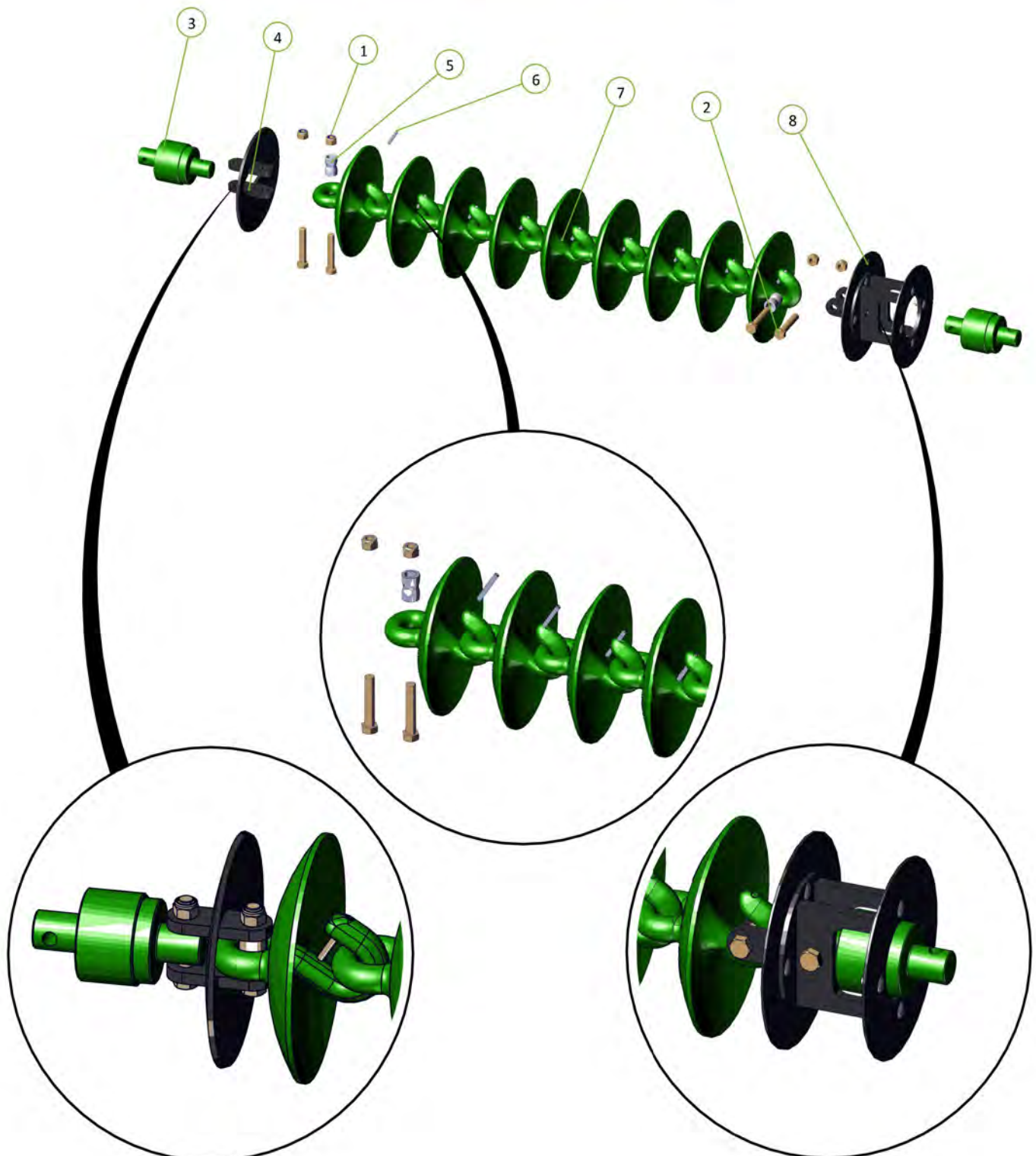
- Uneven performance across the width of the machine
- Uneven weed control
- Unsatisfactory incorporation
- Ineffective levelling
- Accelerated or premature chain link wear (not covered by warranty)
- Chains failing to engage with transport locator's when folded
- Machine damage when folding or unfolding
- Uneven field surface with ridges and furrows being created.

**A correctly adjusted machine will not cause this phenomenon.**

The framework should be horizontal when set on level ground. ie parallel to the ground. Fine adjustments should be made using the adjustor chains at each bearing mount plate.

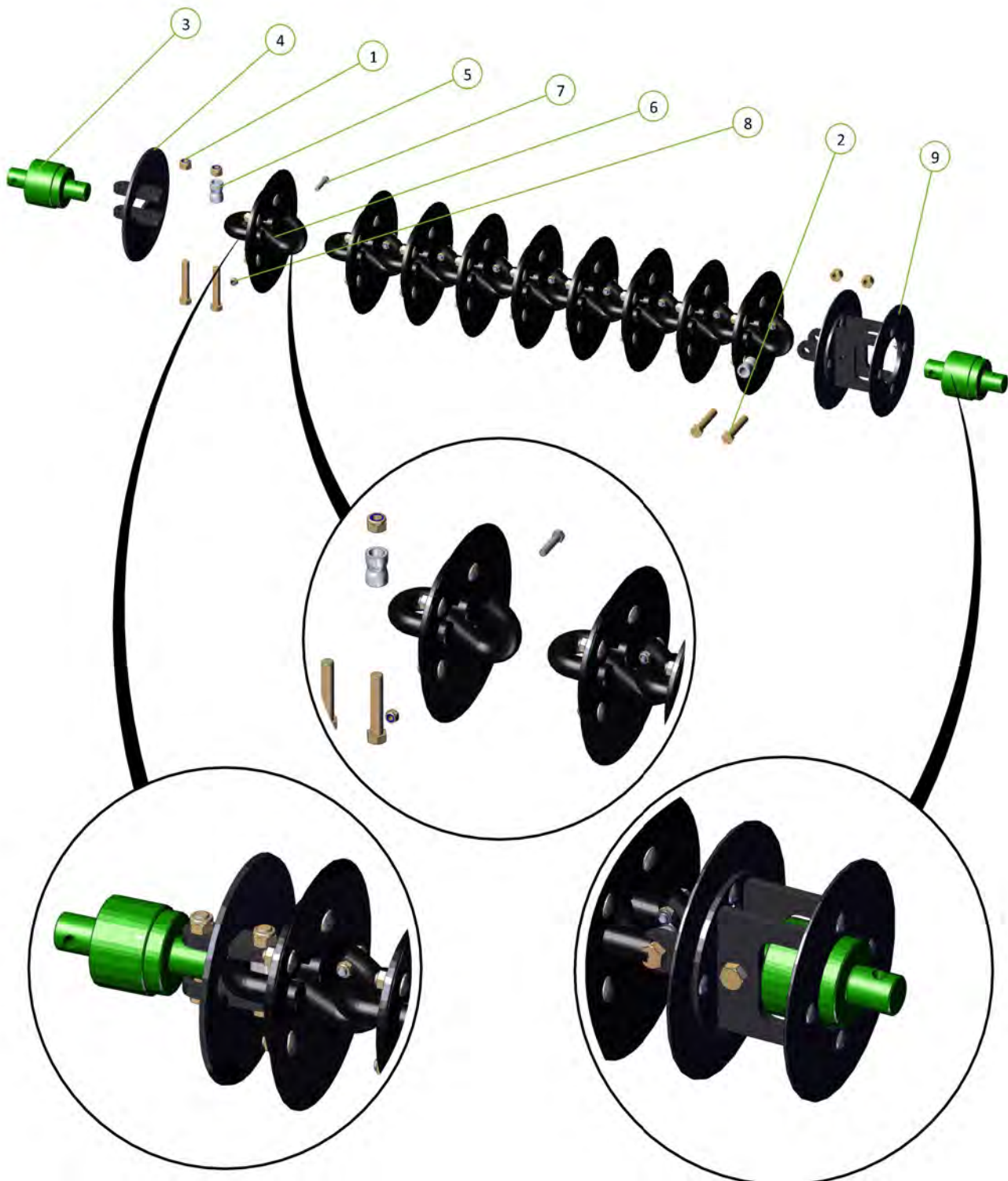
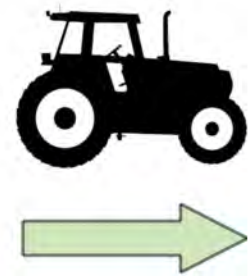


