McHale V6·V8

V6740 • V6750 • V8940 • V8950
Baler

Operator Instruction Manual

Issue 2

(valid from serial number 808000)

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QUALITY
ISO 9001:2015
NSAI Certified

CLT01141_1.03

ENVIRONMENT: Reduce paper consumption

Think before printing documents! Is a PDF on a laptop or tablet sufficient? If a printed copy is required, always select ‘Print on both sides of paper’ and always try to limit the number of printed pages by selecting a specific page range or just select ‘Current page’ if that is sufficient.

This is the original operator manual with ‘Original Instructions’. The English language version of the operator manual is the source document for all translations.

If there is any conflict as to the accuracy or content, of any translation, the English source manual remains the authorised document.

No part of this manual may be reproduced, distributed or translated, in any form or by any means, without prior written permission by **McHale**.

Thank you for buying this **McHale** machine, you have chosen wisely!
Given proper care and attention, you can expect it to provide you with years of dependable service.

Warranty/Guarantee

Attention End User!

Please ensure your machine is fully registered with **McHale**,
by your dealer, at the time of delivery.
Failure of the dealer to register the machine will render your warranty void!
You can check the registration of your machine by visiting **www.mchale.net**.

It is important to quote the machine serial number when ordering spare parts or requesting technical assistance. Space is provided below to record machine details.
(See 'Description of the serial number plate')

Serial number:	
Year of manufacture:	
Date of delivery:	

If you require further copies of this instruction manual,
please quote part number: CLT01141

Due to a policy of continuous product development and improvement, **McHale** Engineering reserves the right to alter machine specifications, including the contents of this manual, without prior notice or any obligation to make changes or additions to the equipment previously sold. Images and screenshots used in this manual may differ in appearance from the actual product.

It is vital to replace defective parts of the machine immediately and to use only genuine **McHale** spare parts, as these are designed and manufactured to the same standard as the original machine. Spare parts can be obtained from your **McHale** dealer.

Throughout this manual there are links to other relevant sections of the manual, to guide the reader to additional information to convey the complete message. These links are in *(grey italic font)*. See the example above i.e. the link to the description of the serial number plate. When you click on the link in the PDF document, the page will jump automatically to the linked section. With Adobe Reader, you can go back to the page on which you clicked the link, by clicking on the 'Previous view' button (or by holding 'Alt' and pressing the 'left arrow').

Table of contents

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1

Introduction

The **McHale V Series** Baler has been developed based on years of extensive research and development in the field of round balers. Given proper care and attention, the machine will provide years of reliable and dependable performance.

Please do not assume that you know how to operate and maintain your machine before reading this manual carefully. In order to prevent misuse, damage and accidents, it is very important that everybody who will operate the machine is a fully trained operator. *(See 'Trained operator criteria')*. They must read and fully understand all of the contents of this manual, before operating the machine, paying particular attention to the following:

- Safety instructions
- Functions
- Controls (hydraulic & electrical)

It is highly recommended to get acquainted with any new machinery slowly. Take time to learn and understand all of the features of the machine. Proficiency will increase as more experience is obtained.

If you have any questions in relation to the instructions in the manual, please contact your **McHale** dealer. It is highly recommended that training be sought from your local **McHale** dealer.

The operator is solely responsible for the safe use and maintenance of the machinery, in accordance with this manual. Keep this manual safe and make sure it remains with the machine, at all times.

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2

Product information

The machine is protected against many dangers to itself while being operated from the control box in both manual and automatic cycles. However, it is of the utmost importance for the safety of the operator and for others, that the operator pays attention to all warnings and instructions given in this manual. In particular all safety devices, decals, guards and controls must be in place and in fully functioning condition. Never try to clear any malfunction when the tractor is switched on or while the machine is running. Keep the 'Danger Zone' (an area around the machine) free of all persons and animals at all times, while the machine is in operation *(See 'Danger Zone')*. This manual must be read and fully understood by anyone who will operate the machine.

2.1 Designated use of the machine

The machine is exclusively designed for normal use in agricultural applications. The machine has been designed to pick up and compact cut crop from the ground, to produce cylindrical bales of forage primarily for feeding livestock. This designation includes the movement of the machine, between fields by track or road, incidental to the machine's main use. The manufacturer will not be held responsible for any loss or damage resulting from machine applications other than those specified above. Any other use the machine may be put to is entirely at the owner/operator's risk.

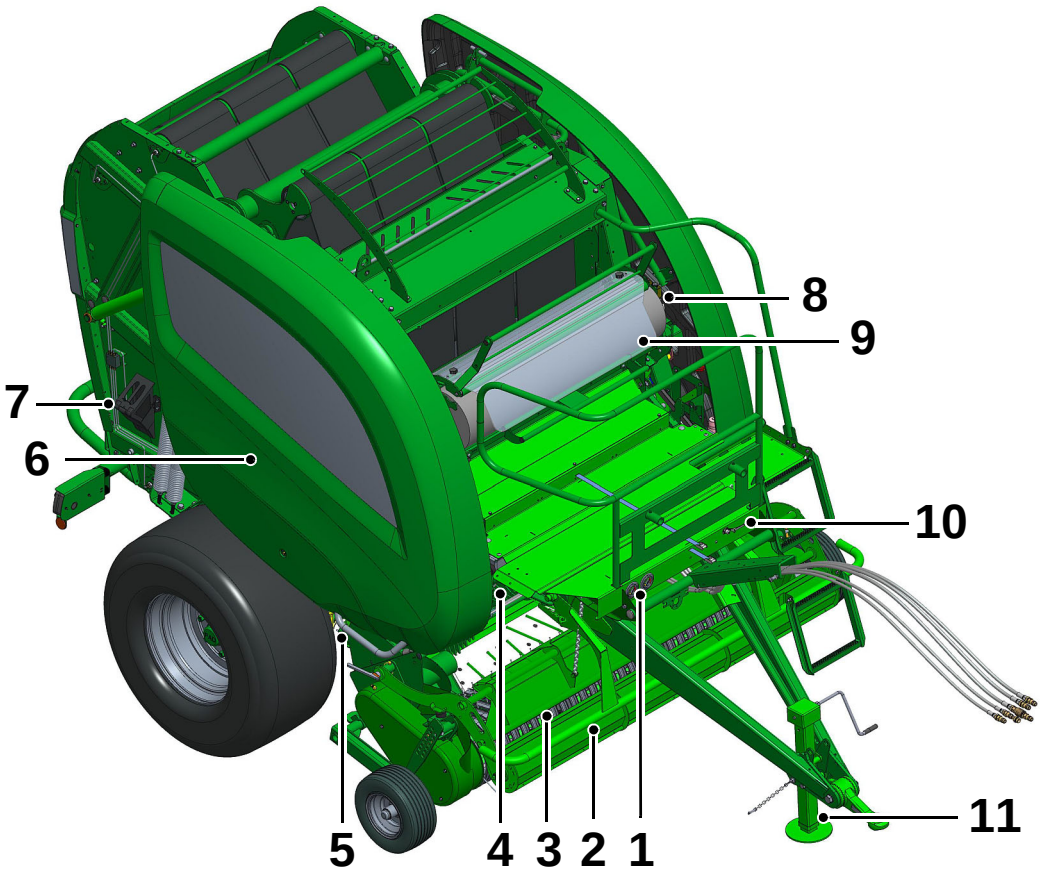
The designated use of the machine includes that:

- The operating, maintenance and repair instructions given by the manufacturer will be strictly fulfilled.
- Exclusively persons who are familiar with it and instructed about the risks are entitled to operate, maintain and/or repair the machine.
- The relevant health and safety requirements, that may be in force in the country of use, will be strictly followed.
- No other equipment or accessories, other than released by **McHale**, are installed in the machine. The use of any other equipment or accessory is entirely at the owner/operator's risk. In such cases, unauthorised modifications/changes exclude any liability of the manufacturer.

NOTE: Loss of machine validity

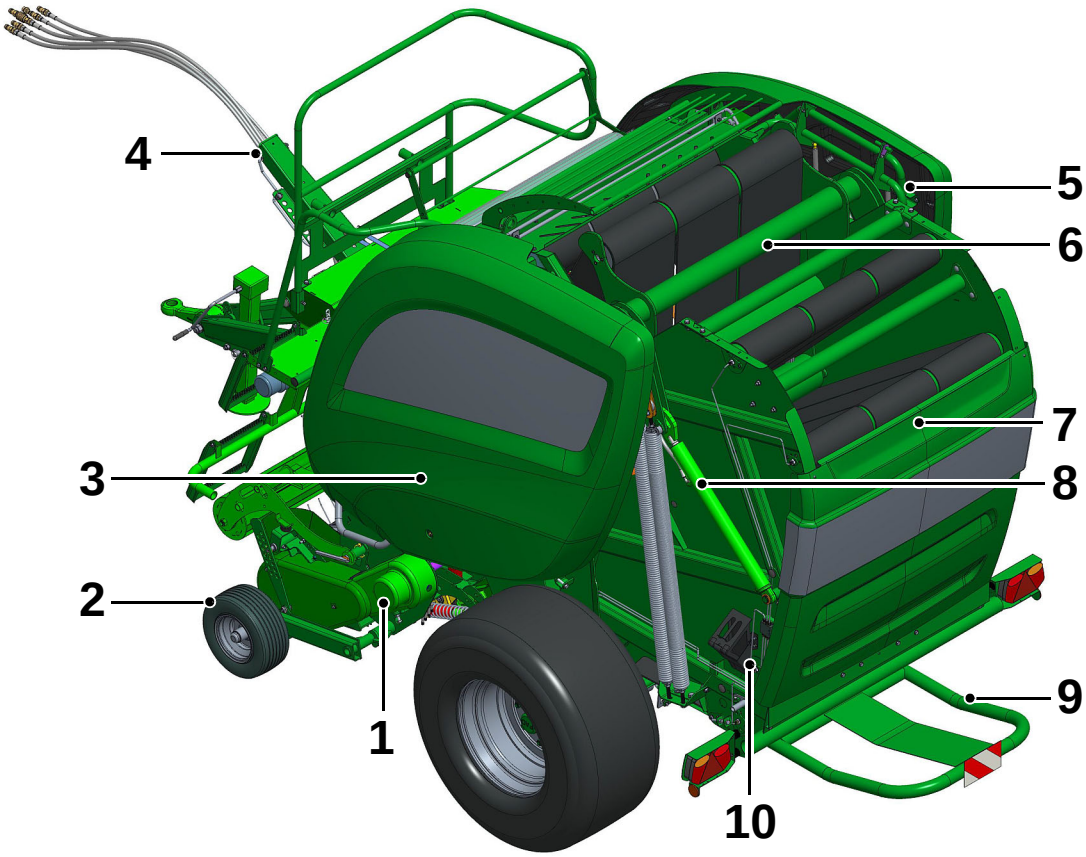
By any alteration of safety equipment, the declaration of conformity and the CE sign loses its validity for this machine.

2.2 Front view



No.	Machine function
1	Bale density gauge & net tension gauge
2	Crop roller
3	Pick-up reel
4	Chopper unit
5	Drop floor
6	Non-drive side
7	Wheel chocks
8	Net tension pump
9	Netter unit
10	Chamber door/tailgate safety lock
11	Drawbar stand

2.3 Rear view



No.	Machine function
1	Pick-up reel clutch
2	Pick-up wheels
3	Drive side
4	Hose holder
5	Bale size potentiometer
6	Belt tension arm
7	Chamber door/tailgate
8	Tension rams
9	Bale kicker
10	Wheel chocks

2.4 General specifications

Units are given in both metric and UK imperial values, with the latter shown in brackets.

Model	V6740/ V8940	V6750/ V8950
Transport length	5.1 m (201”)	
Transport width	2.62 m (103”)	
Transport height	2.96 m (117”)	
Transport weight (unladen)	4,450 kg (9,811 lbs)	4,850 kg (10,692 lbs)
Axle weight (unladen)	3,750 kg (8,267 lbs)	4,000 kg (8,819 lbs)
Maximum road speed*	40 km/h (25 mph)	

*Check with national road traffic regulations in the individual country!

2.5 Tractor specifications

Tractor capacity	60 kW (80 HP)
Hitch type	High/Low drawbar
PTO speed	540 rpm (1,000 rpm optional)
Lighting	12 V / 7-pin socket
Electrics	12 V, 20 A socket
Hydraulic systems	Open-centre, closed-centre, load-sensing
Minimum pressure	180 bar (2,610 psi)
Minimum flow rate	30 l/min (7.9 gal/min) @ 180 bar (2,610 psi)

2.6 Machine specifications

Model		**V6740/ V6750**	**V8940/ V8950**
Bale chamber diameter		0.6 - 1.68 m (32 - 66”)	0.6 - 1.9 m (32 - 75”)
Bale chamber width		1.23 m (48”)	
Pick-up width		2.10 m (83”)	
Net roll	**Net width**	Max. 1.26 m (49.5”)	
	Max. roll weight	40 kg (See warning below)	

CAUTION: Heavy net rolls should be handled by two people

Pay attention to the heavy weight of the net roll. It is recommended that full net rolls should be handled by two people.

2.7 Tyre specifications*

Details	**Type**	**Field pressure**	**Road pressure**	**Part No.**
460/65-20 155 A8 (Vredestein)	Flo +	1.5 bar	2.8 bar	CWH00083
500/50-22.5 158 A8 (BKT)	648	1.5 bar	3 bar	CWH00058
560/45 R22.5 152 D (Alliance)	885	1.5 bar	4 bar	CWH00092
170/60-8 71 A8 (Vredestein)	Pick-up	2.07 bar	2.07 bar	CWH00037

2.8 Optional equipment*

Drawbar	High/Low drawbar
Drawbar stand	Stand type A/B/C
Brakes (if fitted)	Air brakes/Hydraulic
PTO shaft	Heavy duty (60 hr greasing)

*May not be available in all countries, check with your **McHale** dealer for availability in your country.

3

General safety

3.1 Be aware of all safety information

Follow all safety precautions and practice safe operation of machinery, at all times.

Warning, caution, note & environment messages:

When reading this manual, pay particular attention when you see the symbols below i.e. warning, caution, note and environment. They will be used at various points in this manual and may also appear on safety decals on the machine. The purpose of these messages is to ensure that the most important information stands out from the rest of the text.

WARNING: This symbol indicates a potentially hazardous situation, that if not avoided could result in machinery damage, personal injury or even death**.**

CAUTION: This symbol indicates a potentially hazardous situation, that if not avoided could result in machinery damage or personal injury**.**

NOTE: This symbol is used to identify special instructions or procedures which, if not followed strictly, could result in machinery damage.

ENVIRONMENT: This symbol reminds you to respect the environment in relation to the correct disposal of waste material.

3.2 Follow all safety instructions

Using this manual, read all safety instructions and messages, and be aware of the meanings of all safety decals. *(See 'Safety warnings & instructions explained')*. The spare part codes for each decal are also listed, which are available from your **McHale** dealer. If safety decals are damaged or missing due to wear and tear or component replacement, ensure that they are replaced. As with all machinery, learn all operations and use controls by reading this manual thoroughly. Do not attempt to let anyone operate this machine without being fully instructed.

3.3 Store all items carefully

Store all attachments in a secure and safe manner so as to prevent items from falling. Keep storage areas clear of bystanders and children.

3.4 Personal protective equipment (PPE)

The following PPE should be worn, at all times, when carrying out maintenance work on this machine, to help prevent health and safety hazards:

- Safety glasses
- Ear muffs
- Safety boots
- Gloves
- Tight fitting clothing

Use of mobile phones or radio/music headphones are strictly forbidden while operating machinery and driving, as these impair the operator's attention.

3.5 In case of emergencies

In the event of any accident, emergency equipment should be kept close at hand. A first aid kit and fire extinguisher along with emergency phone numbers should always be available to machine operators.

3.6 Stay clear of rotating elements

Serious injury or death can result from entanglement of clothing or body parts with PTO shafts, drivelines and other rotating and moving components.

Keep all guards in place at all times, only wear close fitting clothing and ensure that the tractor engine has stopped, the key has been removed and that the PTO has stopped turning before carrying out any adjustments, connections or cleaning of PTO driven equipment.

3.7 Trained operator criteria

Age related requirements		General requirements
18 +	The operator needs to be fully trained in the use of this machine and have a valid tractor driver's licence.	■ The operator must be in full control of his/her senses and must not be under the influence of any alcohol or drugs, prescribed or otherwise. ■ The operator must have read and understood all aspects of the operator manual in order to operate, maintain and clean the machine. Ideally, they should also receive training from their **McHale** Dealer. ■ It is only acceptable to have more than one person in the tractor cab, if it has a second seat.
16 - 18	An operator between the age of 16 and 18 years old must have a provisional licence and must be accompanied by an experienced driver/operator, at all times, even during maintenance and cleaning!	
< 16	Persons younger than 16 years of age are not allowed to operate, clean or carry out maintenance on this machine, under any circumstances!	

3.8 Operating the machine

WARNING: Never clear a blockage while the machine is in operation!

Never attempt to clear a blockage while the machine is in operation. You could be severely injured or pulled in by the rotating tines!

In order to avoid serious injury or even death by being pulled into the machine:

- Never attempt to feed net or crop into the baling chamber or attempt to unplug the pick-up area while the baler is running.
- Disengage the PTO, apply the hand brake, shut the tractor engine off and remove the key from the ignition.

WARNING: Stand well clear of the machine while it is in operation!

Stand well clear of the machine and tractor when the machine is operating. Objects such as loose tines, stones and other debris may be discharged from the machine.

3.9 In the event of a fire

In the event of a fire, it is the operator's decision to determine the seriousness and hence the solution to the situation. The following is given only as a guideline procedure:

1. Switch control box to manual mode. *(See 'Electronic control system')*
2. Eject the bale from the baling chamber by opening the chamber door.
3. Move the tractor and machine away from the flammable material. Position the tractor upwind, in an open area to limit the fire spreading.
4. Disengage the PTO, turn off the tractor and remove the key from the ignition.
5. Remove all hosing and electrical looms from the machine, assuming it is safe to do so.
6. With all connections removed, disengage the drawbar from the tractor.
7. Drive the tractor away from the baler and park it upwind of the fire.
8. If safe to do so, use a suitable fire extinguisher to attempt to put out the flames. If unable to do so or if there is a risk of personal injury stand well clear and call the fire brigade.

WARNING: Fire prevention

To reduce risk of fires it is recommended that the machine be kept reasonably clean and free of build-ups of crop, lubricants, etc. Clean the machine regularly ensuring the tractor engine is shut down.

WARNING: Do not risk personal injury

If a fire is too far advanced, do not try to extinguish it. Avoid smoke inhalation and severe burns. Burning tyres or gas struts can explode unexpectedly.

3.10 General safety warnings

It is important to be aware of the potential hazards associated with the operation of farm machinery. Numerous research studies have shown that the majority of machinery-related accidents occur as the result of human negligence, including taking shortcuts to save time, lack of or improper maintenance, ignoring warnings, failing to read the operator's manual, lack of or improper instruction and failure to follow safety rules.

Read and understand this operator manual before using the machine. If any of the instructions appear unclear do not hesitate to contact your **McHale** dealer.