Item No.	Description	Number
1	Nyloc Nut M20	0221-NYL20
2	M20 x 110 Class 10.9 ZP Short Thread Bolt	0211-20110ST
3	20mm Bolt Swivel Unit	0802-PCHB55
4	Tie Plate Disc 20mm	0802-DCTP-20
5	Disc Chain Spacer	0801-253755
6	Roll Pin Zinc Plated 3/8" x 2"	0262-3-8X2
7	CL1-B Chain Disc Link	0803-CL1
8	Tapered Chain End Assembly	0810-45A

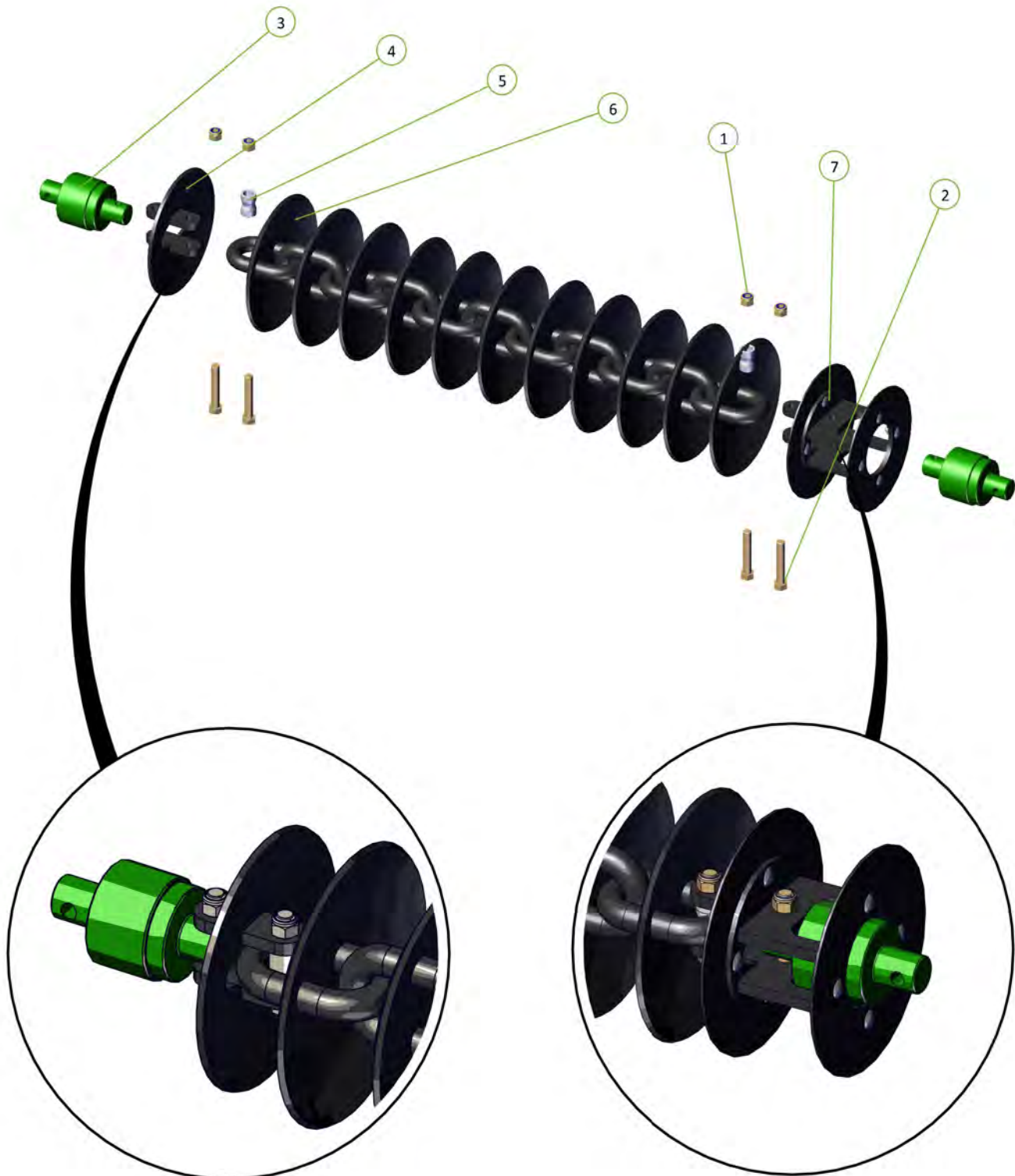




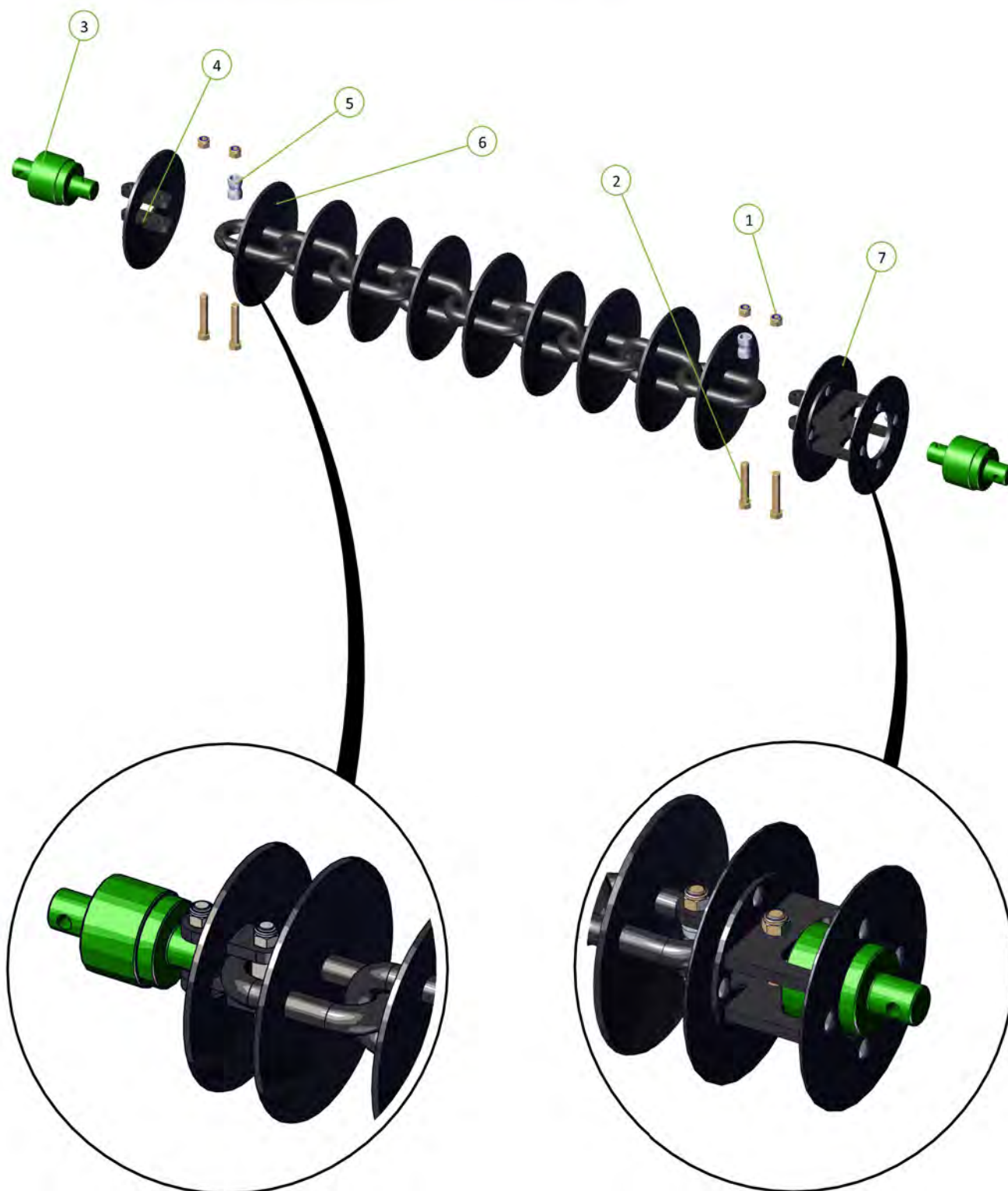
Item No.	Description	Number
1	Nyloc Nut M20	0221-NYL20
2	M20 x 110 Class 10.9 ZP Short Thread Bolt	0211-20110ST
3	20mm Bolt Swivel Unit	0802-PCHB55
4	Tie Plate Disc 20mm	0802-DCTP-20
5	Disc Chain Spacer	0801-253755
6	K4 Disc Assembly	0803-K4
7	M12 x 55 Class 8.8 ZP Bolt	0211-1255
8	Nyloc Nut M12	0221-NYL12
9	Tapered Chain End Assembly	0810-45A



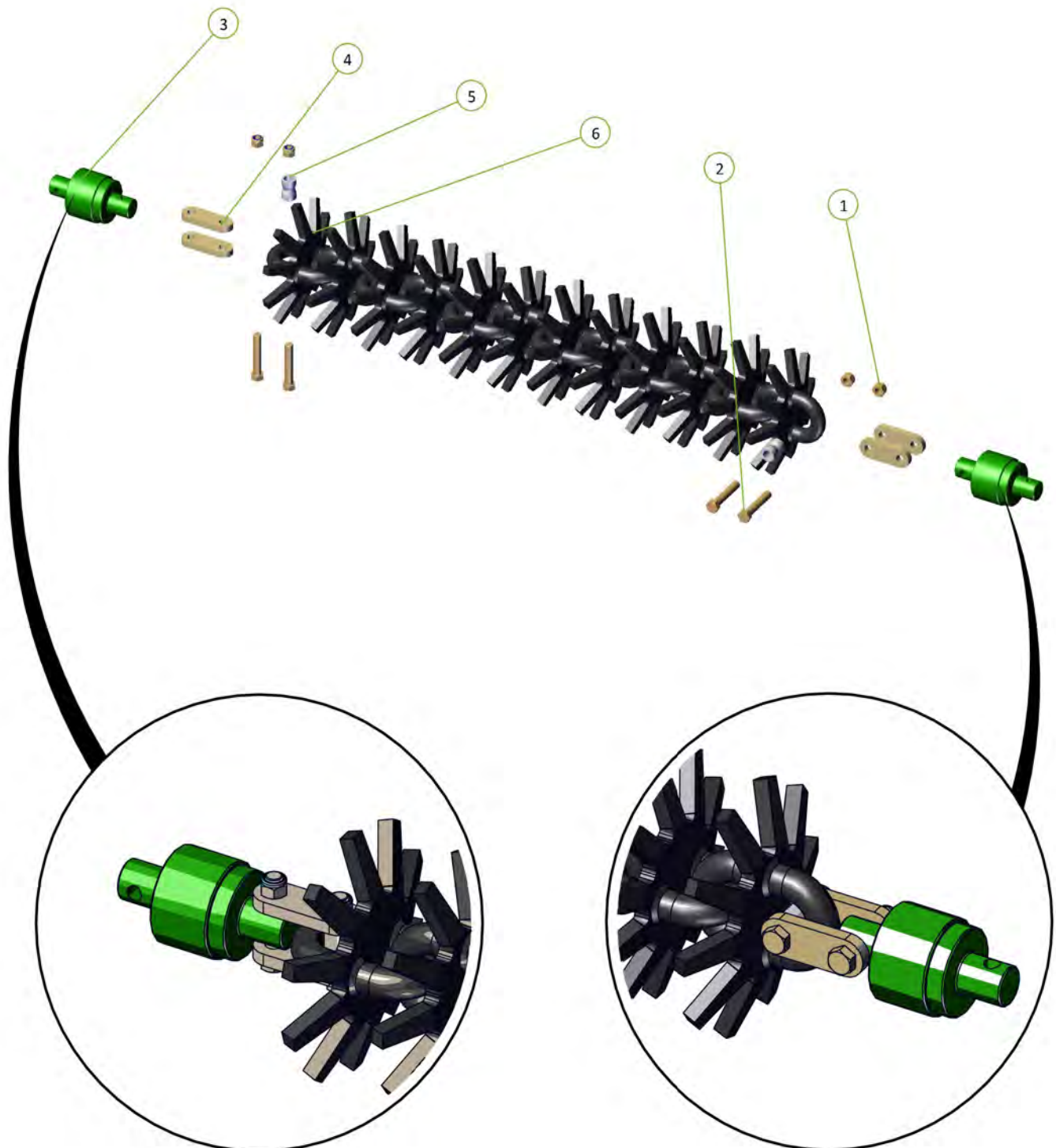
Item No.	Description	Number
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2	M20 x 110 Class 10.9 ZP Short Thread Bolt	0211-20110ST
3	20mm Bolt Swivel Unit	0802-PCHB55
4	Tie Plate Disc 20mm	0802-DCTP-20
5	Disc Chain Spacer	0801-253755
6	R300 Chain Link	0803-R300
7	Tapered Chain End Assembly	0810-45A



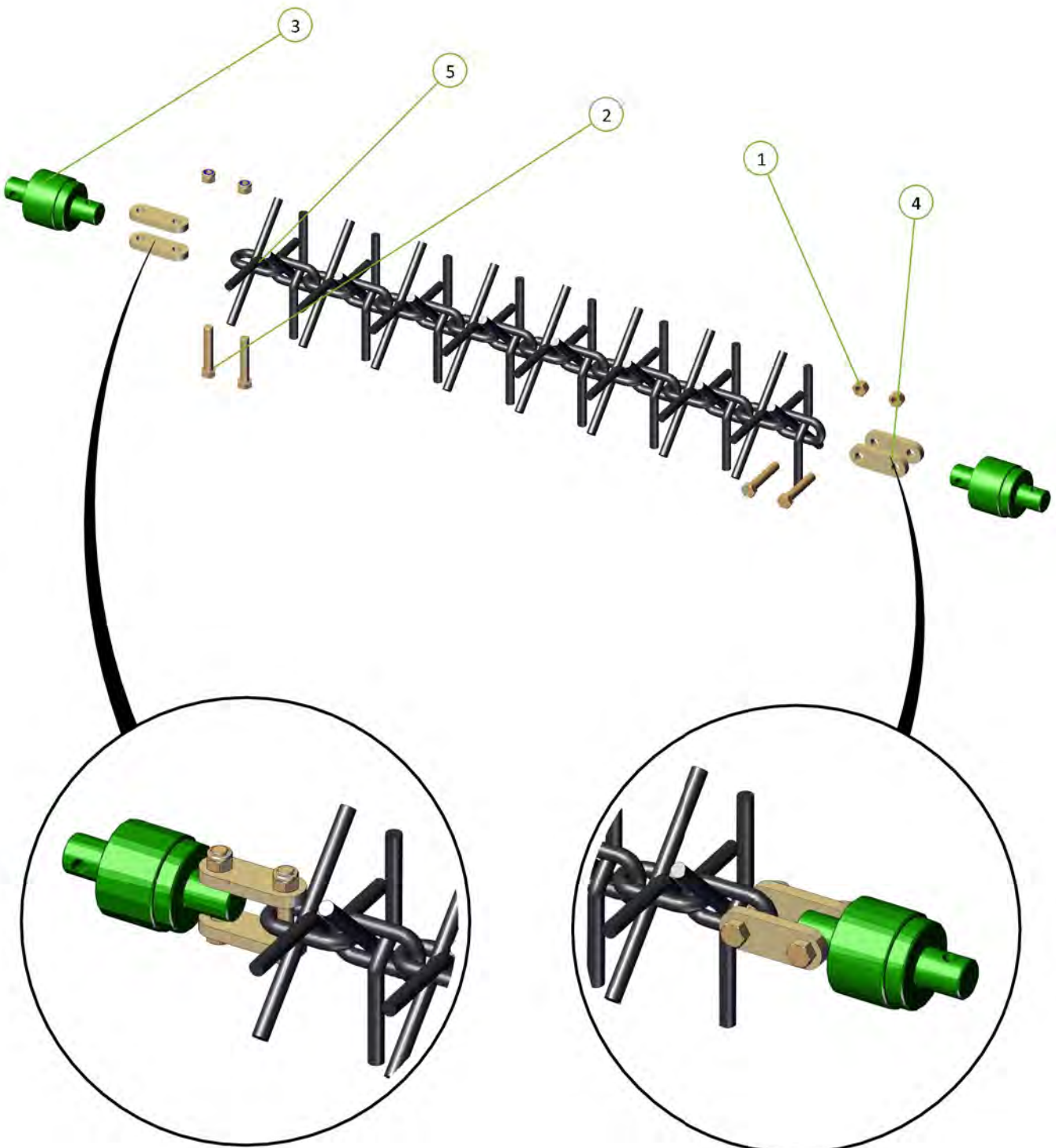
Item No.	Description	Number
1	Nyloc Nut M20	0221-NYL20
2	M20 x 110 Class 10.9 ZP Short Thread Bolt	0211-20110ST
3	20mm Bolt Swivel Unit	0802-PCHB55
4	Tie Plate Disc 20mm	0802-DCTP-20
5	Disc Chain Spacer	0801-253755
6	W36/25 Chain Link	0803-W36
7	Tapered Chain End Assembly	0810-45A



Item No.	Description	Number
1	Nyloc Nut M20	0221-NYL20
2	M20 x 110 Class 10.9 ZP Short Thread Bolt	0211-20110ST
3	20mm Bolt Swivel Unit	0802-PCHB55
4	Tie Plate For 20mm Bolt	0800-83.2
5	Disc Chain Spacer	0801-253755
6	10 Spike Disc Chain 49/27/5	0803-SD49



Item No.	Description	Number
1	Nyloc Nut M20	0221-NYL20
2	M20 x 110 Class 10.9 ZP Short Thread Bolt	0211-20110ST
3	20mm Bolt Swivel Unit	0802-PCHB55
4	Tie Plate For 20mm Bolt	0800-83.2
5	Prickle Chain	0803-PCH



## Importance of chain tension

### Operational

Chain tension is critical to achieve a smooth and level seedbed. A correctly tensioned, monitored and maintained chain will deliver the results you need. Incorrect chain tension can lead to :

- Uneven results across the cut width of the machine
- Uneven weed control
- Unsatisfactory incorporation
- Ineffective levelling
- Accelerated or premature chain link wear (not covered by warranty)
- Chains failing to engage with transport locator's when folded
- Machine damage when folding or unfolding
- Uneven field surface with ridges and furrows being created.