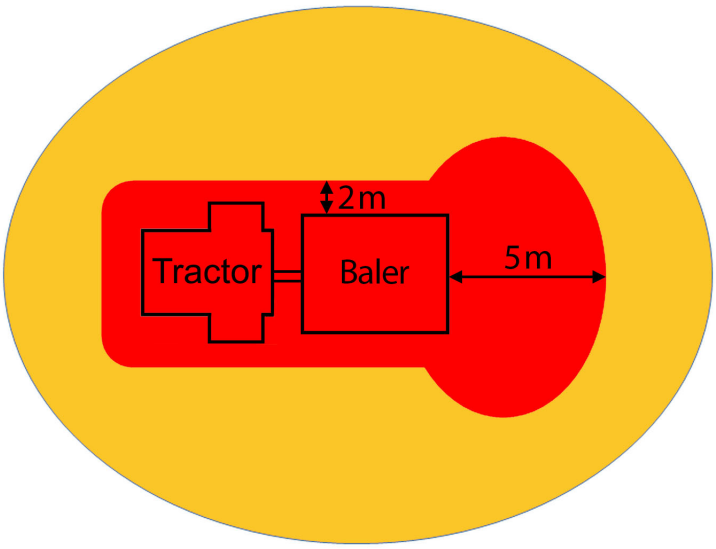
Only competent persons who have read and fully understood this manual are qualified to operate this machine. *(See 'Trained operator criteria')*. The owner of this machine is obliged, by law, to ensure that every operator understands all of the functions, controls, working processes and safety warnings, before operating the machine.

Safety devices

- All safety devices such as guards, protection parts and safety controls must be in place and in fully functioning condition. It is forbidden to operate this machine with defective or incomplete safety devices.

Danger Zone

- The ‘Danger Zone’ is the area around the front of the tractor, between the tractor and baler and a minimum of 5 m at the back of the machine to allow for safe bale discharge.



NOTE: ‘Danger Zone’ can vary in size

The operator must be aware of the ‘Danger Zone’ which can vary in size, depending on operating conditions, i.e. hilly terrain.

- It is the operator’s responsibility to ensure that there is no person in the ‘Danger Zone’ while operating the machine, especially during start up.

Before repair or reassembly

- Safe lifting gear of sufficient capacity must be used for machine assembly. All chains and slings used must be in good condition.

Before operation

- Never operate farm machinery while under the influence of drugs or alcohol. The physiological effects of drugs and alcohol impair performance and can lead to operators taking risks or putting others at risk. This includes over-the-counter cold/flu and allergy medications or prescription drugs that are not recommended to be taken whilst driving a car or operating machinery.
- The operator must ensure that the manufacturer’s instructions for attaching and detaching the machine are followed. This includes the drawbar attachment, the electric and hydraulic lines, in particular the lighting and brake system.
- The operator must ensure that all covers are closed and all safety devices are in operating mode.
- The operator must ensure that there is no person in the ‘Danger Zone’.

- Always be familiar with the health and safety requirements that may be in force in the country of use.

During operation

- While operating this machine on hilly or sloping ground the operator must take extra precautions, in particular as the ‘Danger Zone’ is increased in such conditions.
- Precaution must be taken when travelling over sloping or rough ground due to the risk of overturning. Always travel at a speed suitable for the ground conditions.
- The operator must ensure that there is a minimum of 4 m clearance between the machine and any obstacle above, in particular electrical high voltage lines.
- Never operate the machine with guards or safety devices damaged or missing.
- Avoid contact with the knife.
- Particular care must be taken, if the machine is left idle for any extended period, to ensure that all sensors and safety features are working correctly.
- Never climb onto any part of the machine, while it is in operation.

WARNING: Do not carry people or animals on the machine

The operator must ensure that no persons or animals are carried on the machine at any time or are hidden under the machine (on the tractor persons are only allowed to sit on the relevant seats).

Before travelling on public roads

- The owner of this machine is obliged by law to ensure that every operator has a valid driving licence and is familiar with the road traffic regulations relating to the country of use.
- Always ensure that the electronic control box and oil supply are switched off.
- When parking, both wheels of this machine have to be blocked using the wheel chocks and hand brake (if fitted) should be applied according to the road traffic regulations, relating to the country of use.
- Ensure lights are connected and working correctly.
- The machine is not suitable for towing at speeds above 40 km/h.
- Check that the area around the wheels and especially the brake hubs are clear of build-up of crop material.

Performing maintenance

- Maintenance and repair work on the machine should always be carried out in accordance with this manual.
- Maintenance and repair work exceeding the content of this manual should only be carried out by qualified persons or your **McHale** dealer.

- When conducting maintenance work tie long hair behind your head. Do not wear a necktie, necklace, scarf or loose clothing when you work near the machine or moving parts. Rotating machinery parts can entangle loose clothing, long hair or dangling jewellery faster than a victim can react. If these items were to get caught, severe injury could result.

- Before working on this machine or altering any setting, the operator must ensure the following:
  (a) The tractor has definitely stopped moving
  (b) The hand brake (parking brake) is applied
  (c) The engine is shut down
  (d) The ignition key is removed
  (e) PTO shaft is removed from PTO stub
  (f) Electronic power supply and control box is disconnected
  (g) Hydraulic oil supply is switched off
  (h) Chamber door lock is applied

  ***** *It is forbidden to open any safety guards or to carry out any work on the machine, unless the above specified precautions have been carried out.*

- When conducting maintenance work always support the machine properly. Where possible, lower the attachment or implement to the ground before you work on the machine. If it is not possible to lower the machine or attachment to the ground, always securely support the machine or attachment. Do not work under a machine that is solely supported by a jack. Never support the machine with props that may break or crumble under continuous load.

- Tyres should be inspected for wear on a regular basis. Tyres should be replaced before wear becomes excessive or after 10 years from the date of manufacture, as indicated on the tyre. Care must be taken when handling tyres. Tyres shall be inflated to the pressures indicated in this manual and on the machine and never over inflated. Tyres shall only be inflated while on the machine or in an appropriate safety cage.

- Never disable any electrical safety circuits, tamper with safety devices or carry out any unauthorised modification to the machine.

- Replace any electrical or hydraulic devices immediately, at the first sign of malfunction or failure, as these components affect the functionality, sequencing and thus safety of operation. Never use a machine where a malfunction exists! Contact your **McHale** dealer to achieve a solution. Always think ‘Safety First’!

- Avoid heating near pressurised fluid lines, as pressurised lines can be accidentally damaged when heat goes beyond the immediate flame area.

- Regular clean down is recommended in order to maintain the machine in a safe and reliable working condition. **McHale** recommend that the machine be blown down with an air line, as opposed to a pressure washer, due to the dangers involved with pressure washing and to protect the overall paint work on the machine. If, despite our advice, a pressure washer is used then take extreme caution and operate from ground level only. Never climb onto any part of the machine, while pressure washing, due to the fact that all metal surfaces become extremely wet and slippery and always ensure that the tractor has been shut down, with the ignition key removed.

- Check bearings for early warning signs of wear or damage and replace if necessary. Always be on alert for bearings that are squeaky or noisy despite being well lubricated and bearing housings that are running very hot especially with a burning smell or paint discolouration. Carry out these checks daily, immediately after using the machine, with the tractor shut down and the handbrake applied.

During inspection

- If on the rare occasion that it is necessary for an inspection to be carried out within the 'Danger Zone' while the machine is running **(extremely dangerous and not recommended!)**, there shall be a fully trained and competent second person operating both the tractor and machine controls. The tractor hand brake shall be applied and the electronic control box shall be in manual mode. The machine shall be on level ground with all guards closed. Communication is key. The operator shall inform the inspector before any machine function is activated. The inspector shall remain in the field of vision of the operator at all times and inform the operator of their intended actions. If communication is lost with the operator, or they move within 1.1 m of moving parts or parts that have the potential to move, all tractor power shall be turned off immediately.

Guidance for safety of children on farms

- All adults working or present on farms are required, by law, to do everything reasonably practical to ensure the safety and health of children and young people on the farm.
- Children must be supervised at all times! Remember, farms are not playgrounds!
- Store farm machinery with safety and stability in mind. Lower any implements or loaders to the ground and apply the hand brake.
- Always exclude children from potentially dangerous areas (they will often get into apparently inaccessible places). Do not allow them in farm yards on busy days. Contractors should always be made aware of the presence of children.
- Never leave children alone in a tractor cab as they can interfere with controls and many children have been killed falling from the door or rear window of a tractor.
- Children under 16 years of age should never operate power-driven machinery. Keys should be removed from vehicles and controls left in neutral.
- Do not allow children to use bales of any description for playing. It is very easy to fall from stacked bales resulting in serious injury, or fall between them leading to suffocation. Make sure there is no evidence of children burrowing under stacked bales.
- Children under 16 should never handle chemicals. Always keep them in their correct containers and securely stored out of sight under lock and key.
- Keep matches in a safe place.

Danger of lightning strike

- If there is a risk of lightning in the area, stop all work.
- If there is a risk of lightning when travelling, find a safe place to pull over and stop the tractor.
- Do not leave the tractor cab or start work until the risk of lightning has passed.

4

Specific safety warnings

4.1 Electronic safety warnings

- This machine is equipped with electronic parts and components which comply to the EMC directive 2014/30/EU but still may be influenced by electromagnetic transmissions of other apparatus, such as welding machines, etc.
- Check electric cables regularly for signs of breakage or wear. If in doubt always replace.
- Do not modify any safety circuits (faulty safety circuits will cause risks).

4.2 Hydraulic safety warnings

- The maximum pressure in the hydraulic system of this machine should not exceed 210 bar.
- Always ensure the system is not under pressure before working on the machine. Oil under pressure can penetrate the skin and cause injury. Beware of pipes under accumulator pressure, depressurise lines by unthreading connections extremely slowly.
- Hydraulically actuated devices must be blocked mechanically against movement, before working on the machine.
- If any hoses are removed or replaced ensure they are marked and re-installed to the correct position during re-assembly.
- Check hoses monthly for signs of leakage or wear. Use a piece of card when checking for leaks. Fine jets of hydraulic fluid can penetrate the skin. Never use your fingers or face to check for leaks. If in doubt always replace. The recommended maximum working time of hoses should not exceed 5 years. Only use exact specification **McHale** genuine replacement parts.
- Do not work on hydraulic systems unless you are qualified to do so. This work should only be carried out by qualified persons or your **McHale** dealer.

4.3 Noise level

- The European directive 2003/10/EC directs employers and employees to control the noise level at work. The noise level at field work may differ according to the tractor, ground, crops and other environmental conditions.
- In normal conditions, whilst driving the machine, the noise level to the driver's ear does not exceed 70 dB (A) with the rear screen of the tractor cabin open. The common noise level of the machine and the tractor is primarily influenced by the tractor noise (radio is an additional noise source). It is recommended to operate this machine with closed cabin windows.

4.4 Fire precautions

- Be aware that crops are easily inflammable.
- Do not smoke or make use of any open fire next to the machine.
- A functioning fire extinguisher should always be available on the tractor.
- The machine is to be kept clear of oil, grease, crops, string, plastic or any other flammable material at all times.
- Do not continue to work with overheated parts, cables or pipes, unless you have identified and eliminated the reason for overheating.
- Check bearings for early warning signs of wear or damage and replace if necessary. Always be on alert for bearings that are squeaky or noisy despite being well lubricated and bearing housings that are running very hot especially with a burning smell or paint discolouration.
- Clear away any crop or debris built up around brake-hubs several times per day.
- Ensure that the bale chamber is emptied of any partially or fully formed bales before the machine is left idle.

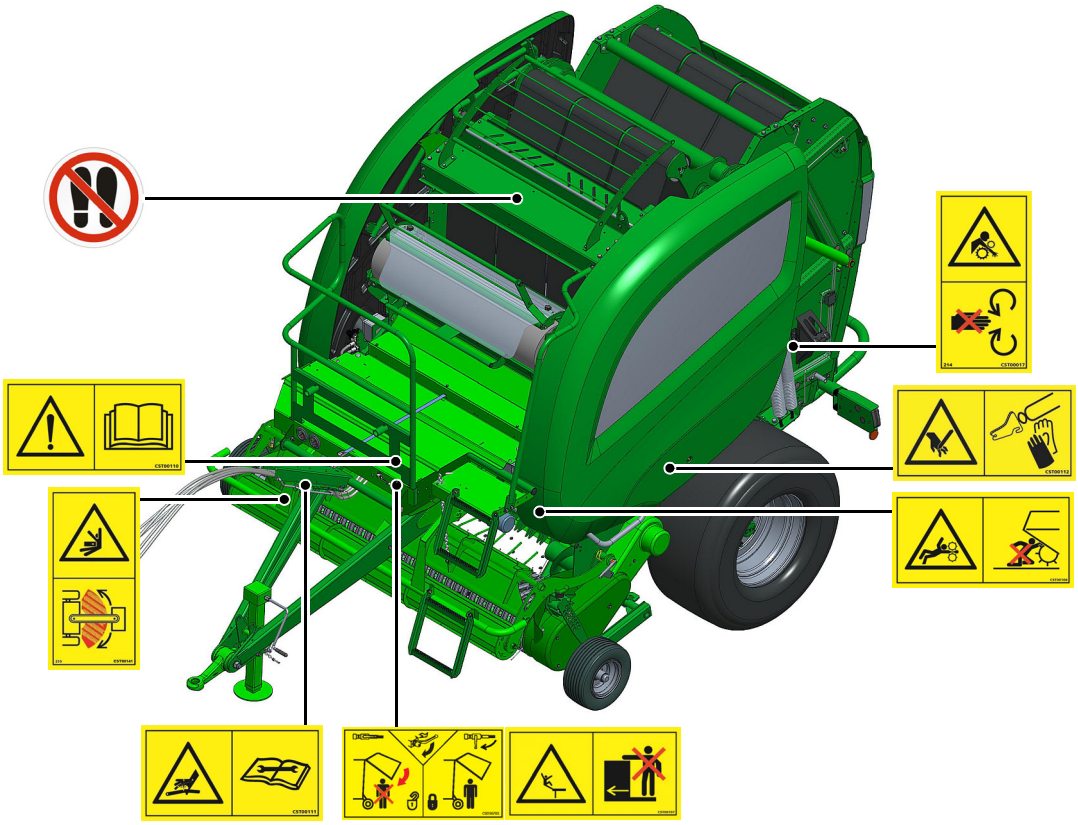
4.5 Special safety devices/instructions

- When maintenance or repair work has to be carried out on the machine, the hand brake (parking brake) must be applied, engine shut down with ignition key removed. The PTO shaft must be removed from the PTO stub, with the hydraulic and electric power supply disconnected. It is forbidden to open any safety guards or carry out any work on the machine unless the specified precautions have been carried out.
- According to safety regulations, the covers of this machine are designed to be opened only by the aid of a special tool and to be closed without a tool. To unlock the covers, the locks should be turned slightly anti-clockwise with a 13 mm spanner or flat blade screwdriver. To lock the covers push the cover towards the chassis until the fasteners lock into place. It is forbidden to operate the machine without the covers or with them open. The owner of the

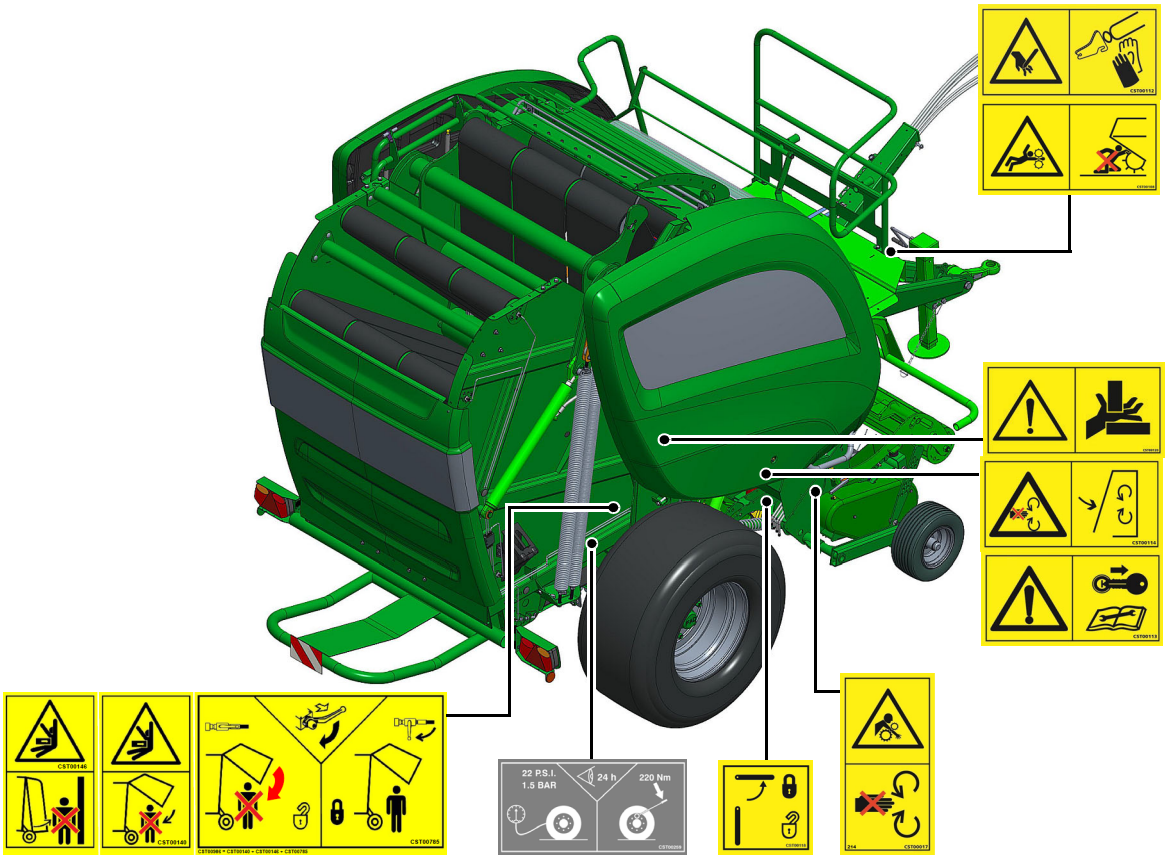
machine is obliged, by law, to ensure that all covers are installed on the machine and are in good functioning condition.

- When maintenance or repair work has to be carried out at the open bale chamber, the chamber door lever valve must be in the locked position. Before the chamber door can be closed it has to be unlocked again. *(See 'Chamber door lock')*
- Caution should always be taken when feeding in the net roll or making any adjustments to the netter configuration as the netter knife is extremely sharp!
- Always use protective gloves when working near sharp knives or edges.

4.6 Safety instruction decal locations



Decals on the front of the machine

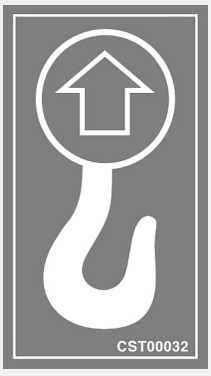


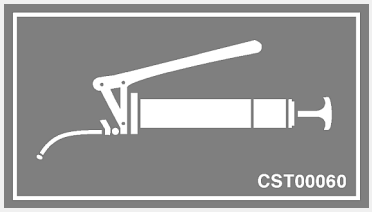
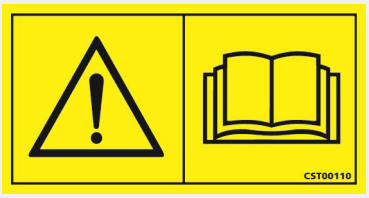
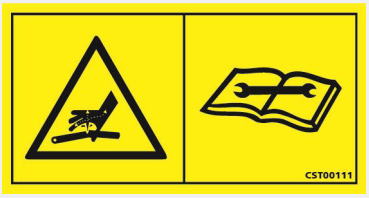
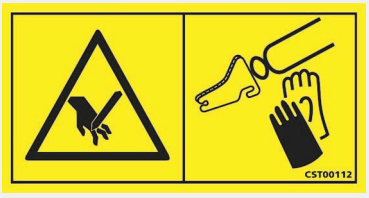
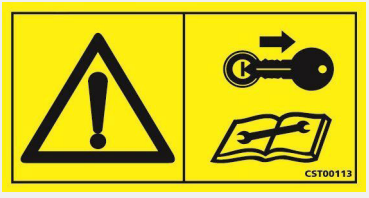
Decals on the side of the machine

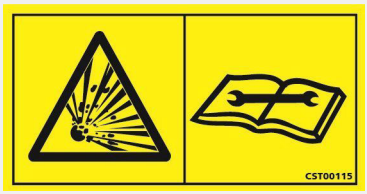
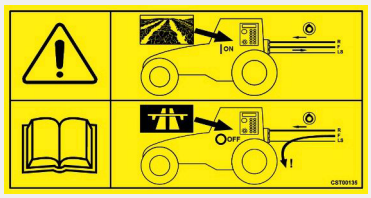
4.7 Safety warnings & instructions explained

Danger areas which cannot be protected by any devices are marked by yellow safety decals. Therefore it has to be ensured that all safety warnings and instructions are understood and followed. If any of the decals are damaged or missing, they are available from your **McHale** dealer. The relevant part numbers are shown in brackets.