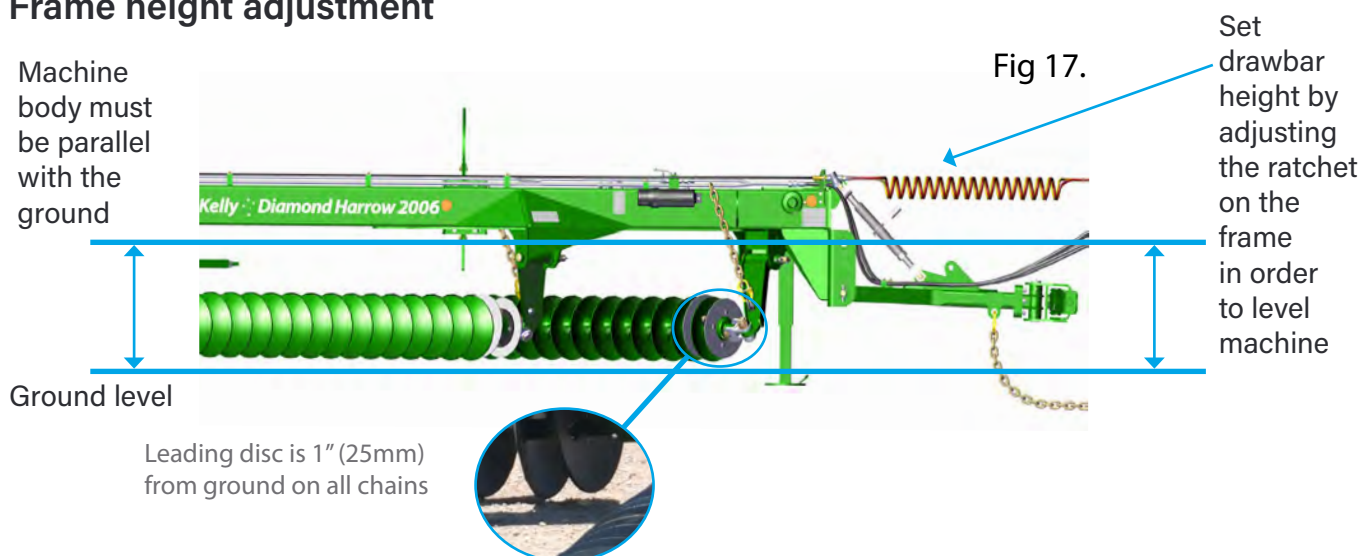
### A correctly adjusted machine will not cause this problem.

The framework should be horizontal when set on level ground. ie parallel to the ground.

Fine adjustments should be made using the adjustor chains at each bearing mount plate.

### Frame height adjustment

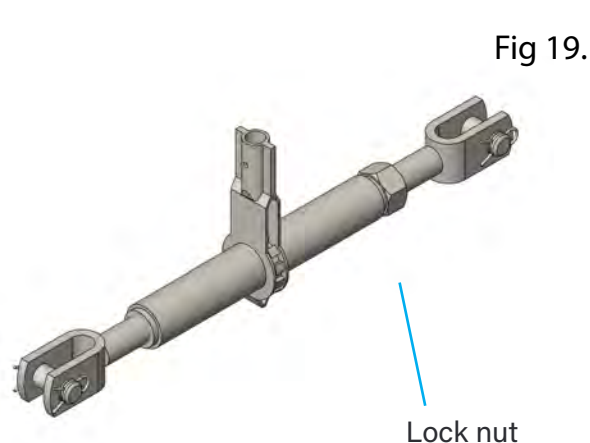
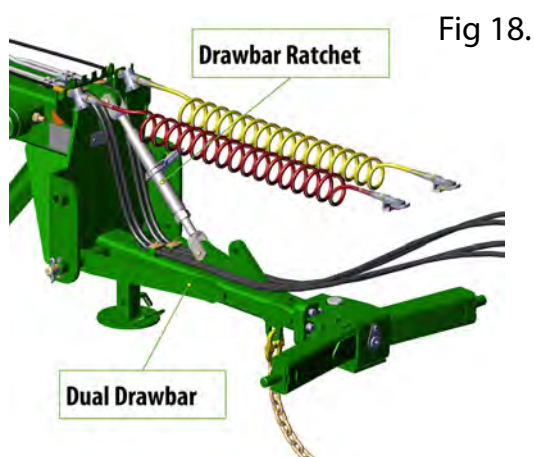
Machine body must be parallel with the ground



Ground level

Leading disc is 1" (25mm) from ground on all chains

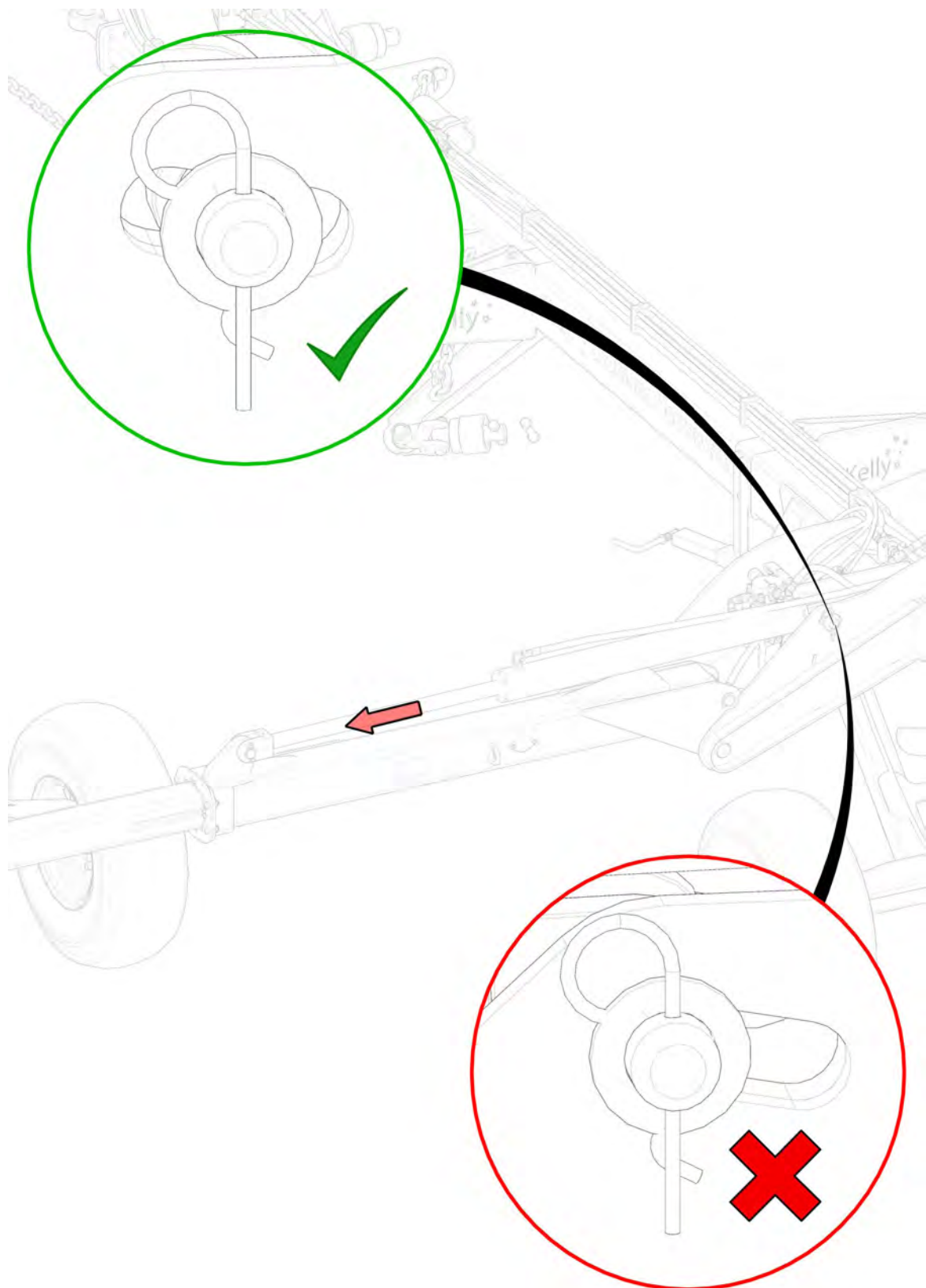
Once the frame is level tighten the lock nut (Fig 19.) on the drawbar ratchet (Fig 18.). This sets the draw bar height correctly for your tractor.



## Wing set up prior to operating

Fig 20.

Make sure the pin is centred



## Set chain tension

### Wing Tension Travel

It is important that the amount of wing extension be monitored throughout the life of the chain.

Optimal outer wing extension should be between 600mm and 800mm. Fully retracted or extended will require chain adjustment.



If the cylinder is fully retracted you may need more discs.

If the cylinder is fully extended it will be necessary to remove a disc from each front and rear chain set.

If the machine has been used for a period of time, the chain is worn down and the cylinder is fully extended you will need to remove disc/s from each front and rear chain set.



## Correct hydraulic chain tensioning

Correct chain tension will ensure that the entire length of discs will roll as one. This minimises the movement between each link. If a chain is not adjusted and runs loose, each link acts as a universal joint as the curved chain rolls along. The wear rate between each link is greatly accelerated and can lead to premature failure. The chain should not wear out before the discs are worn down.

### ONLY POOR ADJUSTMENT CAUSES PREMATURE WEAR

- The chain may sag not more than 150mm from centre line when working
- At rest there should be less than 100mm of sag in the chain.



Fig 22.

Indicator line shows acceptable curvature when operating.

## Correct hydraulic chain tensioning

The chain tension is managed by combination of telescopic cylinders, a nitrogen accumulator and a pressure control valve. Pressure is applied to the circuit by unfolding the wing. When the appropriate working pressure is reached (69 bar/1000psi), isolate the circuit by engaging the tension isolation valve.

A chain tension pressure of 69 Bar/ 1000psi is recommended for most situations. Refer to Fig 10. It may however be necessary in different situations to increase the pressure (Max 138 Bar/ 2000psi).

Loosen the lock nut, open the tension isolation valve (Fig 12), activate the unfold circuit while using an allen key to turn the screw in the direction (Fig 23) until the desired pressure is reached on the tension pressure gauge.

To decrease the tension pressure wind the screw all the way out, activate the fold circuit to release the tension pressure. Reactivate the unfold circuit while slowly winding the screw until the desired pressure is reached. (Fig 24.)

When finished close the tension isolating valve and tighten the lock nut.

**Increase tension pressure**

**Lock Nut**

Fig 23.

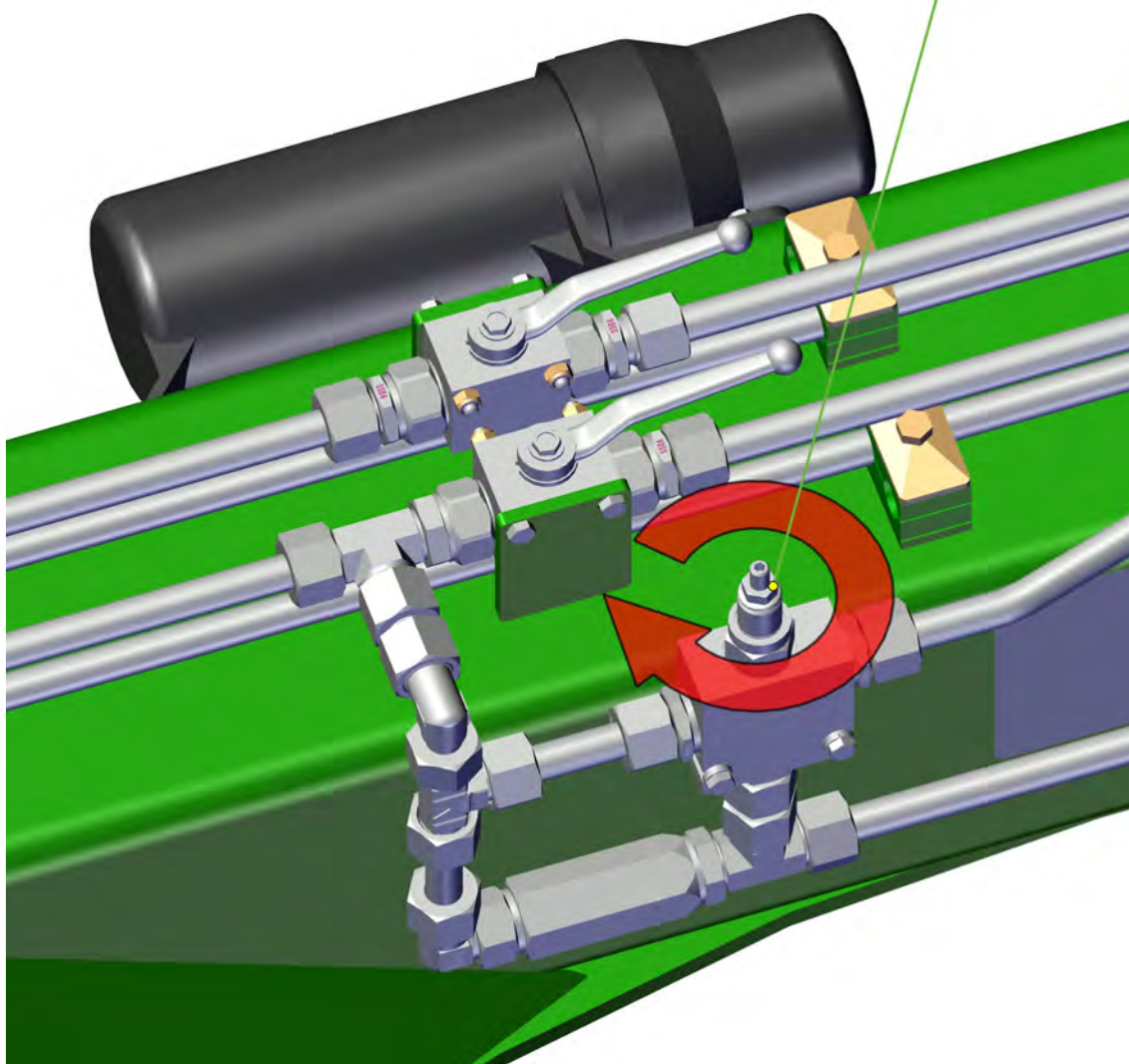
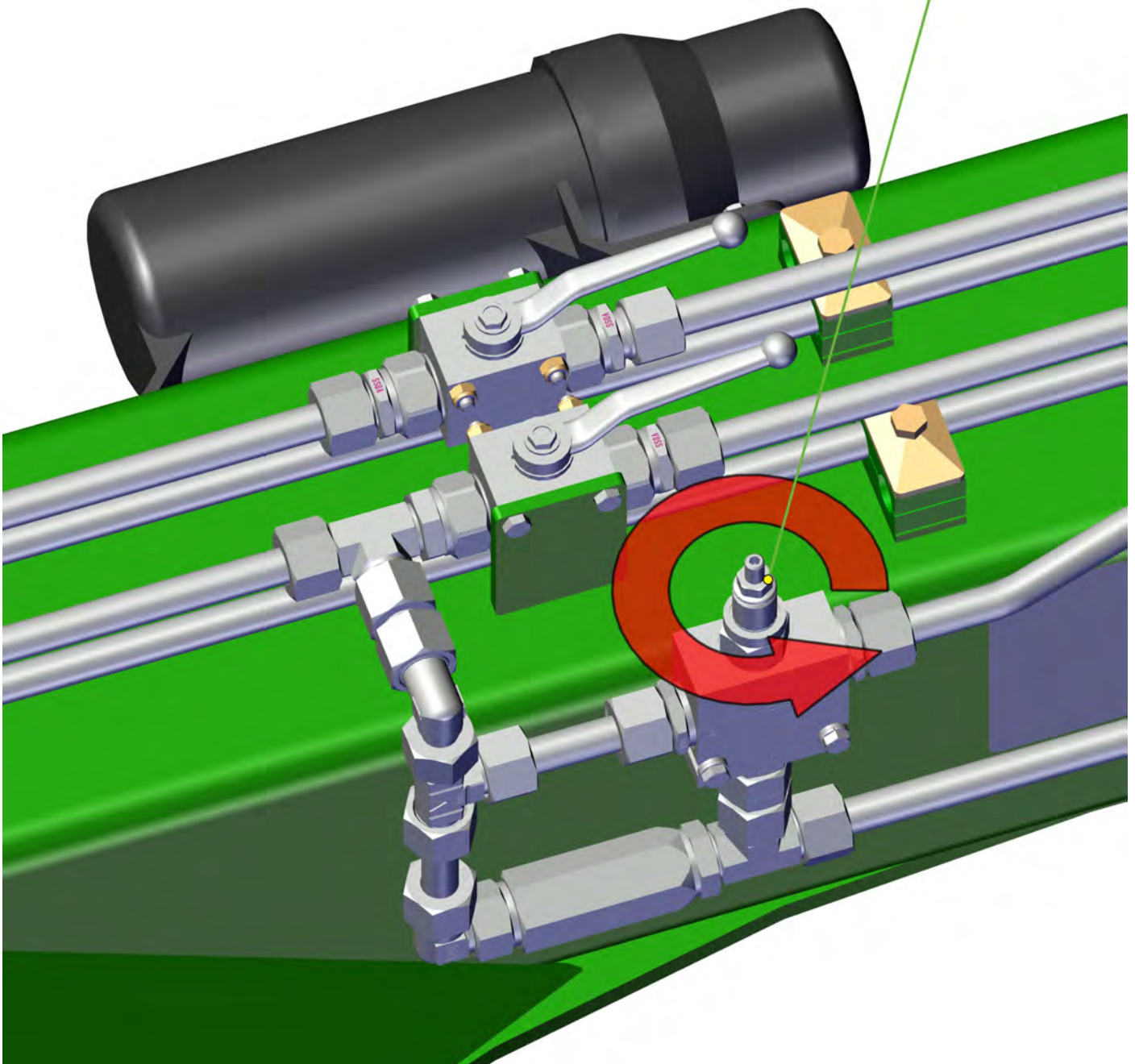