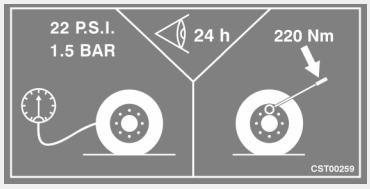
The decals featured on the machine are displayed with their meanings below:

	Free flow return to tank **(CST00006)**
	Keep hands clear of rotating rollers **(CST00017)**
	Keep hands out of crush area **(CST00019)**
	Lifting hook location **(CST00032)**

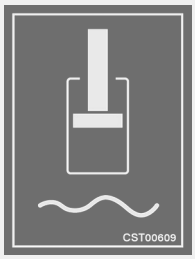
	Grease daily **(CST00060)**
	Do not stand on the platform or elsewhere on the machine when the machine is moving or working **(CST00107)**
	Keep clear of pick-up area as long as the engine is running and the PTO shaft is connected to the tractor **(CST00108)**
	Read instruction manual before use **(CST00110)**
	Beware of high-pressure hoses, even when the machine is switched off. Also, read and understand the manual before working on any part of the hydraulic system. **(CST00111)**
	Knives of the cutting device should only be removed with an appropriate tool and protective gloves **(CST00112)**
	Turn off and remove key from tractor. Read and understand the manual before working on or performing maintenance on the machine. **(CST00113)**
	Close protective covers before operating the machine **(CST00114)**

	Hydraulic accumulator is under high pressure. Slowly release hydraulic pressure before carrying out any maintenance. **(CST00115)**
	Knife release lever: horizontal position-locked vertical position-unlocked **(CST00118)**
	Keep hands out of the crush area between the roller and chassis rail **(CST00120)**
	Disconnect machine feed line and turn off the control box during road use. Read the operation instruction manual before proceeding. **(CST00135)**
	Do not step under the raised tailgate or attempt to do any adjustments on the machine while the tailgate is raised before the safety lock is applied. To avoid injury stay clear of the tailgate while it is being raised and lowered. Also ensure that bystanders are outside the 'Danger Zone' before operating the tailgate. **(CST00140)**
	Do not stand in the articulation area while the tractor engine is running **(CST00141)**

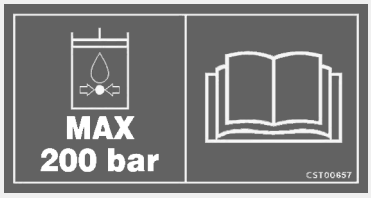
Never perform any adjustments or reach into the netter unless the PTO has been disengaged and the tractor has been shut down and the key has been removed. It is also recommended that the tension be released from the netter knife to avoid it being tripped accidentally.
(CST00142)



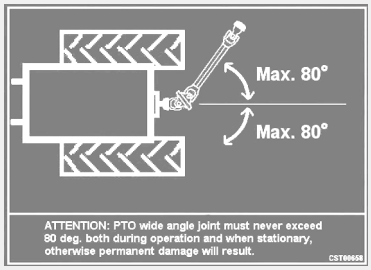
Check tyre pressure and wheel nuts daily
(CST00259)



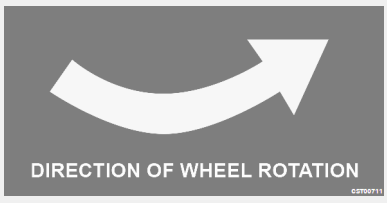
Float decal. Indicating that during operation of the baler, the control lever of the spool operating the pick-up reel should be in the float position.
(CST00609)



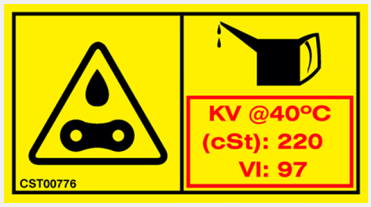
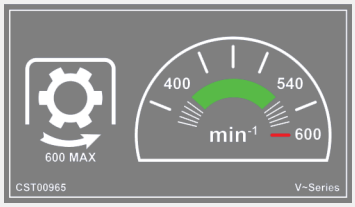
Maximum oil pressure.
This machine must not be connected to hydraulic systems with pressure higher than 210 bar
(CST00657)



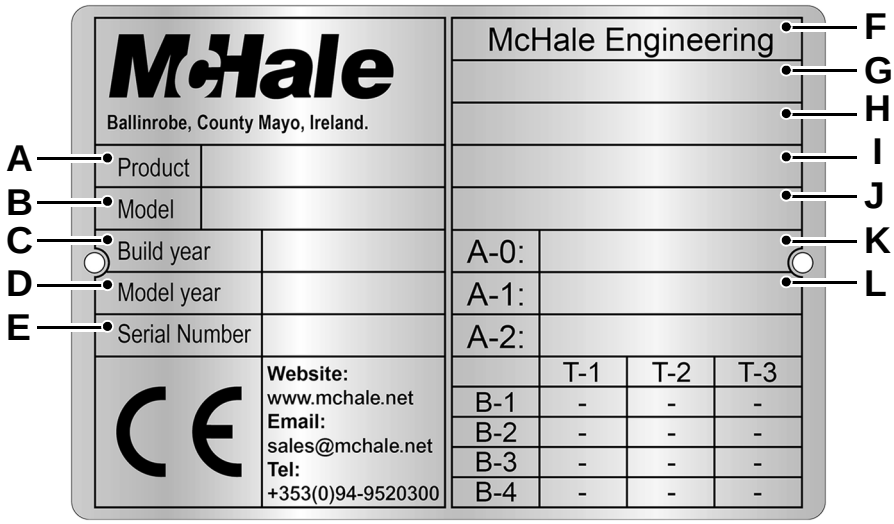
The PTO wide angle joint must never exceed 80 degrees, both when stationary or during operation. Permanent damage may result otherwise.
(CST00658)



Wheel direction
(CST00711)

	Always use correct specification chain oil for automatic chain lubrication **(CST00776)**
	Lock the chamber door before working on the open bale-forming chamber **(CST00785)**
	Do not stand **(CST00803)**
	Tie down points **(CST00901)**
	Jacking points **(CST00923)**
	Maximum PTO speed **(CST00965) - 540 rpm PTO/gearbox speed** **(CST00964) - 1,000 rpm PTO/gearbox speed**

4.8 Description of the serial number plate



The following is a description of the serial plate content:

- **A.** Product description
- **B.** Model name/number of the machine
- **C.** Year of manufacture of the machine
- **D.** Model year of the machine
- **E.** Serial number of the machine
- **F.** Name of the manufacturer
- **G.** Vehicle category
- **H.** Machine type approval number
- **I.** Vehicle identification number (VIN)
- **J.** Technically permissible maximum laden mass
- **K.** Vertical load on the coupling point
- **L.** Technically permissible maximum mass per axle

4.9 Machine lifting guidelines

WARNING: Machine lifting

- Only use chains or strapping that are rated for a minimum load of three tonnes (3,000 kg) per chain or strap when using the two lift eye locations on the chassis, shown below.
- The crane or lifting device must be capable of lifting a minimum load of six tonnes (6,000 kg).
- Never go under a suspended machine or attempt to try and stop it if moving erratically, death or serious injury may result.
- Always be observant of people and objects around the suspended machine and do not allow the machine to impact heavily on the ground after suspension or movement.

RHS lift hook

LHS lift hook

4.10 Jacking guidelines

Ensure the machine is on flat solid ground and attached to a tractor. Apply the tractor hand brake, switch off the tractor and remove the key, disconnect the hydraulics and PTO. Use wheel chocks on the opposite wheel to secure against unexpected movement. Suitable, well maintained equipment shall be used to raise the machine. Never go under the machine while it is raised off the ground. The jacking points are at the rear of the machine. Only approach the machine with the jack from the rear, to ensure that there is adequate working room. Ensure the jack makes solid contact with the axle below the jacking point decal, before raising the machine off the ground.

WARNING: Do not rely solely on a hydraulic jack!

Ensure the machine is additionally supported with axle stands or equivalent of suitable capacity. Never support the machine with props that may break or crumble under continuous load.

5

Tractor requirements & preparation

5.1 Tractor requirements

The minimum recommended size of tractor for operating the machine comfortably depends mainly on the crop condition and the required cut length of the forage. On flat ground **McHale** recommends a tractor size of approximately 60 kW. On hilly ground or difficult conditions, an additional 10 to 15 kW is advisable.

NOTE: Use good quality oil

Ensure that the tractor has clean, good quality, hydraulic/universal oil to avoid problems later on. Also, the hydraulic filters on the tractor should be changed regularly, according to the manufacturer's service instructions. Avoid dirt getting into the hydraulic couplings.

The following items on the tractor are required for attaching to the machine:

1. Low/high drawbar hitch* that is suitable for a vertical load of at least 1,470 kg and a D value of at least 46 kN
2. Two double-acting spools (½" female quick-release) one with float position for the pick-up reel
3. ½" male quick-release for the tank return (Must be free flow to tank)
4. Hydraulic-brake coupling (or two air-brake couplings), if brakes are fitted
5. 12 V / 7-pin socket for lighting
6. 12 V, 20 A socket or battery power cable
7. 1 ⅜", 6-spline PTO shaft set to 540 rpm (1,000 rpm optional). For North American markets, a 1 ⅜", 21-spline 1,000 rpm PTO shaft is optional.
8. Suitable location to attach safety chain. The safety chain must be attached in such as way that if the coupling breaks, the hitch or drawbar cannot make contact with the ground.

***** *Depending on country of use*

5.2 Control box installation

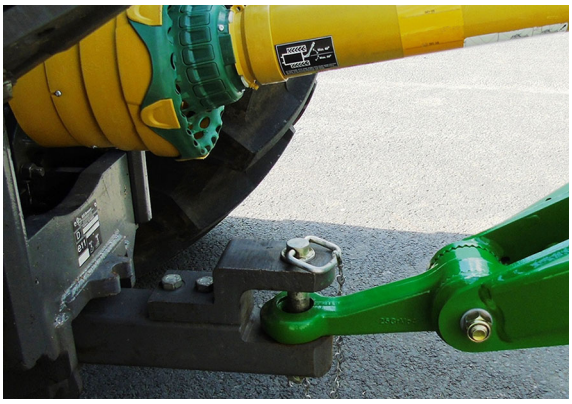
A good power supply is critical for proper machine operation as the electronic control box is the main interface between the operator and the machine. The electric power supply is obtained from the 12 V socket of the tractor. Alternately connect the supplied fused electric power lead to the tractor battery ensuring to route away from sharp edges and hot surfaces.

CAUTION: Electrical power supply

Do not use any other electric power supply for the electronic control system, otherwise damage may occur.

5.3 Attaching to drawbar

The drawbar is to be attached so that the machine is horizontal to the ground. *(See 'Drawbar adjustment')*.



Machines are set up for hitching to the tractor drawbar. Once the tractor is attached to the drawbar, attach the PTO shaft. Depending on the country of use a safety chain may also be required. Detach in reverse order of attachment.

CAUTION: Tractor drawbar and coupling device must be compatible

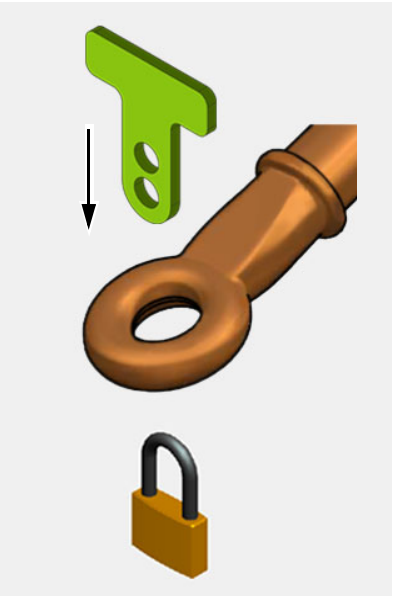
Check that the tractor drawbar is compatible with the coupling device on the machine. If in doubt, consult your **McHale** dealer.

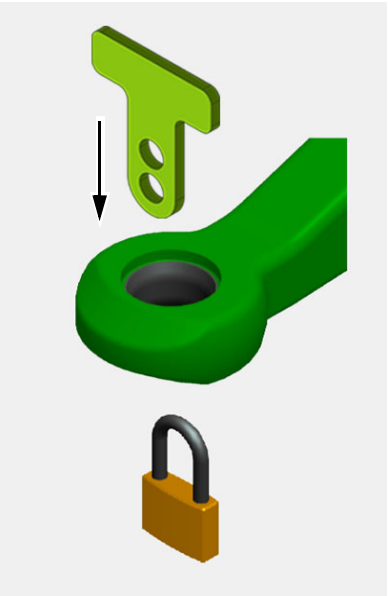
5.4 Preventing unauthorised use

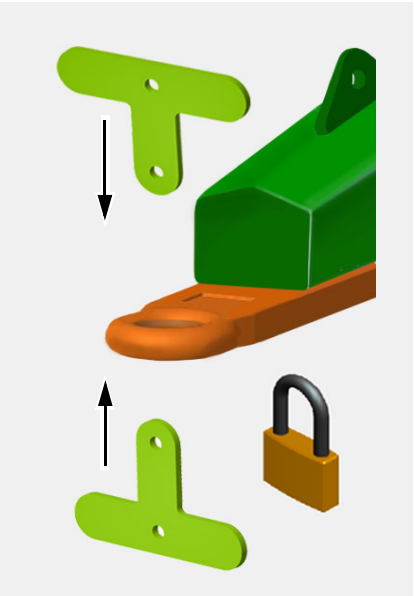
To prevent unauthorised use, **McHale** recommend using the padlock and the locking device provided. Both items are stored in the tool box on the machine and should be fitted to the drawbar coupling when the machine is not in use.

Couplings with holes (Swivel hitch, drawbar eyes or coupling rings)

- Place the steel plate/s through the hitch eye from the top, and bottom where provided
- Attach the padlock underneath, through either hole in the device
- Once the padlock is locked, the machine should be secure

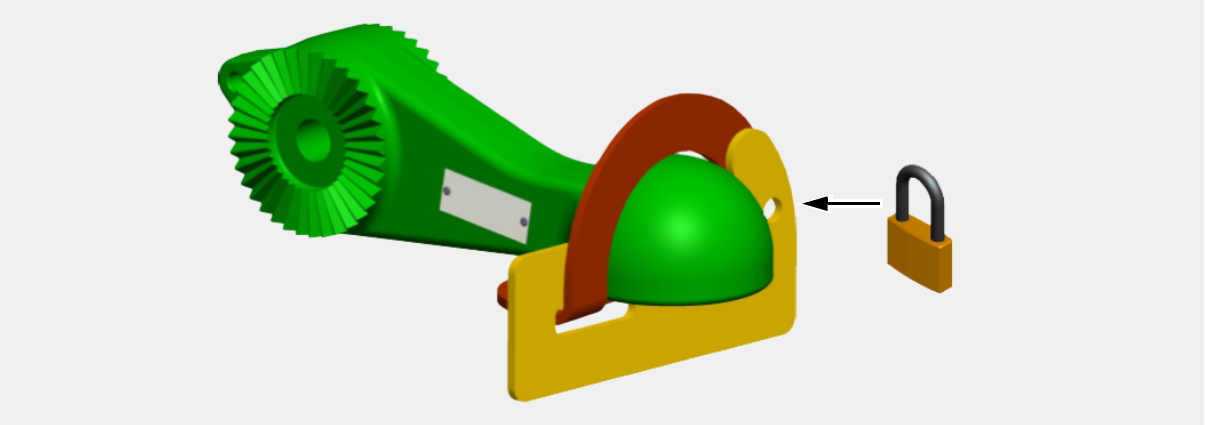






Other couplings

- Slide the keeper plate to the mid-point of the top of the coupling
- Hinge the second plate and rotate upwards until the holes align
- Attach the padlock through the hole in the device, as indicated
- Once the padlock is locked, the machine should be secure

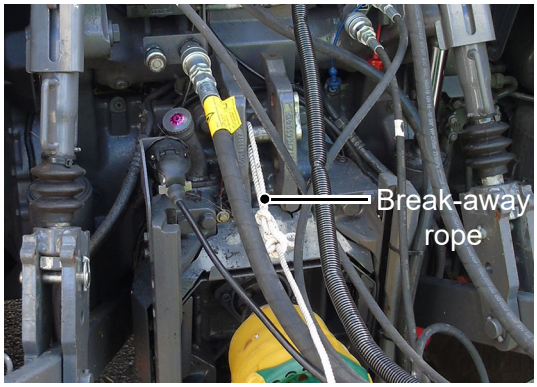


5.5 Attaching ‘break-away’ brake (if fitted)

The machine hand brake (if fitted) must be applied when the machine is detached from the tractor. The hand brake handle has a rope fitted to a calibrated ring which must have the other end securely fixed to the tractor, each time the machine is attached to the tractor. If the machine hitch ever becomes detached from the tractor this rope will apply the brakes on the machine.

CAUTION: Ensure the hand brake is released when moving

Always ensure that the hand brake has been released before moving the machine on the road or operating in a field.



Break-away rope fixed to tractor

Hand brake handle

5.6 Attaching the PTO shaft

All mechanical functions are related to the correct PTO speed.

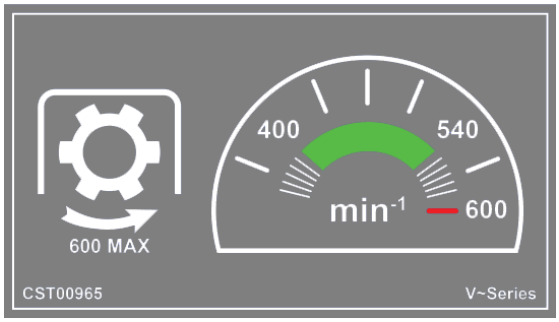
WARNING: Ensure PTO guarding is in good condition

Never use the machine if the PTO guarding is missing or damaged. Entanglement in rotating drive lines can cause serious injury or death. Always stop the engine and ensure that the driveline has stopped before making connections, adjustments or cleaning out PTO driven equipment.

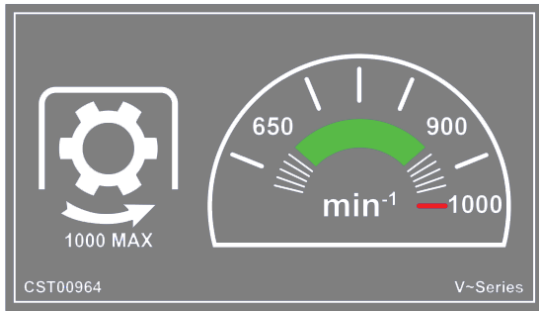
Follow the instructions as supplied with the PTO unit for correct assembling of the PTO shaft to the tractor. *(See ‘PTO shaft adjustment & maintenance’)*. Ensure PTO cover guards are prevented from rotating, by securing the chain to the tractor. (if fitted)

CAUTION: Use correct PTO speed to suit gearbox rating

Check the gearbox rating on the machine! The machine gearbox will be rated either for a PTO speed of 540 rpm (standard) or PTO speed of 1,000 rpm (optional). The 540 rpm gearbox should be driven at a PTO speed of 400 - 540 rpm, with a maximum of 610 rpm allowed. The 1,000 rpm gearbox should be driven at a PTO speed of 650 - 900 rpm, with a maximum of 1,000 rpm allowed. Exceeding specified PTO/gearbox speeds is likely to cause damage to machine components.