Fig 24.

**Decrease tension pressure**

**Lock Nut**



## Chain Mount Plate Height Adjustment

1. Use tractor hydraulics to raise the module chain or chain mount plate that requires adjustment. Position a suitable block or stand to support the arm. Using the tractor hydraulics, lower the machine until the height adjusting chains are loose.
2. Remove spring retaining clip. Slide chain up to the top of the slot in lifting arm to pass the chain through the cross at top of plate.
3. Slide chain back down to the bottom when the desired position is reached. To achieve "1 link" of adjustment, lift chain to the top of the slot, pass 1 link through the slot and rotate 90 degrees to allow the next link in the adjusting chain to lower into the same slot. To achieve " $\frac{1}{2}$  link" of adjustment lift the chain to the top of the slot and slide chain horizontally and lower the same link into the second slot. This will raise or lower the chain mount plate by half a link depending on which slot the chain started in. Any excess chain can be fed back through the second slot.
4. Install retaining clip. Remove stand.

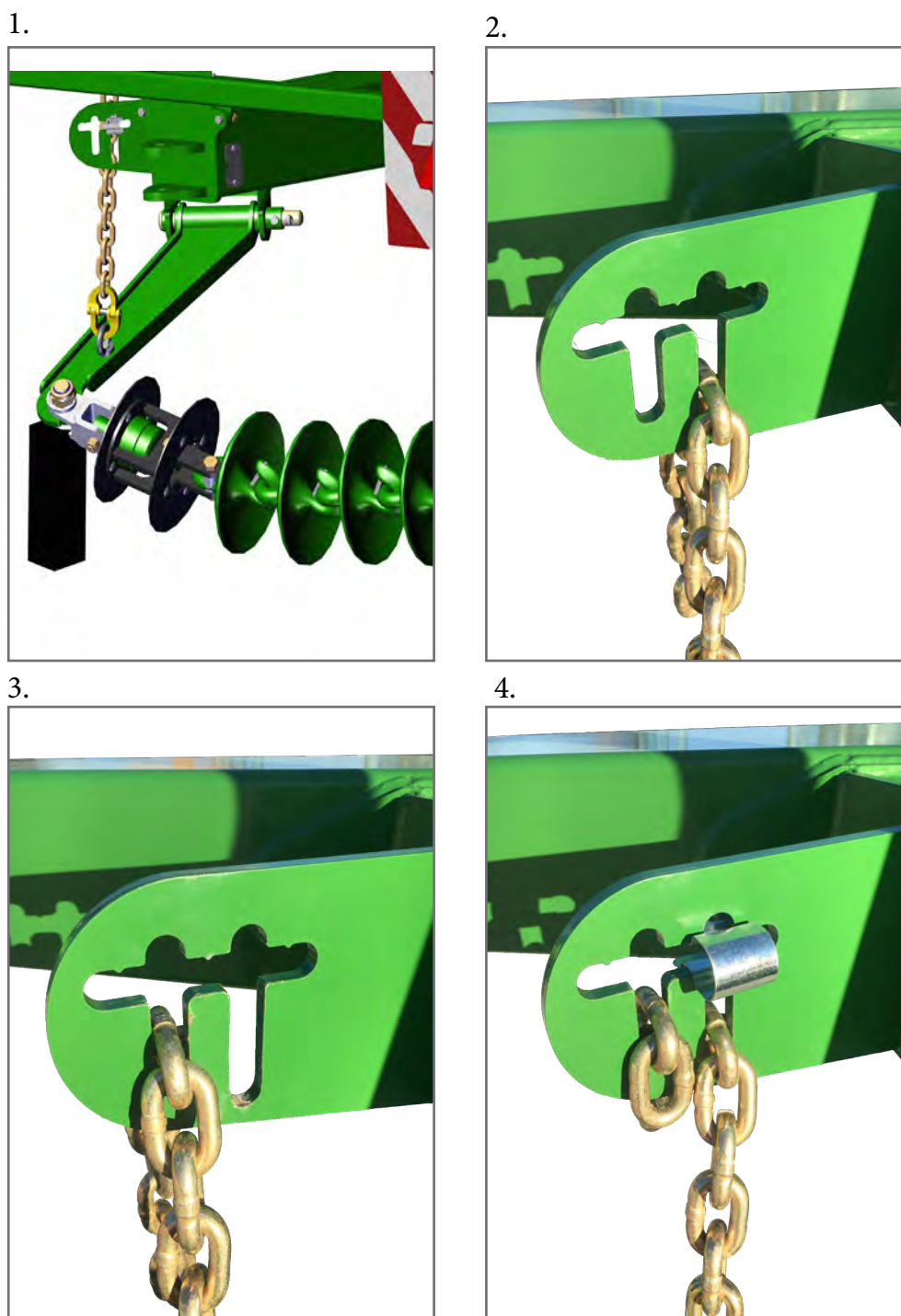


Fig 25.