540pm gearbox setting



1,000 rpm gearbox setting

5.7 Making connections to the tractor

WARNING: Turn off tractor before connecting hydraulic hosing

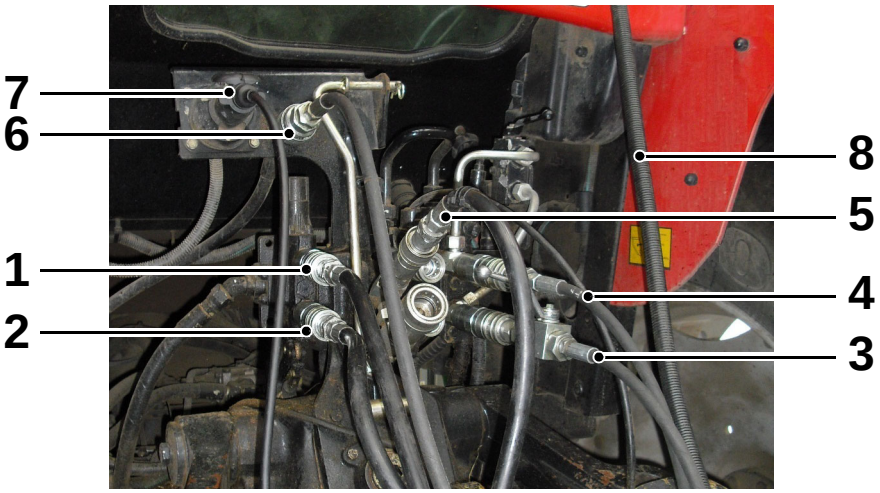
When connecting hydraulic hosing to the tractor, ensure that the tractor engine is turned off and that the ignition key is removed. Ensure that all hydraulic connections are correctly tightened.

The following connections to the machine are required for attachment behind the tractor:

1. ½" male quick-release for door open (max. flow 70 l/min)
2. ½" male quick-release for door close (max. flow 70 l/min)
3. ½" male quick-release for pick-up reel up (drop floor / knives up) *
4. ½" male quick-release for pick-up reel down (drop floor / knives down) *
5. ½" female quick-release for return line (must be free flow to tank)
6. Hydraulic-brake coupling (or two air-brake couplings), if brakes are fitted
7. 12 V / 7-pin lighting socket
8. Machine loom to control box
9. 1 ⅜", 6-spline PTO shaft set to 540 rpm (1,000 rpm optional). For North American markets, a 1 ⅜", 21-spline 1,000 rpm PTO shaft is optional.

***** *With either the drop floor or the knife diverter valve activated*

See the following image for possible hosing layout. Ensure that the machine operator is familiar with all tractor connections and fittings.



Possible layout of hydraulic hosing and electric looms

WARNING: Machine must be connected to free flow tank return

The machine must be connected to a free flow tank return at all times during its operation, otherwise damage to the machine components may occur.

5.8 Connecting the control box

The electronic control box must be located inside the tractor cab in the operator's field of vision and within easy reach of the red emergency stop button. *(See 'Electronic control system')*. Secure the control unit in the tractor cab, using the V-brackets and fasteners provided. The male half attaches to the control box and the female half attaches to the tractor cab allowing for quick placement/removal, every time it is used. Ensure that the cable to the machine is not under tension and not near sharp edges, etc. The control box is to be connected to a 12 V, 20 A power supply, using the supplied power lead or the battery power cable. The control box is not waterproof, it must be protected from rain.

CAUTION: Do not connect the control box to a 24 V power supply

Do not attempt to connect the control box to a power supply greater than 12 V, as machine component damage will result.

5.9 Lighting system

The 7-pin plug of the lighting system on the machine must be connected to the 7-pin socket on the tractor.

NOTE: Check lighting system before travelling on the road

Before travelling on a public road, the operator must ensure that the complete (tractor and machine) lighting system is in a fully functioning condition.

6

Machine requirements & preparation

6.1 Net requirements

In order for the machine to produce well-shaped bales of excellent density, a top quality net, that is as similar as possible to the specification recommended below, should be used. It is of the utmost importance that the net is used and stored according to the instructions of the net manufacturer.

NOTE: Minimum turns of net recommended

For netting silage, a minimum of two layers of net is recommended. When the material is drier, the netting amount should be increased to four or more turns. A general rule to follow is to apply the amount of net that will maintain the bale size. The maximum bale size recommended is 1.68 m diameter for the V6 and 1.90 m diameter for the V8.

McHale recommend the use of a net roll which meets the following specifications:

- Material: High quality, high density polyethylene
- Density: Minimum of 10 g/m ± 10%
- Elongation: 15% ± 3%
- Strength (in direction of wrap): 900 N / 500 mm
- Material width (ideal): 1,230 mm (Max. 1,300 mm)
- Max. roll weight: 40 kg

ENVIRONMENT: Dangerous health effects of burning plastics

It is vitally important to observe health and safety rules in order to avoid unnecessary environmental damage or danger to anybody near the machine. This especially applies to the responsible disposal of plastics. Never throw away or burn waste net or plastic. Burning plastics is toxic as they release dioxins and furans. To inhale dioxins or to be exposed to its fumes can cause deadly results. Respect the environment! Always take waste materials to a recycling centre.

6.1.1 Care of the net roll

The net roll should be protected from damage and moisture. Do not remove the protective cover until it is ready for use. Net damage can cause undesired netter performance and affect bale weatherability.

6.1.2 Care of the netting system

Before operating the machine, ensure that the following procedure is followed to ensure improved netter operation:

- Clean off rubber and metal feed rollers and check for any tacky material
- Once roller cleaning is carried out, ensure to apply talcum powder to the rubber feed roll

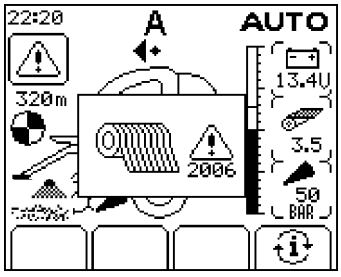
NOTE: Cleaning solvents

Never use cleaning agents such as benzene, petrol, turpentine oil or similar cleaning solvents to clean rubber feed roll, otherwise damage may occur!

McHale recommend using either of the following:

- A cloth soaked in dish washing liquid
- Soapy water

6.1.3 Loading & operating the netter system



This warning is displayed when the roll of net runs out or if the net fails to feed into the chamber. The red light beside button 5 will also flash. Press button 5 to restart netting and the warning will disappear once net starts feeding again.

CAUTION: Heavy net rolls should be handled by two people

Pay attention to the heavy weight of the net roll. It is recommended that full net rolls should be handled by two people.

NOTE: Net cannot be fed if the knife is already tripped

Net cannot be fed if the knife is already tripped. (Activating the spool valve in the door close direction automatically resets the net knife.)

CAUTION: Use protective gloves

Use protective gloves for any manual work in this area! Beware of sharp knife edges.

WARNING: Always think 'Safety First'!

Ensure the PTO is disengaged, the tractor is shut down and ignition key has been removed.

The following is the procedure for changing a roll or fitting the first roll:

1. Ensure the PTO is disengaged, the tractor is shut down and ignition key has been removed.

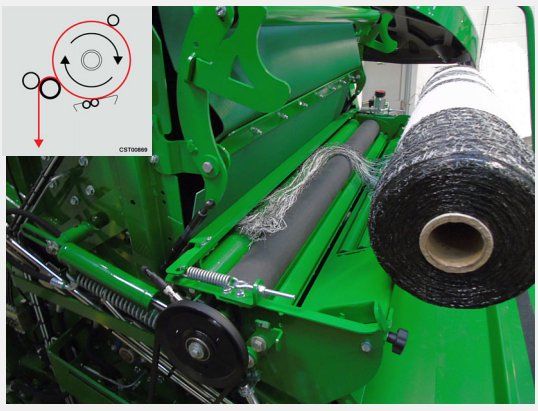
Slide the new roll of net onto the net storage space on the platform.

NOTE: Ensure that the roll is orientated in the correct direction.

2. Lift the net roll bar upwards until it locks in the raised position.

3. Remove any packaging material and the empty cardboard core of the finished net roll and dispose of responsibly.

Move the new net roll from the storage position onto the netter cradle

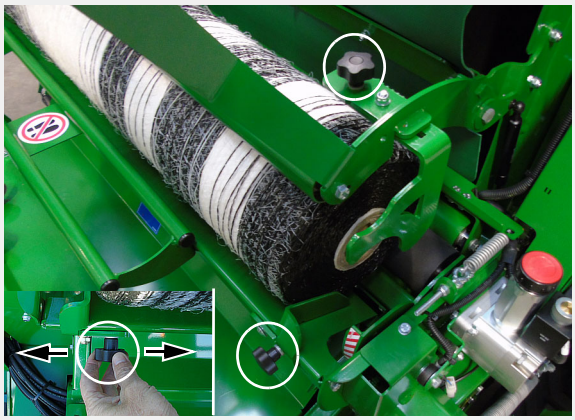


4. Pull approximately 80 cm of net off the roll. (See CST00869)

Spread the net across the rubber feed roller.

5. Roll the feed roller forward to feed the net into the netter, taking up any slack under the roll. Take care not to trap fingers in between rollers.

NOTE: The net should only be fed in to a maximum of 70 cm past the rubber feed roller.



6. Roll the net roll forward from the cradle onto the rollers.

Adjust the roll guides equally, allowing 2 to 4 mm clearance each end, so the roll is centred and tightened securely.

7. Pull the net roll bar down onto the roll.

The roll of net is now threaded and ready for baling.

After the roll is replaced, the tractor and electronic control box is powered back up and the PTO is engaged. Once the net button is pushed, the net feeds into the chamber, netting the bale and the knife trips. The operator then checks that netting is complete and work can continue as normal.

6.1.4 Net layer adjustment setting

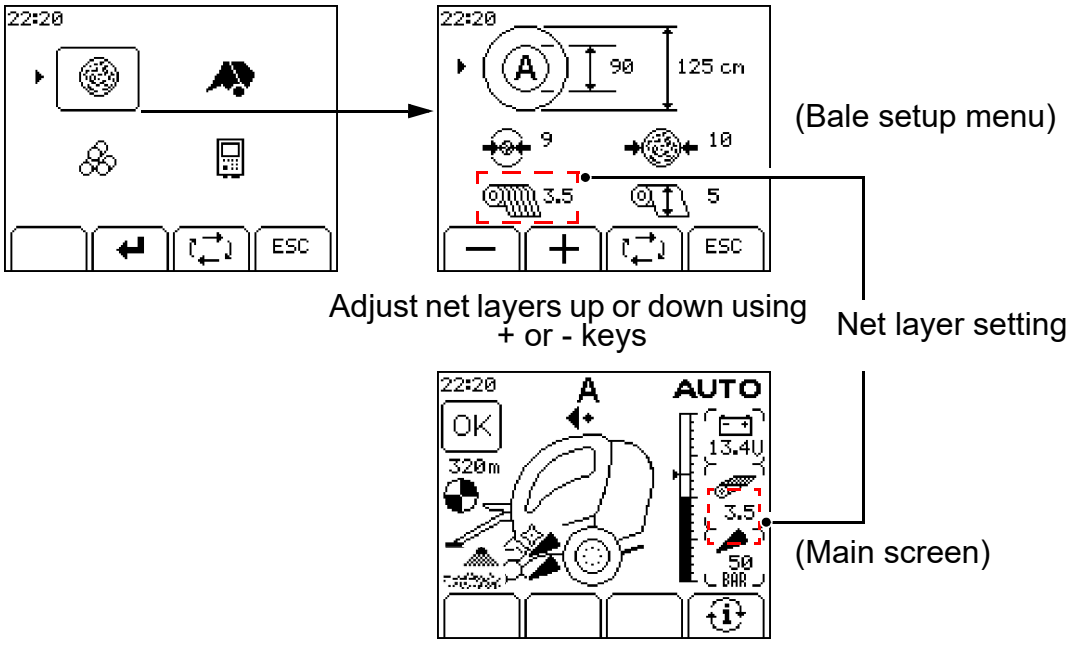
In an automatic cycle, the netter starts feeding net once the set bale diameter has been reached. The bale is then wrapped with the predetermined net length and the net knife is tripped. It is recommended that a minimum of two (2) layers of net are applied to the bale.

Dry conditions and very high densities require up to twice as many layers to ensure a good bale shape. The amount of net applied can be adjusted between 1.1 and 20 layers per bale.

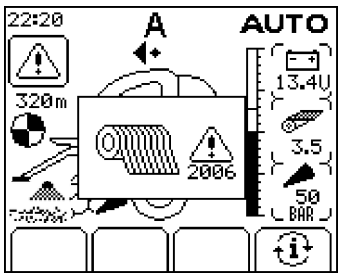
NOTE: Hay or straw with a high % dry matter needs more net

When hay or straw is being baled with high dry matter, more net must be applied. Dry conditions and very high densities require up to twice as many layers to ensure a good bale shape.

The net setting can be changed by accessing the machine menu and going into the bale setup. Once the net layers are selected, the setting can be changed using the + or - buttons.



The passage of net through the netting unit is monitored. If the net breaks or does not feed, or if the roll of net runs out, then the alarm sounds, the net error symbol is displayed on the control box display and the cycle is halted.



Once set, the number of net layers is automatically calculated, regardless of bale diameter or size.

In general, automatic mode is used. Manual mode is not normally selected unless there is a machine fault preventing automatic mode from working.

In MAN mode, the operator must complete the net feeding and net cutting functions manually. The net is fed in by pushing and holding button 5 until the bale catches the net. When the preset amount of net has been applied, the red light beside button 6 will

flash. The operator then cuts the net by pushing and holding button 6 until the netter knife trips, otherwise net will continuously be applied to the bale.

NOTE: Net cannot be fed if the knife is already tripped.

Net cannot be fed if the knife is already tripped. (Activating the spool valve in the door close direction automatically resets the net knife.)

6.2 Chopper unit knives (V6750/ V8950 only)

CAUTION: Ensure knives are installed correctly

Incorrectly installed knives can cause irreparable damage to both the knives and the rotor, leading to serious destruction within the machine!

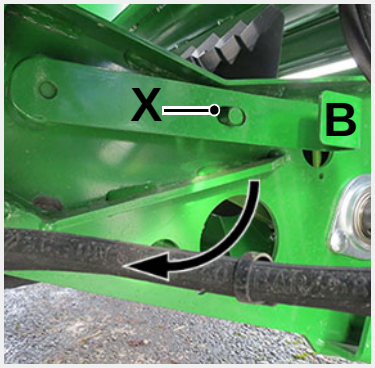
CAUTION: Use protective gloves

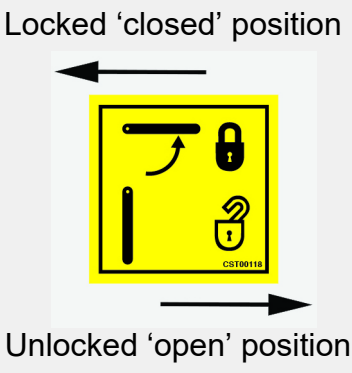
Use protective gloves for any manual work in this area! The number of knives installed determines the cut length of the material.

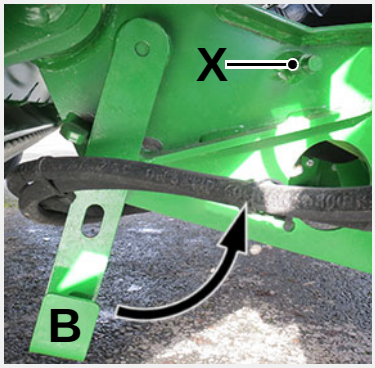
Knife installation/removal should be carried out in the following way:

1. Ensure the knives are in the up/on position, before beginning.
2. Lower the chopper-unit floor half way. Open the chamber door to the fully-up position.
3. Using the lever valve (**A**), lock the chamber door in position, by pulling it towards you and then rotating it 90° to the left vertical position, as shown.

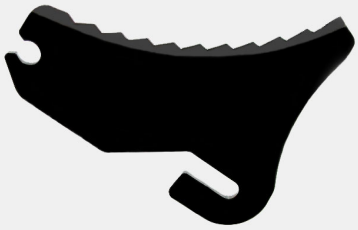
4. Shut down the tractor, remove the ignition key, apply the parking brake and prevent any machine movement with wheel chocks.
5. The knife lock/unlock lever (**B**) is located on the left-hand side of the chopper unit, just behind the pick-up reel. It must be pulled outwards at first, to disengage it from the lock pin (**X**), then turned 90° downwards, to the unlock position, as shown below. Reverse this procedure to return to the locked position.







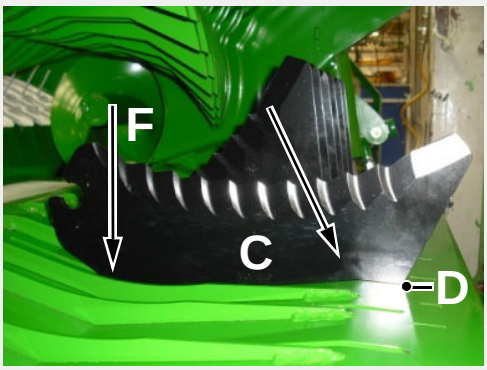
6. Removal of knives/blanks is the reverse of the following installation procedure. Pay particular attention to all decal warnings and safety advice.



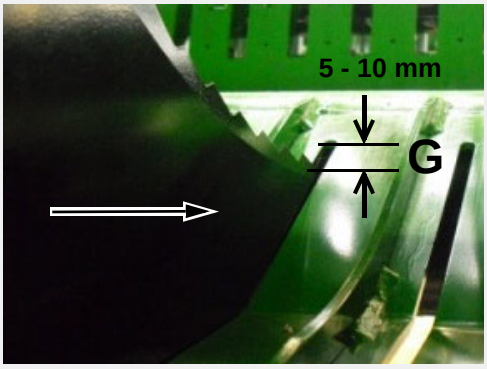
Knife

Knife blank

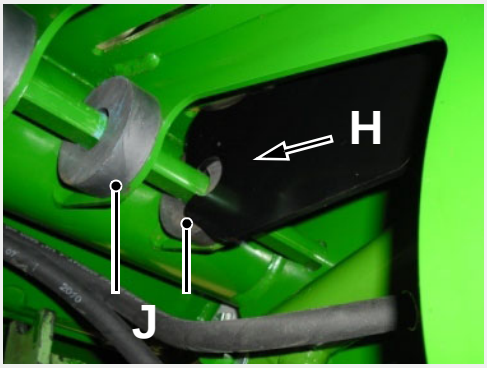
7. Rotating the knife lock/unlock lever (**B**) exposes ‘flats’ on the lock shaft, which allows either knives or knife blanks to be added or removed. Remove old knives with a pair of pliers.