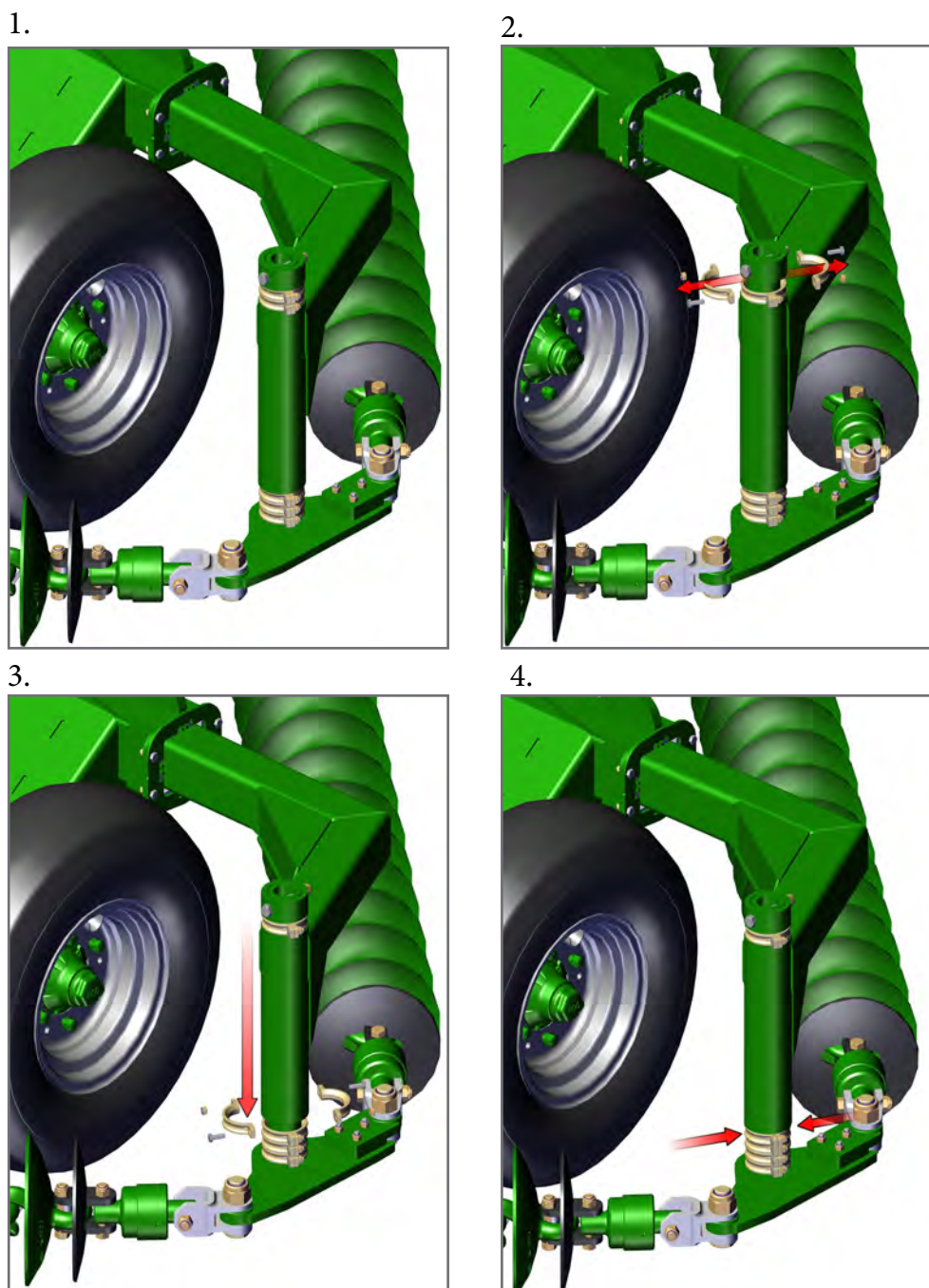
## Correct Chain Height Adjustment

To adjust the swivel height at the wings, relocate one of the spacers either above or below the fixed mounting tube. Each Dropleg has five pairs of 25mm cast spacers. The most common set up is to have three pairs of cast spacers on the bottom and two pairs of cast spacers on the top. Below is the process to adjust the Dropleg height.

1. Loosen chain tension completely
2. Undo 2 x M10 bolts from corresponding spacer set and take the two halves off of the drop leg tube
3. Replace it in the selected position after raising or lowering the drop leg
4. Reinstall the M10 bolts and re-tension the chain

It is possible to install all spacers either above or below the mounting tube giving a maximum of 100mm of adjustment.

Fig 26.



## Fine adjustment for perfect operating results

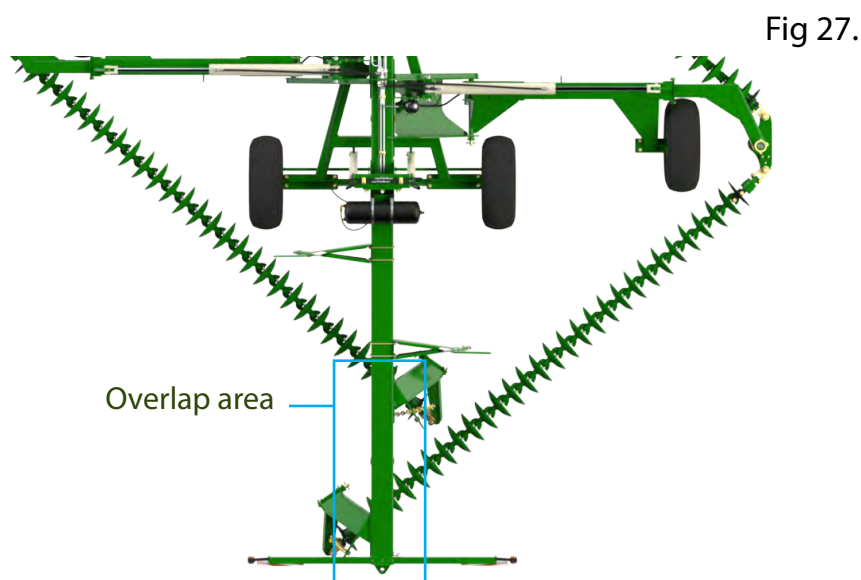
You may need to continue to adjust certain areas to achieve a level finish and a perfect seedbed.

It is possible with correct adjustment to achieve a level finish in most situations by manipulating the front and rear heights of each chain.

When set too low the leading disc on each chain has the capability of pushing up a ridge of soil that the following chains may not level out. This can occur at the front of each chain, at the front of the rear chains (widest point) and at the front of the machine (either side of center).

When the trailing disc is set too low, it may leave a furrow that may not be filled by other chains. Look for this at the rear of each chain, on the wings at the rear of the front chains and at the very rear of the machine near the center line.

There is enough overlap built into the machine to ensure that it is possible to raise the front of all of the chains just clear of the ground and still achieve a full cut.



The optimum setting may vary depending on soil cover. In heavy stubble and unworked ground it is possible to set the swivels low to the ground. In light stubble or loose soil it is best to raise the leading discs so that the chains 'feather in' to the soil.

It is important to note that lowering the swivels will not cause the discs to dig deeper or more aggressively. It will result in premature wear of swivel hardware and the first two chain links. It will also cause ridges and furrows.

Digging effectiveness is a result of soil conditions and disc chain construction. The weight, shape, angle and spacing of the discs are the factors which influence efficacy. On hard dry soils it is unrealistic to expect the discs to dig fully or evenly. However, they will still perform well for residue breakdown and seed stimulation.

## Importance of tapered chain end (TCE)

It is important to note that TCE's are designed to increase the effective cutting length of a disc chain. Nestling over the swivel unit, this minimizes the area between the mounting point and the first effective cutting disc.

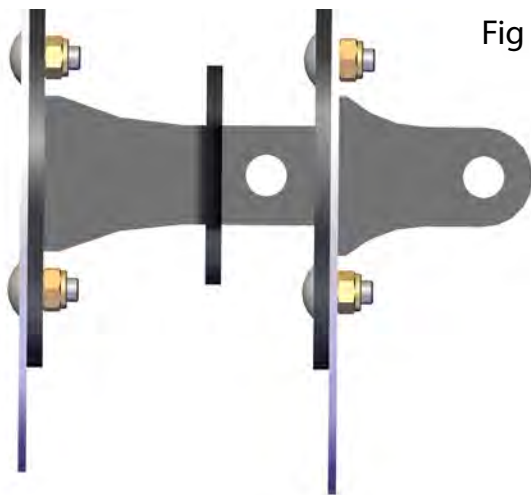


Fig 28.

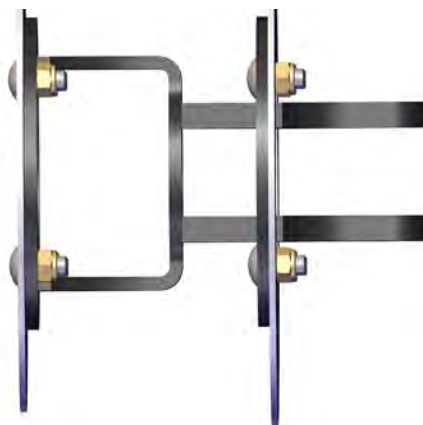


Fig 29.

The blade diameters have been designed to ensure an optimal soil surface finish at the end of the chains. Thus, the intent is that the bearing height can be set on the centerline of the chain, parallel with the ground.



**To prevent injury never lubricate or service the Kelly Tillage System while it is moving (folding up or down or in working motion)**



# Section 4 - Maintenance & Inspection

## Maintenance and inspection

### Good maintenance is your responsibility

- Before working on your machine, ensure all moving parts have stopped
- Always use a safety support and block the wheels
- Use extreme caution when making adjustments
- Replace shields and guards after servicing and before moving
- After servicing, make sure all tools, parts and service equipment are removed
- Where replacement parts are necessary for periodic maintenance and servicing, genuine factory parts must be used. Kelly Engineering will not guarantee the use of unapproved parts and other damages as a result of their use and will not be liable for injury or warranty if equipment has been altered in any way
- An appropriate fire extinguisher and first aid kit should be kept readily available while performing maintenance.



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- An appropriate fire extinguisher and first aid kit should be kept readily available while performing maintenance.