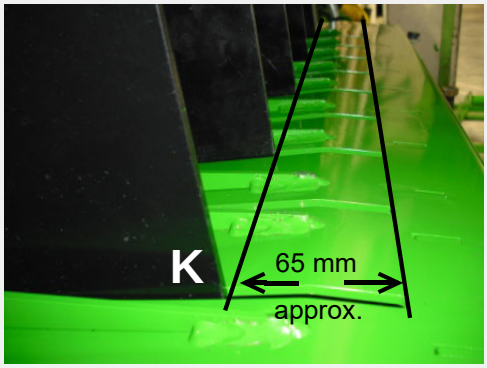


8. A new knife (**C**) can be installed by inserting it into the back of the slot in the drop floor (**D**), so it engages with the raised actuator arm (**E**). Next rotate the knife downwards (**F**), whilst continuing to hold it towards the back of the slot (**D**), until the front toothed area looks like it will clear the front end of the slot by 5 -10 mm (**G**), as shown below.

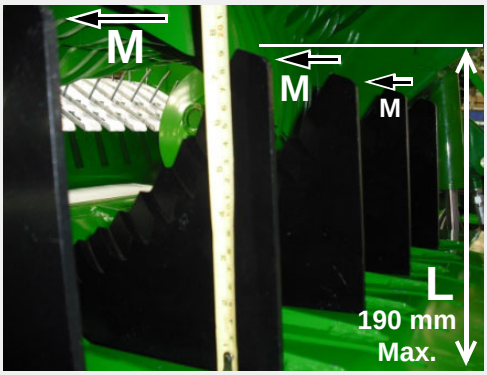


9. Now push the knife forwards, continuing to maintain this 5 - 10 mm clearance under the front of the slot. The keyhole slot on the front end of the knife should now guide itself over the 'flats' of the lock shaft (**H**).



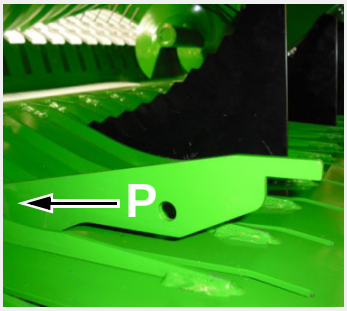


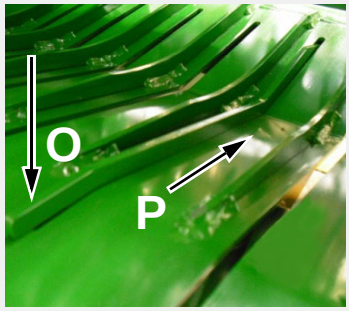
10. Continue to push the knife forward until it is in the fully home position, which should leave a gap between the knife and back end of slot of approx. 65 mm (**K**), with a maximum protrusion of approx. 190 mm (**L**) (assuming the knife actuators are fully up). The retaining magnets (**J**) will hold knives in position until the knife-lock shaft is closed.

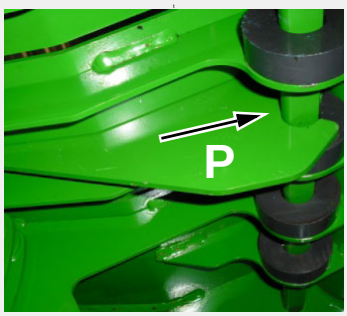


11. After installing, push the top of each knife forward, in the direction of the arrow (**M**) as shown, to ensure proper engagement within both the lock shaft and the actuator arm. If the knife moves, then it is not positioned correctly. The correct position is shown at (**N**).

12. If knives are removed, for any reason, always replace them with knife blanks to prevent crop catching in the 'open' slots. These are stored in the knife holster.



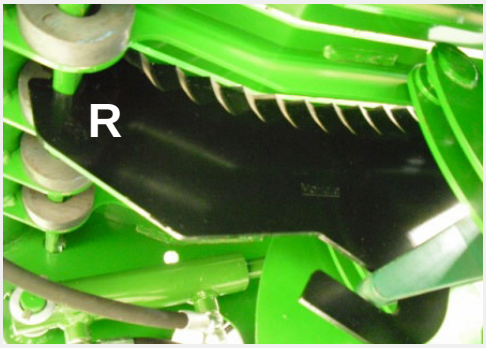


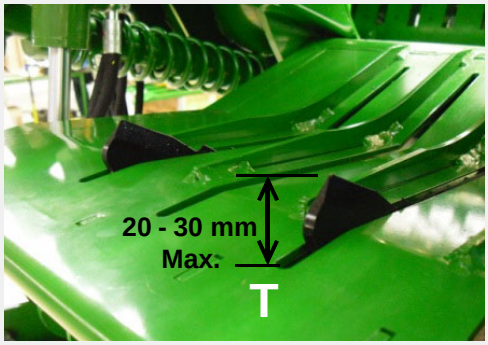


13. Installation is simpler, in that they only engage with the lock shaft in front and not with the actuator arm. The knife blank is dropped into a slot, towards the front, again maintaining the 5 - 10 mm gap (**G**), push forward (**P**), allowing the keyhole slot to engage with the lock shaft. Then rotate downwards (**O**) and push forward fully.

14. Always observe the row of knives after installation, they should all be perfectly aligned and at the exact same height. If one or more do not line up, then they are not correctly positioned. Typically, the lowest and furthest forward are correct.

15. Rotating the knife lock/unlock lever (**B**) back up to 90° onto the lock pin (**X**), locks all knives/blanks securely.





16. The knives are shown fully down/retracted, with the knife correctly positioned within the actuator arm and the lock shaft in the 'locked' position with the flats vertical (**R**). Knife tips should protrude 20 - 30 mm maximum (**T**).

WARNING: Turn the levers back into their working position

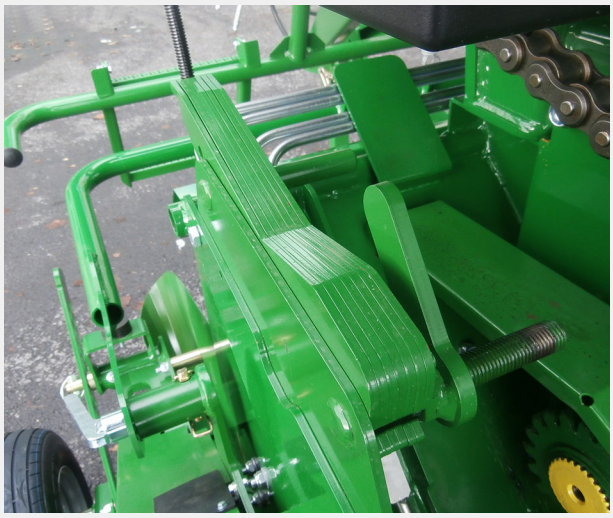
Do not forget to turn the levers (**A** & **B**) back into their working position(s), but only after completing all work on the machine, as above.

WARNING: Compartment doors panels must be closed while the machine is running - danger of rotating components

Always keep the compartment door panels closed while the machine is running because of the danger of rotating components! Take note of all warning decals and ensure that all safety measures and precautions are implemented before attempting to carry out any maintenance work.

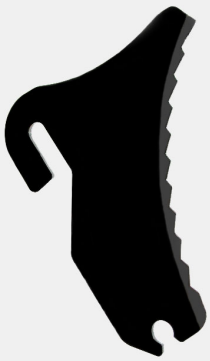
6.2.1 Knives/blanks storage

If knives from the chopper unit are being removed they can be stored on the drive side of the machine (on the chopper unit) in the knife storage area and replaced using blanks. Knives/blanks are secured in the storage area by tightening the clamp lever shown.



Knives/blanks storage

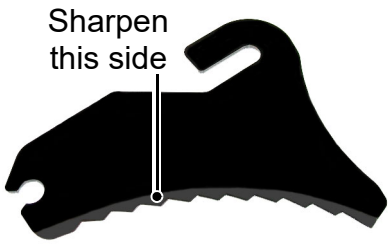
Knife blank



Knife

6.2.2 Knife sharpening

The knives in the chopper unit should be sharpened on the flat side using either a file or a mopping disk. The knife should never become hot while sharpening, otherwise it will lose its tensile strength and cutting edge.



WARNING: Never use a grinding disk

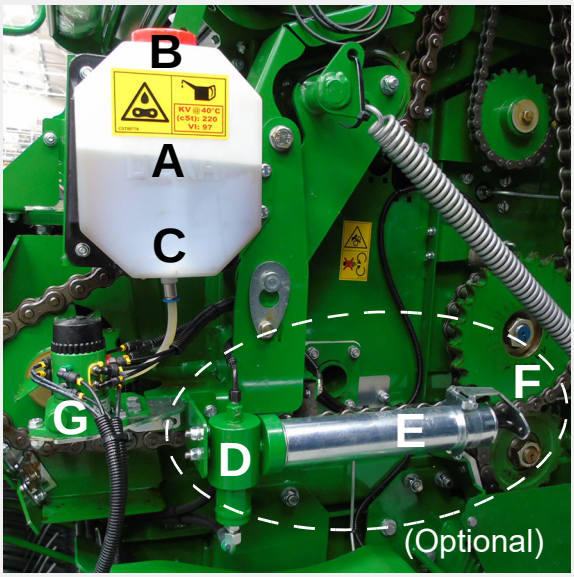
Never use a grinding disk when sharpening the knives.

6.3 Automatic lubrication system

The machine is equipped with a fully automatic oiling system which is responsible for lubricating all of the chain systems and a manual greasing system with centralised grease blocks for lubricating all of the roller bearings in the machine.

6.3.1 Automatic oiling system

The oil reservoir tank **(A)** can hold approximately 3 litres of oil and this is enough oil for approximately 12 working hours. It should be kept between the minimum and maximum markings at all times. **McHale** recommend the use of only top quality chain oil and grease, this will prolong the life of the machine components. On the control box, an alarm is provided to remind the operator to top up the lubrication oil after a preset number of cycles. This counts down from 300 and gives a reminder at zero. It may be reset sooner, if desired, from within the control box sub menus. *(See 'Lube count')*



Oil reservoir tank

A. Oil reservoir tank
B. Oil strainer
C. Oil filter
D. Greasing pump and cartridge (optional)
E. Grease cartridge cover (optional)
F. Grease cartridge plunger stop (optional)
G. Oil pump

WARNING: Ensure the tractor is shut down before adding oil

Ensure that the tractor engine has been shut down, the key has been removed from the ignition and the brakes have been applied before adding oil.

To add oil:

1. Unscrew the top cap and add chain oil to the oil reservoir tank (A), up to the maximum level mark shown. (**McHale** recommend a good quality high viscosity chain oil with good tack adhesion (ISO 150 - ISO 220)).
2. Replace the cap and tighten fully.

NOTE: Oil in the reservoir tank should always be clean

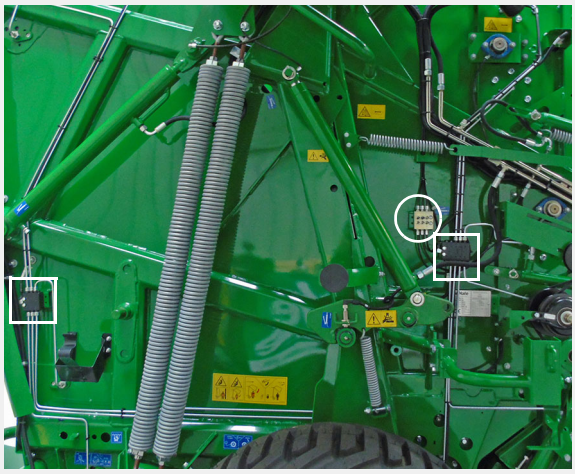
The oil in the oil reservoir tank should always be clean, strained and free of any impurities during top-up, as this will ensure proper operation and lubrication.

6.3.2 Manual greasing system (standard)

The machine is equipped with a manual greasing system, using centralised grease blocks, for lubricating all of the roller bearings in the machine. These instructions cover the main components that must be greased at intervals listed below. Apply one stroke only with a grease gun at each grease point. All other grease points must be greased, as specified. *(See 'Additional greasing')*. **McHale** recommend using a multipurpose, extra high performance grease such as Mobilgrease XHP 222 or equivalent NLGI number 2 grade grease. This will prolong the life of the machine components.

Always wear gloves to avoid direct contact with grease, as this may cause skin irritation.

Grease blocks DS



Grease blocks NDS

The baler's drive side (DS) and non-drive side (NDS) are greased manually at three centralised grease blocks.

Two serve the bearings on the chamber rollers and rotor bearing (and pick-up drive gears on the LHS). These are to be greased after every 1,200 bales approximately.

One serves other bearings and bushings via flex pipes and should be greased after every 300 bales approximately.

○	**Grease every 300 bales**
□	**Grease every 1,200 bales**

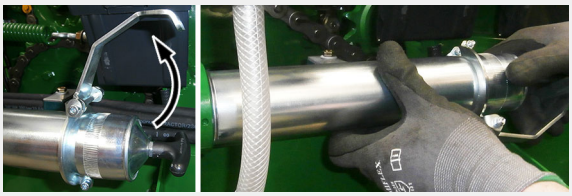
6.3.3 Automatic greasing system (optional)

The machine is equipped with a fully automatic greasing which is responsible for greasing the roller bearings in the machine baling chamber and oiling of all chain systems. All additional grease points must be greased, as specified. *(See 'Machine maintenance')* A grease cartridge is required after every 1,200 bales approximately. The grease cartridge may be discharged after a few hundred bales but should only be replaced after every 1,200 bales; or at every fourth oil fill.

Replacing refill grease cartridge and releasing airlock:

McHale recommend using a multipurpose, extra high performance grease such as Mobilgrease XHP 222 or equivalent NLGI number 2 grade grease. This will prolong the life of the machine components.

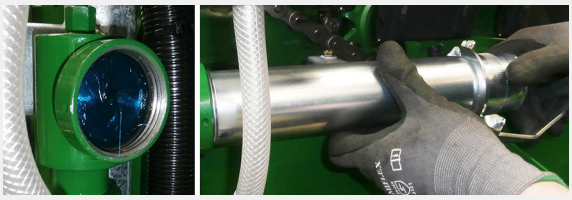
Always wear gloves to avoid direct contact with grease, as this may cause skin irritation.



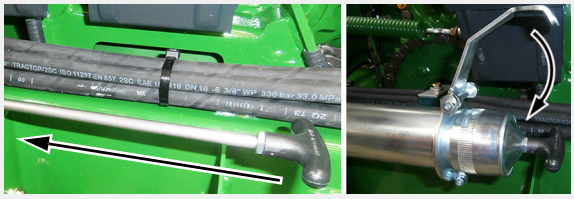
1. Flip back the the grease plunger stop bracket. Unscrew the cartridge holder from the pump and remove the used cartridge.

2. Pull the plunger all the way back and locate a new refill cartridge.

3. Remove the cap from the plunger end of the refill cartridge. Insert the refill cartridge, as shown, and remove the pull tab seal.

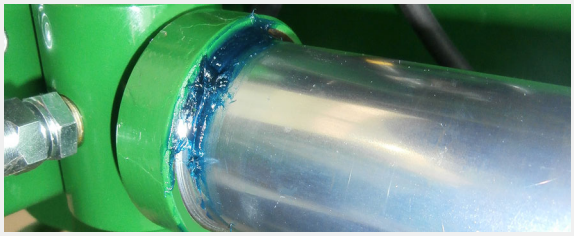


4. Screw the cartridge holder onto the pump, but do not tighten. Only screw the cartridge a few turns, once the threads are engaged.

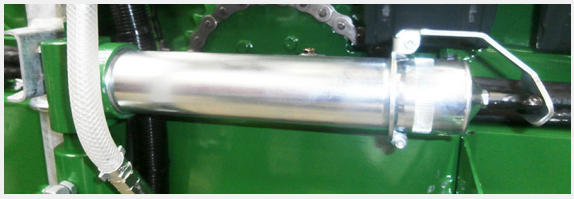


5. Release the plunger and push the plunger rod all the way back into the cartridge holder.

6. Slowly and gently, rotate the cartridge holder open and closed, a quarter turn, several times. Air between the grease pump and the cartridge will escape. When a bead of grease starts to leak out, the cartridge can be tightened fully.



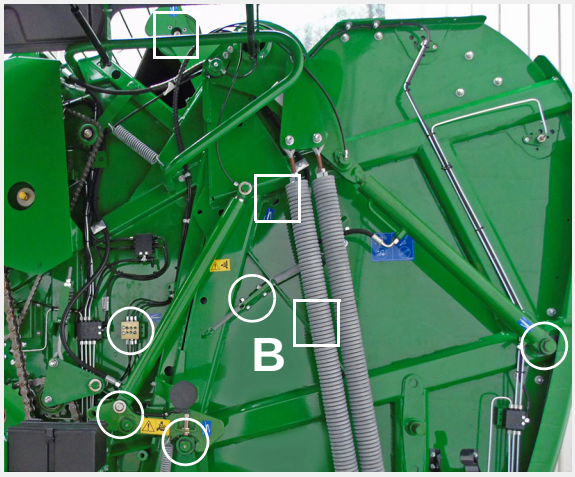
7. Clean off this bead of grease so dust and debris does not stick to it. This dirty grease could get into the grease pump at the next cartridge change, causing a blockage of the grease system.



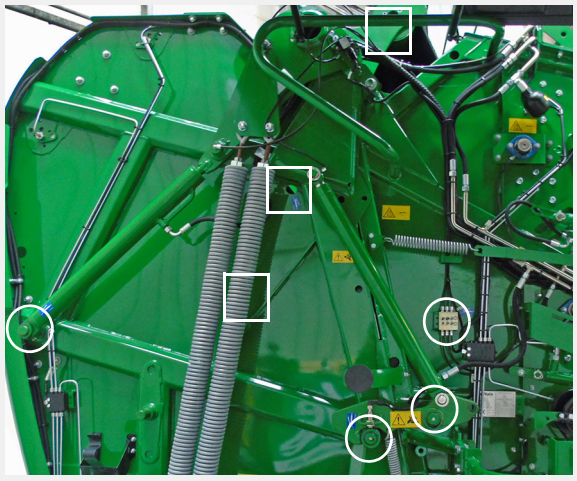
8. Drop the plunger lock and top up the chain oil. Then reset the lube count on the control box.

6.3.4 Additional greasing

There are several additional grease points, like door hooks, which are not served from the central greasing system and must be greased separately. These points should be greased based on the schedule listed below.



Grease points DS



Grease points NDS

○	**Grease every 300 bales**
□	**Grease every 1,200 bales**

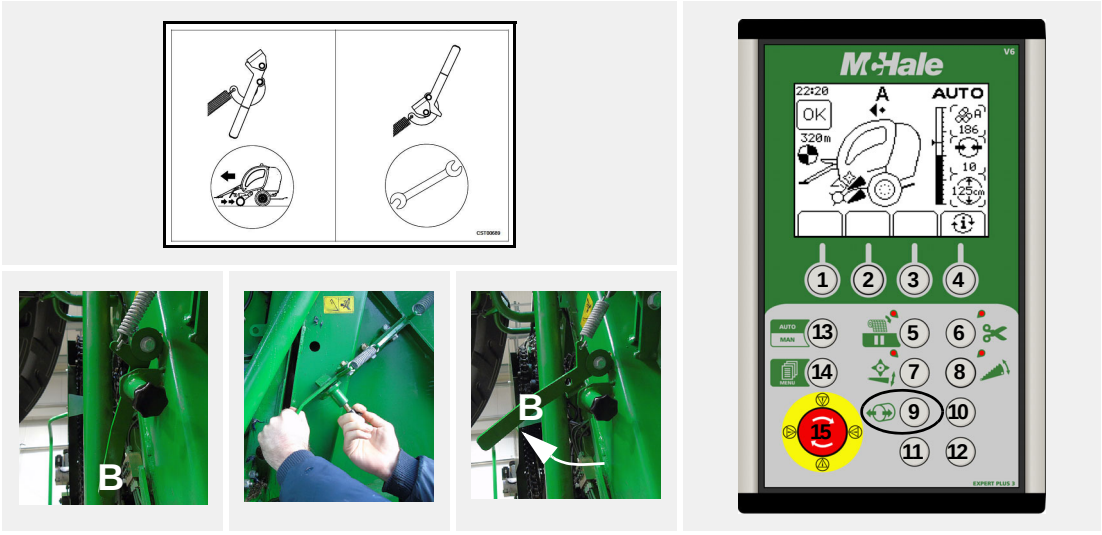
Some of the more inaccessible areas are fed from centralised blocks, on either side of the machine, via flex pipes. The rest are individual, but the two lower tension arm rollers require a special procedure to align them with access slots in the chamber walls.