### Recommended Maintenance Checklist

Item to check	First operation	Daily	25 hourly	Pre-season
Hydraulic, hose and cylinders for damage and oil leaks	✓	✓		✓
Airline leaks and hose damage	✓	✓		✓
Loose or missing fasteners/split pins	✓	✓		✓
Check bushes, pivot and cylinder pins for wear and replace as necessary				✓
Swivel unit fasteners	✓	✓		✓
Swivel unit - free and smooth rotation		✓	✓	✓
Swivel unit temperature: Average operating temperature is 55 °C, Failure is indicated at +80 °C	✓	✓		✓
Tyres are inflated to correct pressure	✓	✓	✓	✓
Wheel nuts are tightened at correct torque	✓			✓
Check wheel bearings	✓	✓	✓	✓
Check and tighten dust caps	✓		✓	✓
Tow hitch bolts are tightened at correct torque	✓			✓
Disc roll pins/ locking bolts are in place	✓			✓
Chain is tensioned correctly	✓	✓		✓
Lights are working correctly	✓	✓		✓
Warning signs are attached	✓	✓		✓
Grease wheel bearings				✓
Grease wheel arm frame (2006 ONLY)			✓	✓



**To prevent injury never lubricate or service the Kelly Tillage System while it is moving (folding up or down or in working motion)**

## Recommended Maintenance Checklist

Item to check	First operation	Daily	25 hourly	Pre-season
Grease wheel lift bush (2006 ONLY)			✓	✓
Grease centre cylinder pins x 2			✓	✓
Grease jockey wheel (3009NT and 4012 ONLY)			✓	✓
Grease wing chain tensioner threads (3009NT and 4012 ONLY)			✓	✓
Grease wing hinge pins x 8			✓	✓
We recommend that swivel units are covered during storage to prevent water penetration.				

## Chain Inspection

- There is a break-in period where the disc chain will wear in and become longer.
  - More frequent adjustments will be necessary on a new machine.
  - Over time, as the disc chain wears, it may be necessary to remove a link to maintain disc chain tension.
- This is the most important check and adjustment to ensure a long working life for the disc chain.

## Trouble shooting

The majority of the Kelly Tillage System operating problems are due to incorrect adjustment. This trouble shooting section may help you by providing solutions to common problems.

Symptom	Problem	Solution
Wings bouncing	Wing tyre pressure too low	Refer to page 38 for tyre pressure specifications
	Operating speed is too fast for field conditions	Refer to page 38 for operating speed
Chain Links wearing	Chain too loose. Chain loops back when working.	Refer to page 25, if the wing extension is correct then refer to tension pressure adjustment on page 27 and 28
	Swivel units set too close to ground.	Refer to page 23 or 29



**Never attempt to fold for transport if the chain is clogged with weeds or mud as the extra weight may damage hydraulics or frame**

## Trouble shooting

Symptom	Problem	Solution
Chain not rotating	Bearing failure in swivel unit	Refer to daily checks on page 34
	Front chain swivels on machine too low  Foreign material fouling bearings	Refer to page 23 or 29
Uneven tread wear on transport wheels	Tyre pressure too low  Excessive road speed	Inflate to correct pressure refer to table on page 38 Always travel at a safe speed. <b>NEVER EXCEED 25kph.</b>
Chains not locating properly on chain catcher	Chain catcher not correctly precision	Adjust chain catcher precision until chain locates correctly
Operation leaves central ridge behind machine	Front chain swivels are too low	Refer to chain mount arm height adjustment on page 29
Operation leaves central furrow behind machine	Rear chain swivels are too low	Refer to chain mount arm height adjustment on page 29
Ridging on outside edge of machine	Leading end of corresponding rear chain is too low	Refer to correct chain height adjustment on page 30
Furrow on outside edge	Rear of front chain set too low	Refer to correct chain height adjustment on page 30
Chain not tensioning properly	Tension cylinder at maximum stroke	Refer to page 25



**Never attempt to fold for transport if the chain is clogged with weeds or mud as the extra weight may damage hydraulics or frame**

# Section 5 - Specifications

## Operating speed

<b>Recommended operating speed in normal conditions with all chain types</b>	
Operating / working speed	10-12 km
Transporting / towing speed	25 km

## Tyre pressure

<b>Tyre size</b>	<b>Ply</b>	<b>KPA</b>	<b>Bar</b>
11.5/80/15.3	14	250	2.5

## 2006 Specifications

<b>Model 2006</b>	<b>Set at</b>
Operating Width	7.2 +/- 0.1m
Transport Width	2.4m
Transport Height	3.9 +0.2/-0.3m
Transport Length	10.4m

## Disc chain lengths and quantities

<b>Model</b>	<b>Length</b>	<b>CL2</b>	<b>CL1's per CL2 chain</b>	<b>K4</b>	<b>CL1</b>	<b>W36</b>	<b>SD49</b>	<b>Prickle Chain</b>
<b>2006 Front right</b>	4.51m	19	2	28	28	26	36	50
<b>Front left</b>	4.53m	19	2	28	28	26	36	50
<b>Rear right</b>	4.59m	20	2	28	28	27	37	51
<b>Rear left</b>	4.61m	20	2	27	28	27	37	51

For correct chain tension, chain links may need to be removed from the end of the chain as follows:

CL2 Disc Chain - unhook disc chain link/s from end of the disc chain

K4 Disc Chain - unhook disc chain link/s from end of the disc chain

CL1 Disc Chain - unhook disc chain link/s from end of the disc chain

SD49 Disc Chain - cut a disc chain link from the end of the disc chain

W36 Disc Chain - cut a disc chain link from the end of the disc chain

Prickle Chain - cut a prickle chain link from the end of the prickle chain

Scan the following QR code to open the removing a welded disc chain video.



## Bolt torque settings

Bolt Type	Wheel nut			U Bolt			Class 8.8 Bolt							Class 10.9 Bolt	
Bolt Size	M12	M18	M20	M12	M16	M20	M6	M8	M10	M12	M16	M20	M24	M20	M24
Spanner	19	27	30	19	24	30	10	13	17	19	24	30	36	30	36
Nm	94	305	430	42	105	214	9.3	23	45	77	190	385	660	550	950

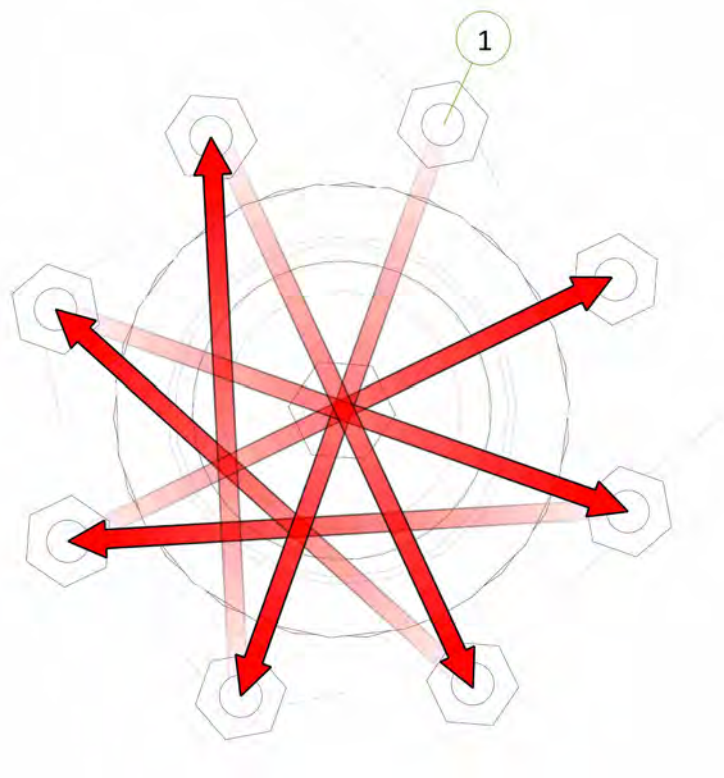
Verification and recording of the prescribed torque settings in the table above is the responsibility of the assembler and it shall be documented in accordance with their approved Quality Assurance system

[1] When fitting a wheel and tyre to a hub, tighten the wheel nuts in a star pattern to the correct tension. To achieve this choose a wheel nut and tighten, then proceed to the opposite side of the hub to the next wheel nut and tighten and so on until all wheel nuts are tight. Then repeat the procedure to check that all nuts are tight. Do not use impact tools to tighten wheel nuts.

**For a guide to the correct tension of the wheel nuts please use the appropriate tension for your size wheel nuts from the Bolt Torque Settings table.**

Torque values are for dry threads and surfaces however, it is permissible to apply a small amount of anti corrosive oil to the threads.

Fig 31.





# Notes

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