Operate the tension arm lock (**B**) using the following procedure. *(See 'Tension arm lock')*

1. Move the lock lever (**B**) from the normal working position to the maintenance position, this will cause the stop to move into the bale chamber.
2. Next the tailgate of the machine should be opened fully so that the tension arm passes the stop.
3. In order to release the pressure from the belts the tailgate must now be closed fully. This ensures that the tension arm rests on the stop inside the bale chamber, allowing the belts to hang loose.
4. Close the chamber door lock immediately. *(See 'Chamber door lock')*

Release the hydraulic pressure from the tension arm by pressing 'density release' (button 9) on the control box until the pressure on the clock falls to zero.

The hydraulic and spring pressure is now released allowing the operator to access the grease points through slots in the chamber walls, two on either side.



To release the tension arm lock, once tension arm rollers have been greased, the lock lever (**B**) should be returned to the working position, before opening the tailgate fully to release the stop and then closing the chamber again. The belts are now re-tensioned and the machine can resume as normal.

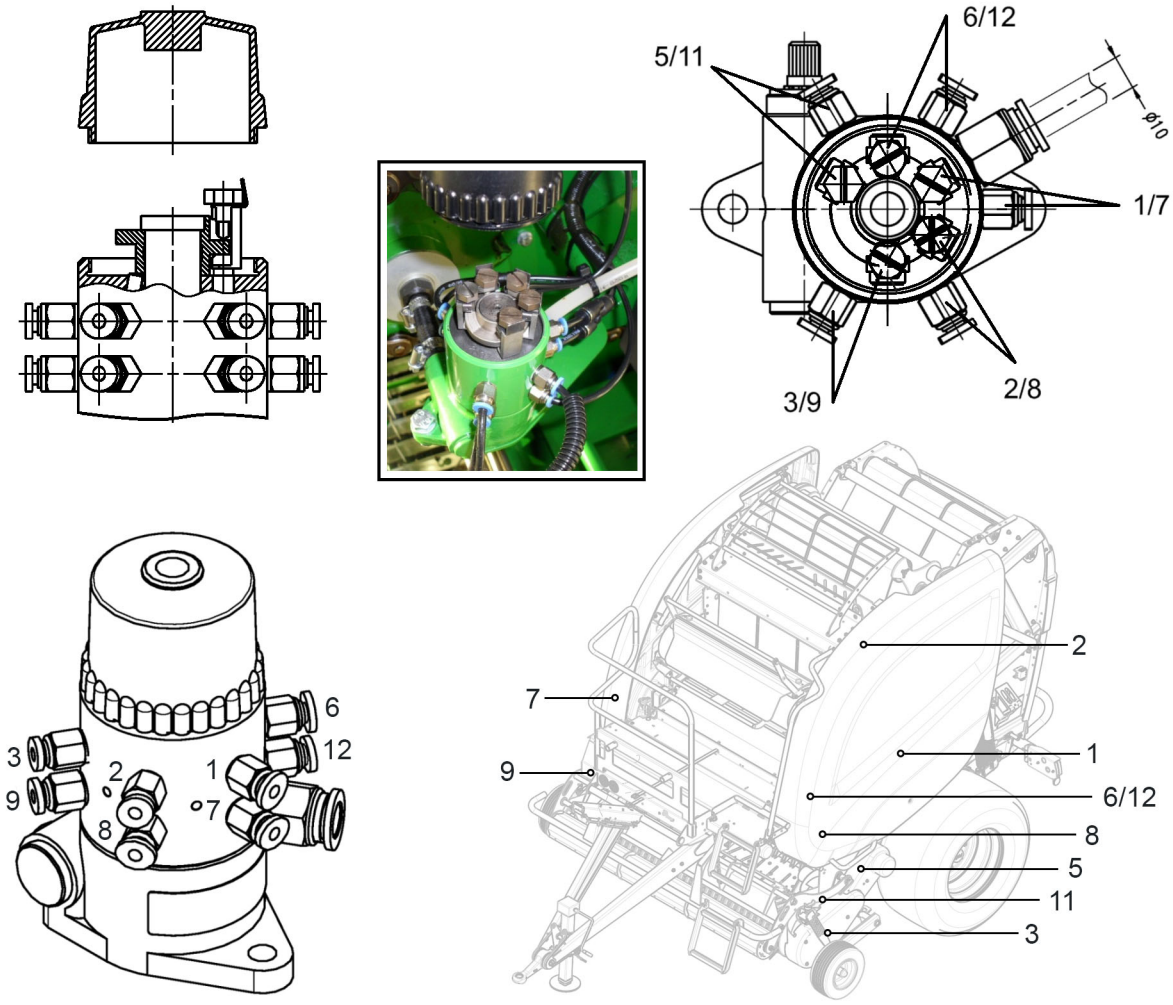
6.3.5 Oil pump adjustment

The oil pump is factory pre-set and under normal circumstances should not require any adjustment. If insufficient oil delivery is noticed on a particular chain, then the pump can be adjusted as follows:

The delivery is regulated for pairs of pressure connections, one above the other. Firstly unscrew the black plastic cover on top of the pump, which exposes the five adjusting

screws. Adjustment to the delivery must be carried out using a slot-head screwdriver (Using a smaller screwdriver may damage the adjustment screw, so use size 8 - 10 minimum).

- The delivery is increased by turning the adjustment screw in a clockwise direction and decreased by turning counter clockwise.
- One full turn (= 6 clicks) corresponds to 0.015 cc and each click equals 0.0025 cc.
- The maximum possible adjustment equals 3 turns or 18 clicks.



Oil pump adjustment

Once adjustment is complete, screw the black plastic cover back on top of the pump unit. Oil delivery should continue to be monitored and readjusted, if necessary, until desired results are achieved.

6.4 Gearbox oil

The gearbox is located to the rear of the PTO shaft. Your machine will be fitted with either a 540 rpm or a 1,000 rpm gearbox. Oil quantities and filler ports are different for the different size gearboxes. The 1,000 rpm gearbox has a sight glass for checking the oil level whereas the 540 rpm gearbox has a dipstick on the removable filler breather plug.

WARNING: Ensure the tractor is shut down before changing oil

Ensure that the tractor engine has been shut down, the key has been removed from the ignition and the brakes have been applied before changing oil. The PTO shaft should also be removed.

NOTE: Oil must be drained & filled after the first 5 hours of use

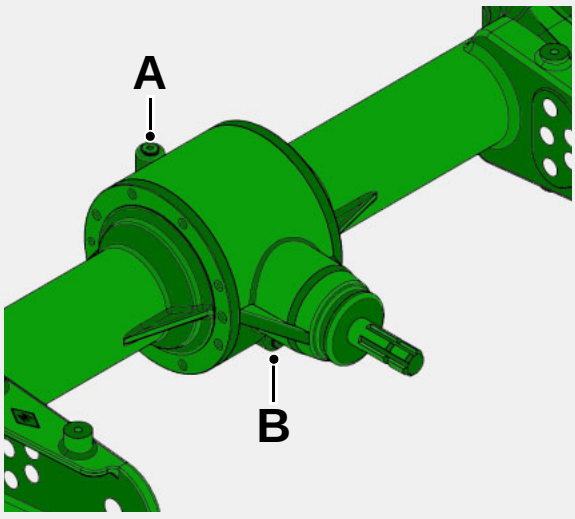
After the first 5 hours of use, the gearbox oil must be completely drained and filled with SAE 80W/90 grade oil.

ENVIRONMENT: Safe disposal of oil

Respect the environment! Never spill oil or grease on the ground, never pour them down the drain and never discard them where they can pollute the environment. Always take waste materials to a recycling centre.

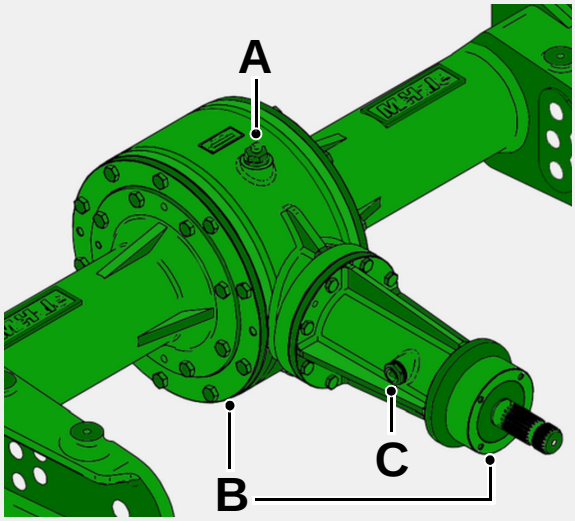
To drain and add oil to the gearbox, carry out the following procedure:

Gearbox 540 rpm



1. Remove the drain plug (B), located on lower front of gearbox and drain the oil into a suitable container. This is best carried out while the oil is still warm, i.e. soon after use. Replace the drain plug (B), tighten securely and dispose of waste oil responsibly.
2. Remove the breather plug (A) located on top of gearbox towards the rear, using a 17 mm spanner. Add 2 litres of SAE 80W/90 grade oil.
3. Check the oil level using the dipstick on the breather plug (A) and then tighten securely.

Gearbox 1,000 rpm



1. Remove the filler plug (A) using a 24 mm spanner, followed by drain plug (B) using a 12 mm Allen key. Drain the oil into a suitable container. This is best carried out while the oil is still warm, i.e. soon after use. Replace the drain plug (B), tighten securely and dispose of waste oil responsibly.
2. Add 3 litres of SAE 80W/90 grade oil, or until oil becomes visible at the sight glass (C).
3. Replace the filler plug (A) and tighten securely.

After this, replace the oil once per season or once per 10,000 bales, whichever comes first.

NOTE: Do not overfill the oil

Do not overfill the oil, as this will result in overheating and oil leakage. Overheating oil can also lead to reduced lubrication properties

6.5 Tyre inflation pressures

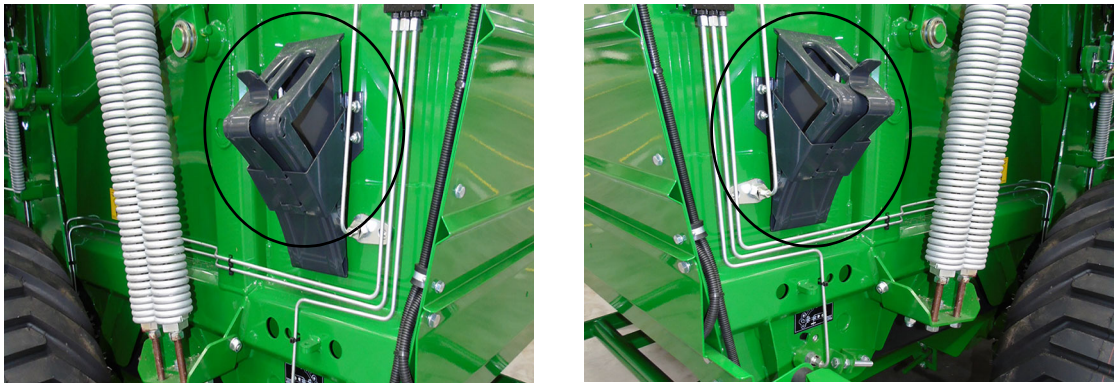
CAUTION: Check the tyre pressure weekly

Check the tyres weekly for the pressures outlined in the following table.

Details	Type	Field pressure	Road pressure	Part No.
460/65-20 155 A8 (Vredestein)	Flo +	1.5 bar	2.8 bar	CWH00083
500/50-22.5 158 A8 (BKT)	648	1.5 bar	3 bar	CWH00058
560/45 R22.5 152 D (Alliance)	885	1.5 bar	4 bar	CWH00092
170/60-8 71 A8 (Vredestein)	Pick-up	2.07 bar	2.07 bar	CWH00037

6.6 Wheel chocks

Wheel chocks are provided to secure the machine wheels anytime the machine is to be detached from the tractor, or if the machine is to be stored or parked up. They are located on both the left and right of the back panels, on the rear of the machine.



Wheel chocks

CAUTION: Unsecure wheel chocks are a hazard for road users!

Ensure that the brackets are secure to hold the wheel chocks in place! Wheel chocks coming loose (or falling onto the road), could result in a hazard for third parties.

In most cases, both wheel chocks should be used on one wheel, front and back, as shown. The only exception to this is when the machine is parked on hilly ground. In that case, a chock should be used on each wheel, on the downhill side of the slope.

6.7 Drawbar & PTO shaft stand usage

There are three types of drawbar stands available on the machine, depending on the country of use, one will come as standard:

Type A	This is a static swing-down stand (fixed) and is suitable for use on the low drawbar hitch only!
Type B	This is a hand operated swing-down stand (adjustable screw) and is suitable for raising or lowering the machine for tractors that have static drawbar hitches. This stand type is available on the low drawbar hitch only. This is raised and lowered by means of a crank handle.
Type C	This is a hand operated fixed stand (adjustable screw) that comes as standard on the high drawbar hitch option. This is raised and lowered by means of a crank handle.

The drawbar stands are to be used every time the machine is disconnected from the tractor. The PTO shaft stand must also be used to support the PTO shaft.

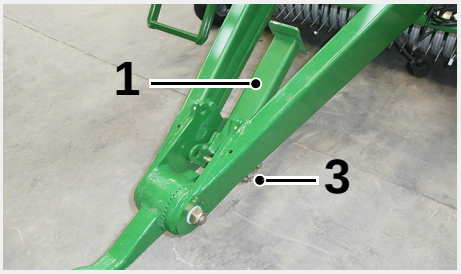
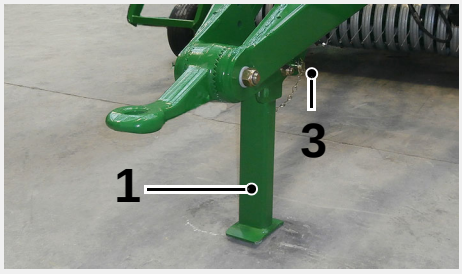
CAUTION: All stands must be rested on a solid footing

All stands must be rested on a solid footing, on level ground and also supplied wheel chocks must be used.

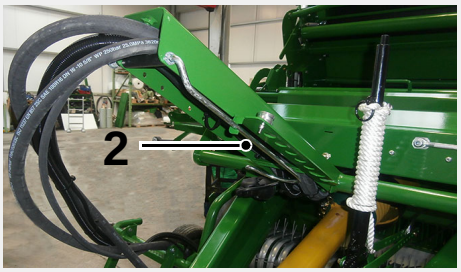
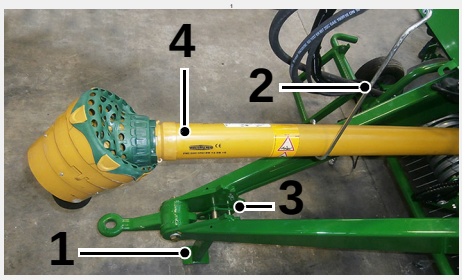
Type A - The following applies to the swing down fixed length stand (low hitch):

- Transport working position: While using the machine, ensure that the drawbar stand (1) is raised fully with stand pin (3) in the alternate hole position.
- Storage position: Ensure that the stand pin (3) is properly placed in the lower slot to prevent the stand from collapse.

Type A - swing down fixed length stand (low hitch)

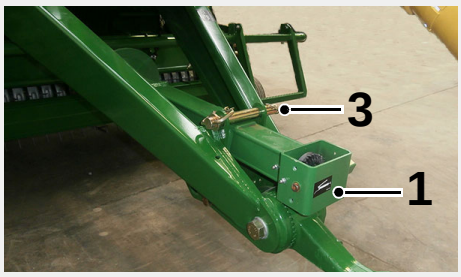
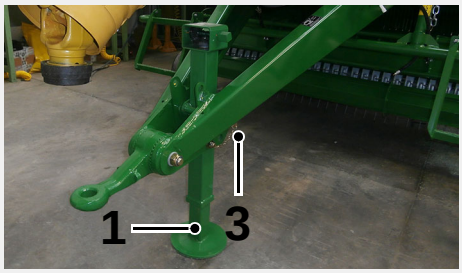
Transport (working) position	Storage position
	

- Swing down the PTO shaft stand (2) in an upright position in order to support the PTO shaft (4).

PTO shaft stand (type A & B)	
Transport (working) position	**Storage position**
	

Type B - The following applies to swing down screw stand (low hitch):

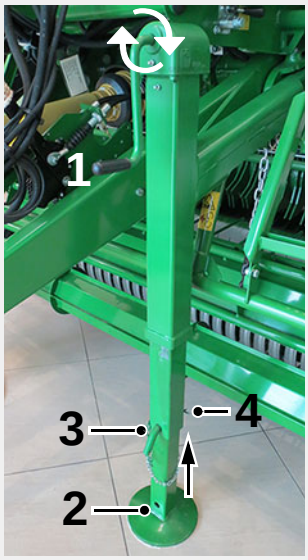
- Similar to type A, except stand pin (3) is in the upper slot, in the transport (working) position. It should be wound up and retracted fully, as shown, before removing the handle. The main difference being, that the drawbar height is now fully adjustable.

Type B - swing down screw stand (low hitch)	
Transport (working) position	**Storage position**
	

Type C - The following applies to the fixed screw down stand (high hitch):

- Stand type C is the only type supplied with the high drawbar hitch option and is available as an option on the low drawbar hitch machines.
- In order to elevate the drawbar, rotate the jack handle (1) in a clockwise direction as shown below. In order to lower the drawbar, rotate the handle in a counter-clockwise direction.
- When the drawbar has been safely connected to the hitch on a high hitch style tractor and the machine weight taken off the stand (by rotating jack handle (1) in a counter-clockwise direction) the lower part of the stand (2) can be retracted quickly by removing the quick-release pin (3) (having first removed the R-clip (4)) and sliding up the lower part of the stand, fully into position. Align the bottom hole and replace the pin (3) followed by R-clip (4).

Type C - fixed screw down stand (high hitch)



- The PTO chain support (5) holds the PTO shaft when disconnected from tractor, in the storage position.
- Depending on the height of the windrow being baled, the stand may need to be elevated further, in order to avoid catching crop. This is done by rotating the jack handle (1) in a counter-clockwise direction until it is fully retracted.

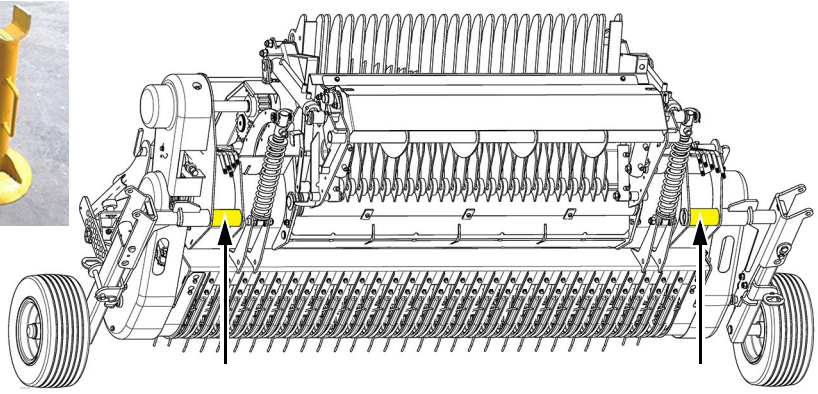
6.8 Drawbar adjustment

There are two types of drawbar hitch options (high/low drawbar) available on the machine. Depending on the country of use, one will come as standard.

WARNING: Adjustment to be completed by qualified persons only

This work should only be carried out by qualified persons or your **McHale** dealer!

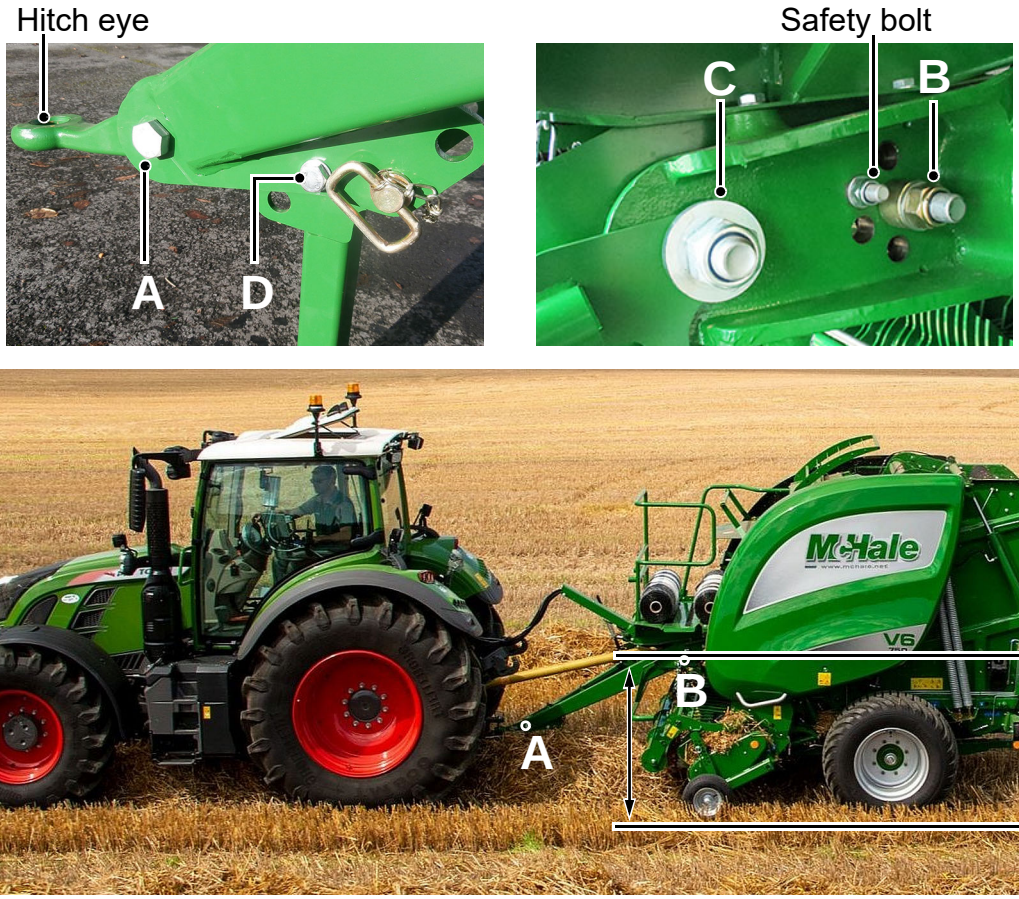
This adjustment should be carried out on a level concrete surface, with the tractor hitch aligned such that the exact adjustment can be monitored. Ensure that the tractor engine has been shut down, the ignition key removed and the brakes applied. The machine handbrake must be applied, the main wheels chocked, with the front end of the machine (under the chopper unit) supported on axle stands.



The drawbar should be adjusted so that the machine is level and horizontal to the ground when in the working position, see below. To adjust, first remove the safety bolts, then slacken the hinge bolts (C), but do not remove. The hitch eye can be adjusted to different height positions by repositioning bolts (B) in alternating hole positions. It can then be re-adjusted locally by loosening bolts (A & D) to ensure it is level. Once the desired height is achieved, ensure that bolts (A & B) are tightened to a torque value of 750 Nm and the 30 mm top drawbar hinge bolts (C) tightened to a torque value of 1,500 Nm. Tighten bolt (D) and reposition and tighten safety bolts.

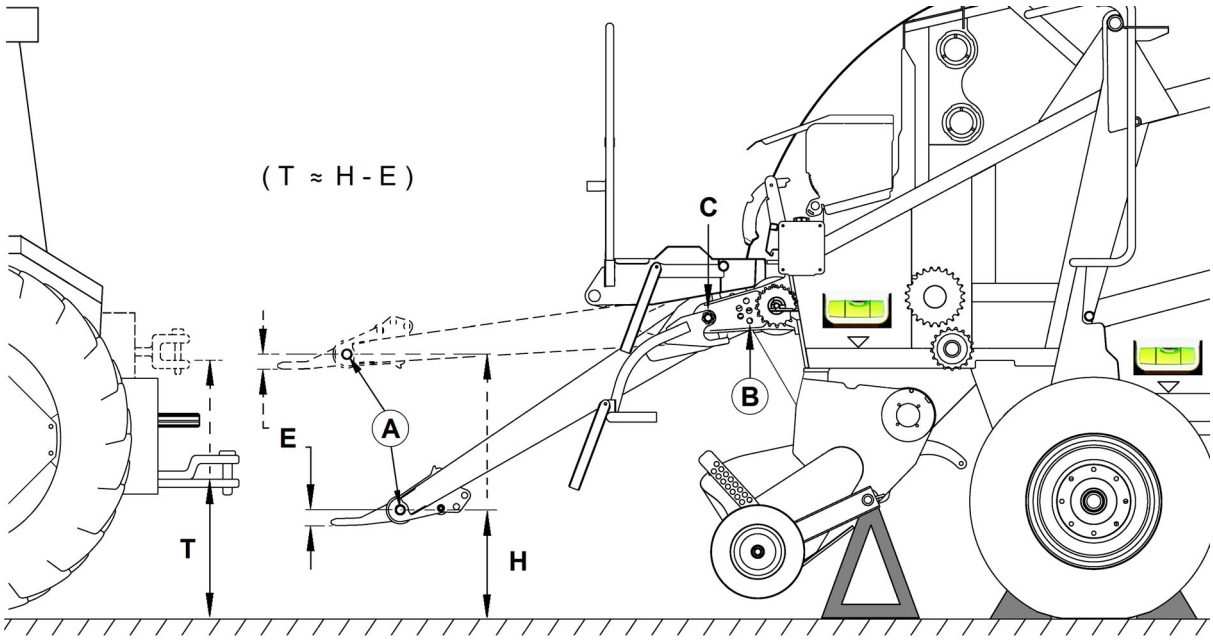
NOTE: The drawbar bolts must be inspected every two weeks

The main drawbar bolts (A & B) along with hinge bolt (C) must be inspected once every two weeks.

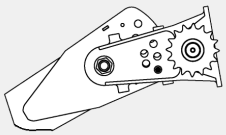
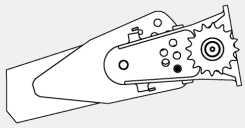
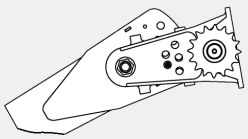
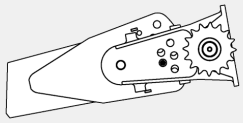
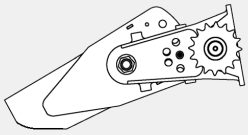
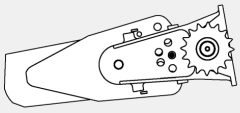
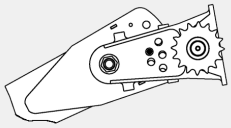
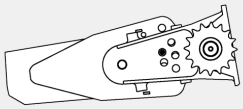
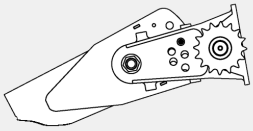
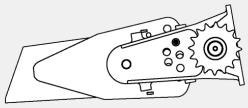


Tractors typically are either low hitch or high hitch and the drawbar on the machine should be set up accordingly. When changing from a low to a high drawbar set-up, the drawbar is inverted and the hitch eye is adjusted horizontally, in the orientation shown.

Once the height of tractor hitch (T) is measured in mm, then allowing for hitch-eye offset (E) the height (H) to the centre of pivot point **A** can be established (H ≈ T + E).



Drawbar configuration

Position	Low drawbar setting	H	High drawbar setting	H
B1		**440**		**830**
B2		**475**		**900**
B3		**510**		**1000**
B4		**545**		**1050**
B5		**580**		**1100**

The closest value of H can be selected from table above to determine the most suitable bolt hole position for **B**, depending on whether low or high drawbar set-up. Once adjusted, ensure safety bolt is re-installed and all bolts tightened securely.

6.9 PTO shaft adjustment & maintenance

(See 'Adjusting the PTO shaft to the tractor')

CAUTION: Ensure the tractor is shut down

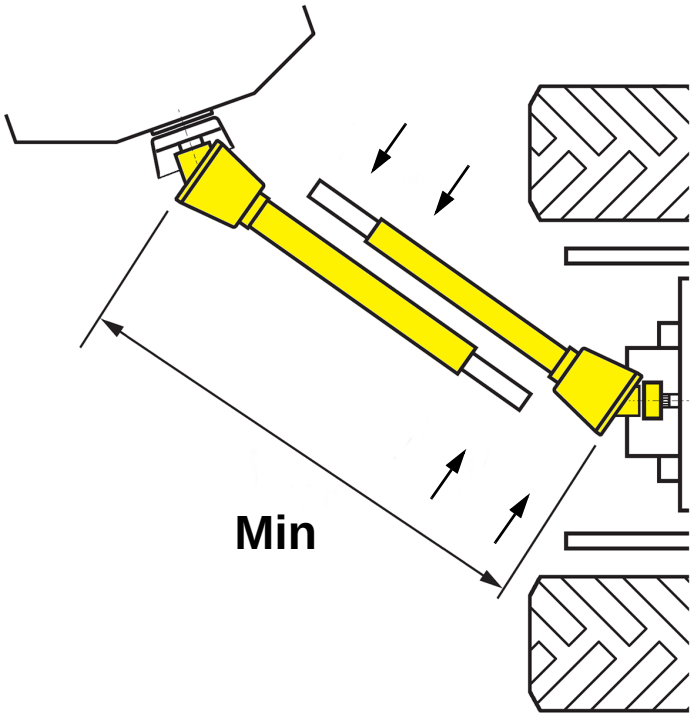
Ensure that the tractor engine has been shut down, the key removed and the brakes applied before carrying out the following procedure.

WARNING: Measure distance between PTO stub shafts first

Never connect a PTO shaft on a new machine/tractor combination without first measuring the shortest distance between PTO stub shafts, otherwise severe damage can occur.

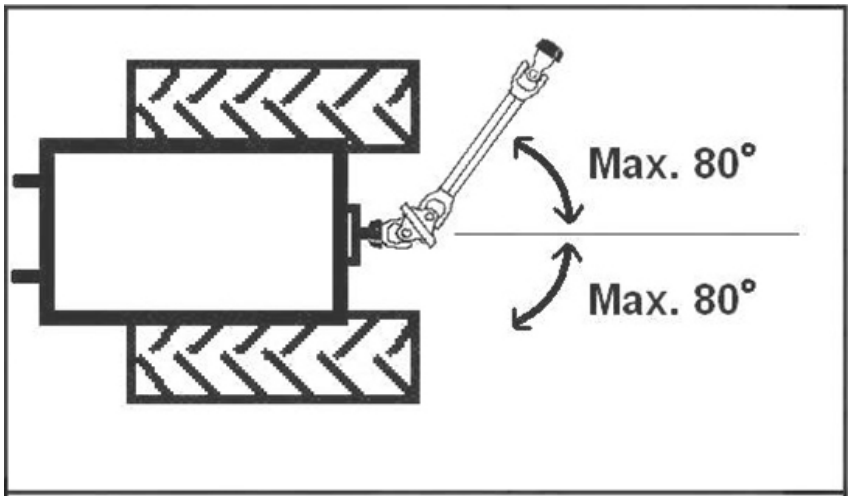
The length of the PTO shaft is suitable for all known tractor conditions. However the PTO shaft must be checked/altered to suit the tractor combination it is being fitted to.

First, fit the PTO shaft to the machine and then check if the PTO can be connected to the tractor stub. If not, then the PTO shaft is too long and must be altered. Typically the shortest distance on a trailed machine is when the tractor is turned at the maximum angle from the machine. Operating on very hilly ground can also reduce this further.



After measuring carefully, the PTO shaft halves should be cut equally so that the PTO shaft assembly is kept as long as possible, whilst just allowing enough room for its removal. This will ensure that a maximum overlap (ideally 200 mm minimum) is maintained, when extended.

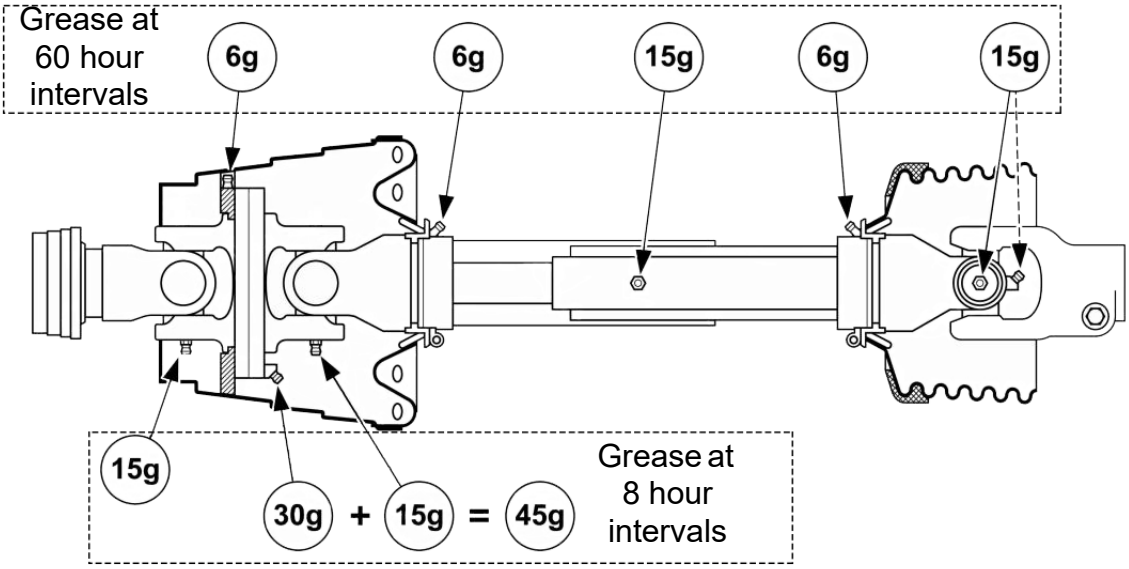
Maximum 80° angle of movement should never be exceeded, otherwise permanent damage will result.



ATTENTION: PTO wide angle joint must never exceed 80 deg. both during operation and when stationary, otherwise permanent damage will result.

CST00658

The recommended quantities of grease in grams for each grease point are shown below.



NOTE: Grease point intervals

The lower 3 PTO shaft grease points are to be greased at 8 hour intervals. All other grease points are to be serviced at 60 hour intervals.

There is also a heavy duty PTO shaft available, as an option. The heavier duty PTO shaft has a longer greasing interval (60 hr) and heavy duty profile tubing.

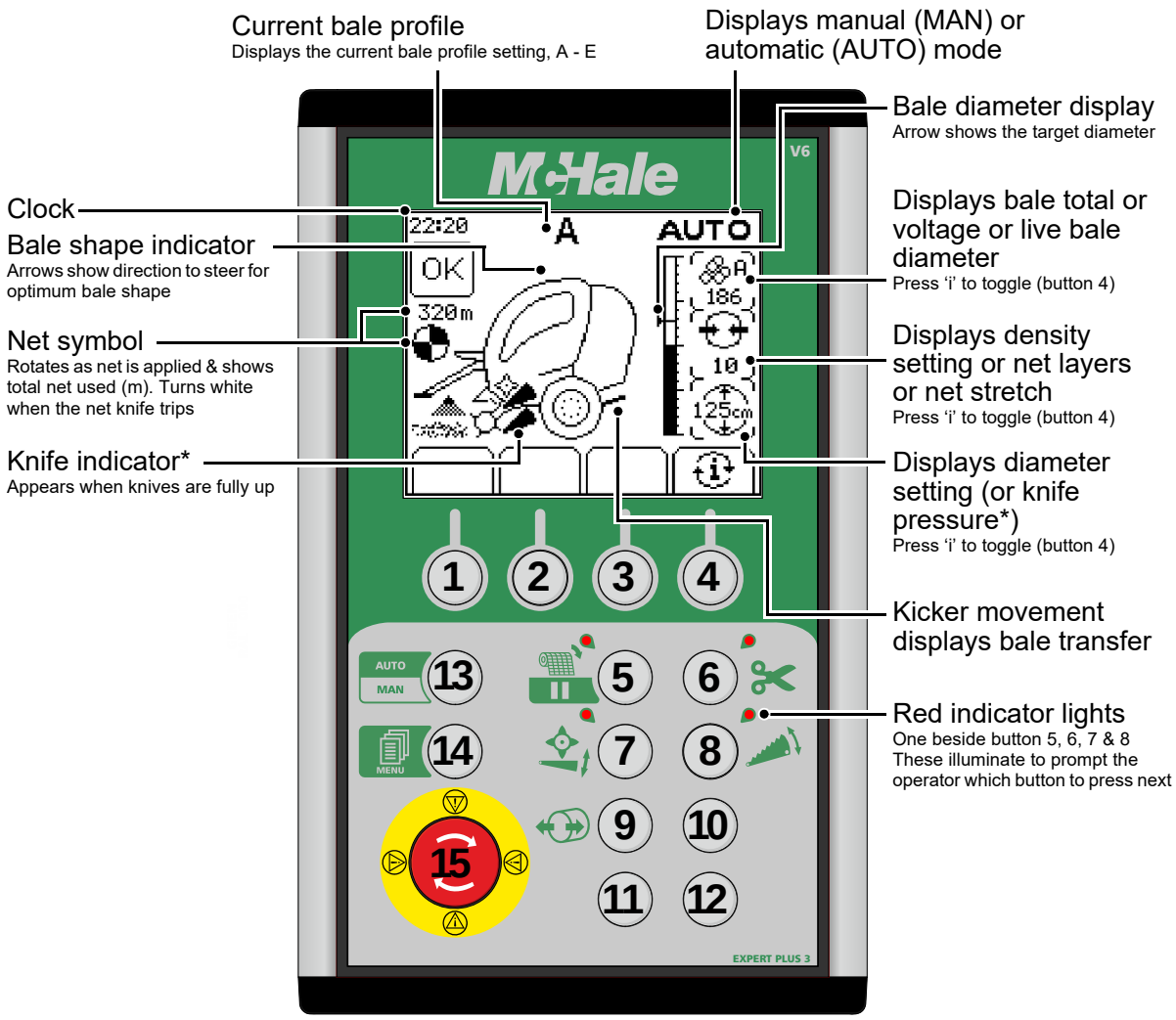
WARNING: Ensure PTO guarding is in good condition

Never use the machine if the PTO guarding is missing or damaged. Entanglement in rotating drive line can cause serious injury or death. Always stop the engine and ensure that driveline has stopped before making connections, adjustments or cleaning out PTO driven equipment.

7

Electronic control system

(Software version EPS660-126 onwards)



*Functionality in relation to chopper unit knives applies only to models with chopper units!

All the buttons on the control box are numbered 1-15 above and their functions are listed on the following page.

Buttons 1-4 are multi-function softkeys and can have many different functions with the current function indicated on the screen directly above by a picture. These four buttons are also used to navigate through the machine menu and change settings.

Please see the pull-out guide for this electronic control system at the end of this chapter. This can be removed and laminated to keep in your tractor and familiarise yourself with the functions of the controller.

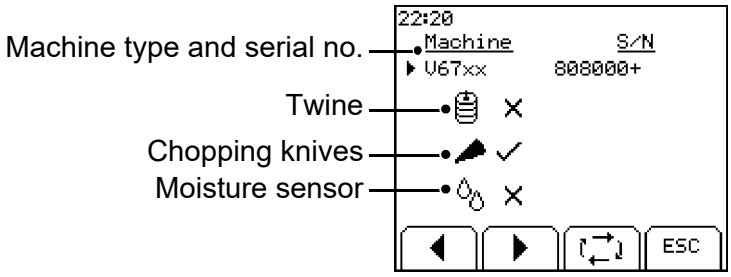
7.1 Control box functions

No.	Function	
	Manual (MAN)	**Automatic (AUTO)**
1	Multi function	
2	Multi function	
3	Multi function	
4	Information button. Press to toggle between the displayed information on the right of the screen (bale total, density, target diameter, voltage, net layers, knife pressure, live bale diameter and net stretch).	
5	Net feed	Press once to start netting bale early. Hold to delay net feeding. Press to feed net after a net error.
6	Cut net	Cut net after a net error
7	Floor diverter	
8	Knife diverter (Machines with chopper unit knives only)*	
9	Release density pressure	
10	No function	
11	No function	
12	No function	
13	AUTO/MAN button. Press to switch between manual and automatic modes. Press and hold to switch to SEMI mode.	
14	Menu button. Press once to enter the machine menu. Also used to do a factory reset on the control box by holding down and switching on the power to the box.	
15	Emergency stop button. Press to turn off the box. Twist clockwise to turn on.	

*Functionality in relation to chopper unit knives applies only to models with chopper units!

7.2 Machine specification settings

Press and hold the menu button to access Machine specification settings. Select the correct machine and serial range using the left and right softkeys. Use softkey 3 to scroll through the settings. Twine, chopping knives and moisture sensor can be enabled ✓ or disabled ✗ as per the machine specification.

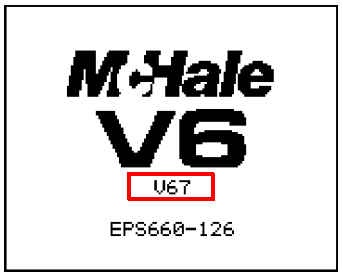


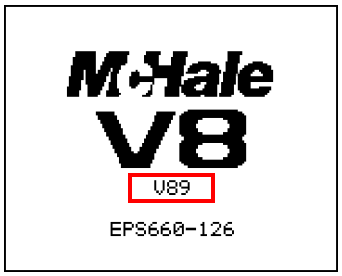
Note 1: If a twiner is detected on the machine then the twine setting will be automatically enabled. For operators using twine, there is a separate supplementary twiner manual CLT01169.

Note 2: References to chopper knives are in relation to V6750/ V8950 only.

Note 3: Moisture sensor is for future use.

The machine type selected will be shown on the boot screen. If the incorrect machine is selected then the baler may not operate as expected.





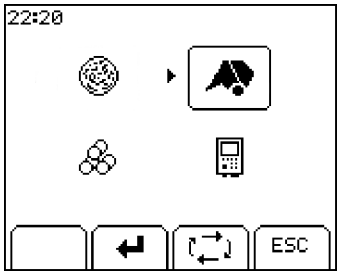
NOTE: Ensure correct machine is selected

If the incorrect machine is selected then the baler may not operate as expected.

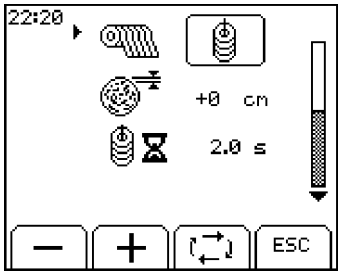
7.3 Net or twine

The standard binding material for this machine is net, with the ability to handle twine as an option if the machine is fitted with a twiner. This operator manual focuses on the use of net only. For operators using twine, there is a separate supplementary twiner manual CLT01169.

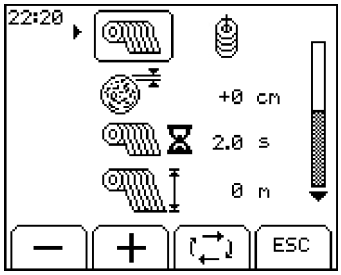
If the control unit detects that a twiner has been fitted to the machine, then the operator will be able to select either net or twine. To turn on the net option, press menu (button 14) and select machine setup. Then, use the toggle button to select net.



Select machine setup menu

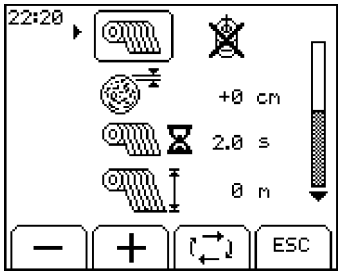


Twine selected



Net selected

NOTE: If a twiner is not fitted to the machine, then by default the twine setting will be crossed out with an X and will not be selectable. In this case, only net can be selected.



7.4 Control box features

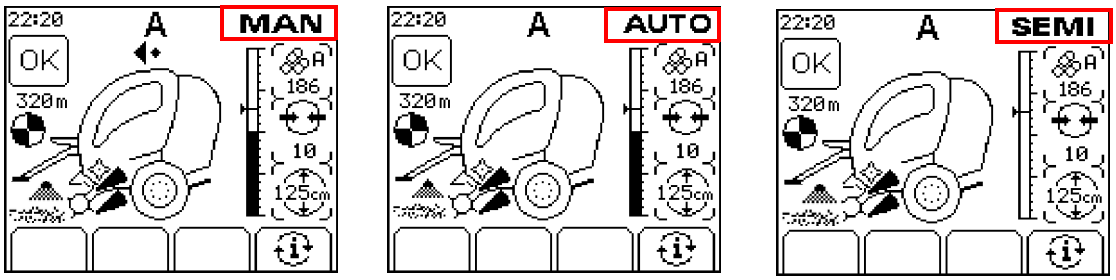
When the control box is first switched on it displays either '**McHale V6**' or '**McHale V8**' along with the machine model and software version number.

After a short delay, the working display appears. The working display features an image of the machine, which is surrounded by general working information.

NOTE: The four softkey buttons are used for multiple functions

The four softkey buttons are used for multiple machine functions and menu navigations. Their function changes depending on the current screen and relates to the corresponding symbol directly above each softkey, across the bottom of the screen.

The machine has three operating modes; manual (MAN), automatic (AUTO) and semi (SEMI).



AUTO is selected by pressing the AUTO/MAN button. The selected mode is displayed in the top right corner of the screen. (AUTO can only be selected if the chamber door is closed.)

As the bale is being formed, the diameter increases on the bar graph. At a preset size, a warning beep will sound to indicate that the bale is nearly full. Once the full bale diameter is reached, the operator is warned by a series of beeps.

In MAN mode, the operator must complete the net feeding and net cutting functions manually. The net is fed in by pushing and holding button 5 until the bale catches the net. When the preset amount of net has been applied, the red light beside button 6 will flash. The operator then cuts the net by pushing and holding button 6 until the netter knife trips, otherwise net will continuously be applied to the bale.

In AUTO mode, net is automatically fed into the chamber and automatically cut when the preset number of layers have been applied to the bale. If the net runs out or fails to feed, the net feed warning is displayed and the red light beside button 5 will flash. Replace the net and press the restart netting button.

If the preset diameter has not been reached, pushing net feed (button 5) will start the automatic netting cycle.

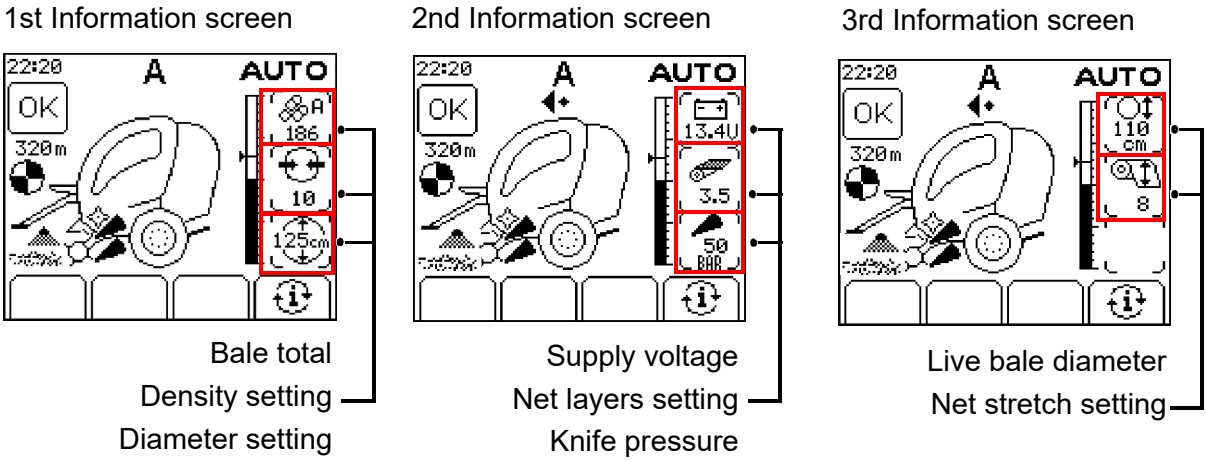
Pushing and holding net feed (button 5) at any time in AUTO mode will delay the automatic feeding of net, giving the operator a chance to feed in more crop into the chamber if desired. Netting will begin automatically on release of the button.

In SEMI mode, when the ‘bale full’ diameter is reached, the operator is warned by a series of beeps. Net does not automatically feed. Press button 5 to start netting. Net will automatically cut when preset number of layers have been applied. SEMI mode is useful on hills where the operator does not want to net the bale until the baler is in a suitable location to eject the netted bale.

Using the tractor spool lever, the chamber door can then be opened to eject the bale and at this point a bale is displayed on screen. *(See ‘Bale not ejected’)*. Once the bale has rolled clear and the bale kicker has returned to its normal position, a short beep will sound and the bale on the screen will disappear to indicate when the bale has rolled clear of the chamber.

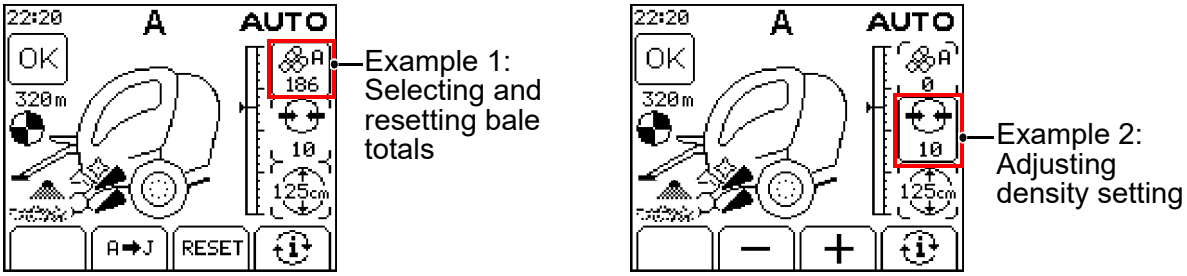
7.4.1 Main working screen

The control unit has all vital information displayed on the screen. The main working screen displays the most important information. The 2nd and 3rd working screens display some extra information on the right hand side, which can be accessed by pressing the 'i' softkey (button 4).



Automatic mode screens

The information button can be pressed and held to edit settings displayed in the information bar on the right of the screen. The selected setting will flash in the information bar. The selected bale total can be changed, bale totals can be reset; adjustments to bale density, bale diameter, net layers and net tension can all be made directly on the information bar using the displayed softkeys.



Information bar setting 1

Information bar setting 2

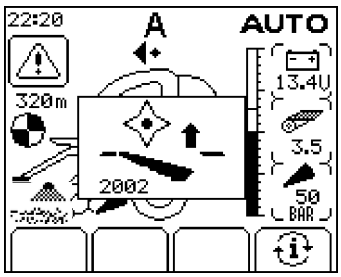
7.4.2 Unblock floor operation

When a blockage occurs, the PTO should be stopped immediately.

The unblock floor can then be lowered by holding the floor diverter (button 7) and operating the pick-up spool lever in the down direction.

The PTO can then be re-engaged and when the blockage is cleared the floor can be raised again by holding the floor button and operating the pick-up spool lever in the up direction. This works the same in MAN or AUTO mode.

A sensor on the floor indicates when it has dropped from its working position. The warning below will be shown when the floor is down and the red light beside button 7 flashes.



7.4.3 Knife operation (V6750/ V8950 only)

Standard knife operation

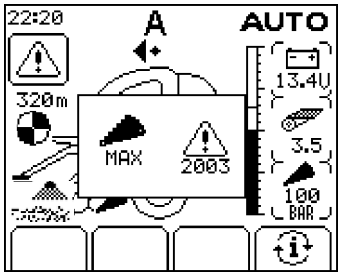
The knives can be lowered or raised by holding the knife diverter (button 8) and operating the pick-up spool lever in the tractor. The knives will be raised until the target pressure is reached, at which point the solenoid switches off preventing any further pressure increase. This works the same in MAN or AUTO mode.

The knife position is monitored by a sensor which displays an indicator on the main screen if the knives are fully engaged in the chopping position.

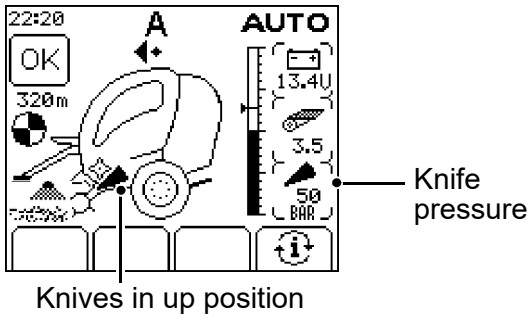
The hydraulic pressure keeping the knives up can be monitored on the second main working screen. Normal operating pressure, when knives are raised, is limited to 50 bar to protect the knives against foreign objects.

Occasionally, if the knives have not been activated for a long time, maximum tractor hydraulic pressure may be needed to raise them. To do this, raise the knives until the pressure reaches normal operating level and stops increasing, then release the knife button and press again while operating tractor hydraulics. The pressure display will be seen to go to the tractor maximum (usually about 180 bar) and the knives will raise. A warning will flash to indicate that knife pressure is too high for baling and the red light beside the knife button will flash. Lower the knives, then raise them again to reset the pressure to normal.

The machine must not be used when the knives are in the up position, under full hydraulic pressure, as damage may occur if a foreign object is taken into the pick-up.



Knife pressure is too high warning



Knives in up position

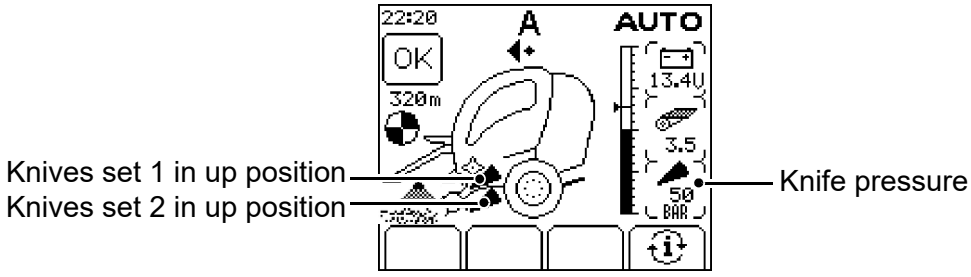
Selectable knives operation

Selectable knives are an optional extra where the chopper unit has two sets of knives, which can be independently controlled. The operator can easily activate either set or both sets of knives. On the machine this is selected by means of a 3-way tap mounted on the machine.

The selected knife set(s) can be lowered or raised by holding the knife diverter (button 8) and operating the pick-up spool lever in the tractor. The knives will be raised until the target pressure is reached, at which point the solenoid switches off preventing any further pressure increase. This works the same in MAN or AUTO mode.

To change the number of chopping knives, lower all knife sets fully, select the desired knives with the tap on the machine, then raise the knives from the control unit.

The knife position is monitored by two sensors, one for each set. There are 2 separate indicators which will appear on the screen when either set of knives are fully engaged in the chopping position.



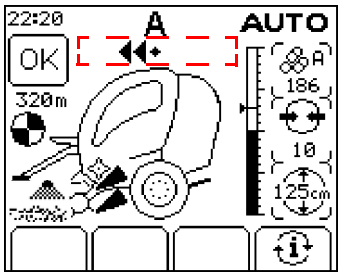
7.4.4 Density release

Sometimes the density pressure on the belts may need to be released manually when servicing the machine. This can be done by holding button 9.

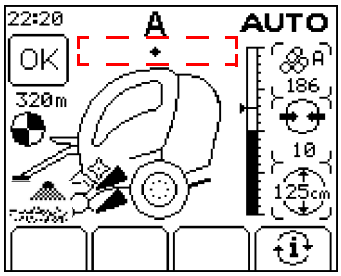
7.4.5 Bale shape indicators

These are used to tell the operator which side of the bale needs to be filled with crop when baling narrow swathes. Normally, there will be no arrows displayed, just a centre dot which means the bale shape is even.

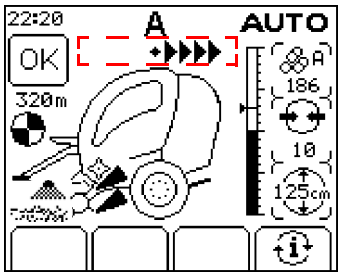
When the bale shape starts to become uneven, the arrows will point in the direction that the operator needs to steer the tractor to fill the smaller side of the bale. The more arrows that appear, the more uneven the bale shape is becoming.



Right of chamber needs more crop (drive left)



Bale formation is even



Left of chamber needs much more crop (drive right)

A series of beeps accompany the direction arrows so that the operator doesn't need to watch the screen. A low tone is emitted when the operator needs to steer left and a higher tone for the right. The frequency of the beeps will increase with the number of direction arrows displayed.

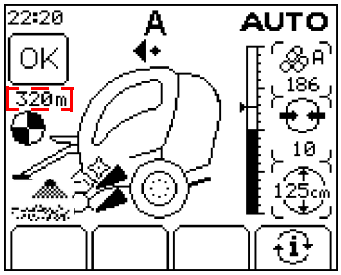
The bale shape indicators and beeper can be turned on or off in the machine menu.

If any arrows are displayed when the chamber is empty and closed, then the rollers may need to be cleaned of any loose material or the sensor zero position may need to be set. *(See 'Machine setup')*

7.4.6 Net metres

The total amount of net used is displayed in metres on the main screen. The amount of net used on each bale is added to the total and displayed on the screen just below the rotating net symbol.

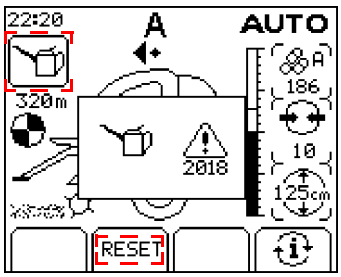
This counter can be reset in the machine setup menu. *(See 'Machine setup')*



7.4.7 Lube counter

This is a counter to remind the operator to check the chain oil and grease levels. This counts down from 300 bales and when zero is reached the alarm sounds and a lubrication symbol is displayed on the screen.

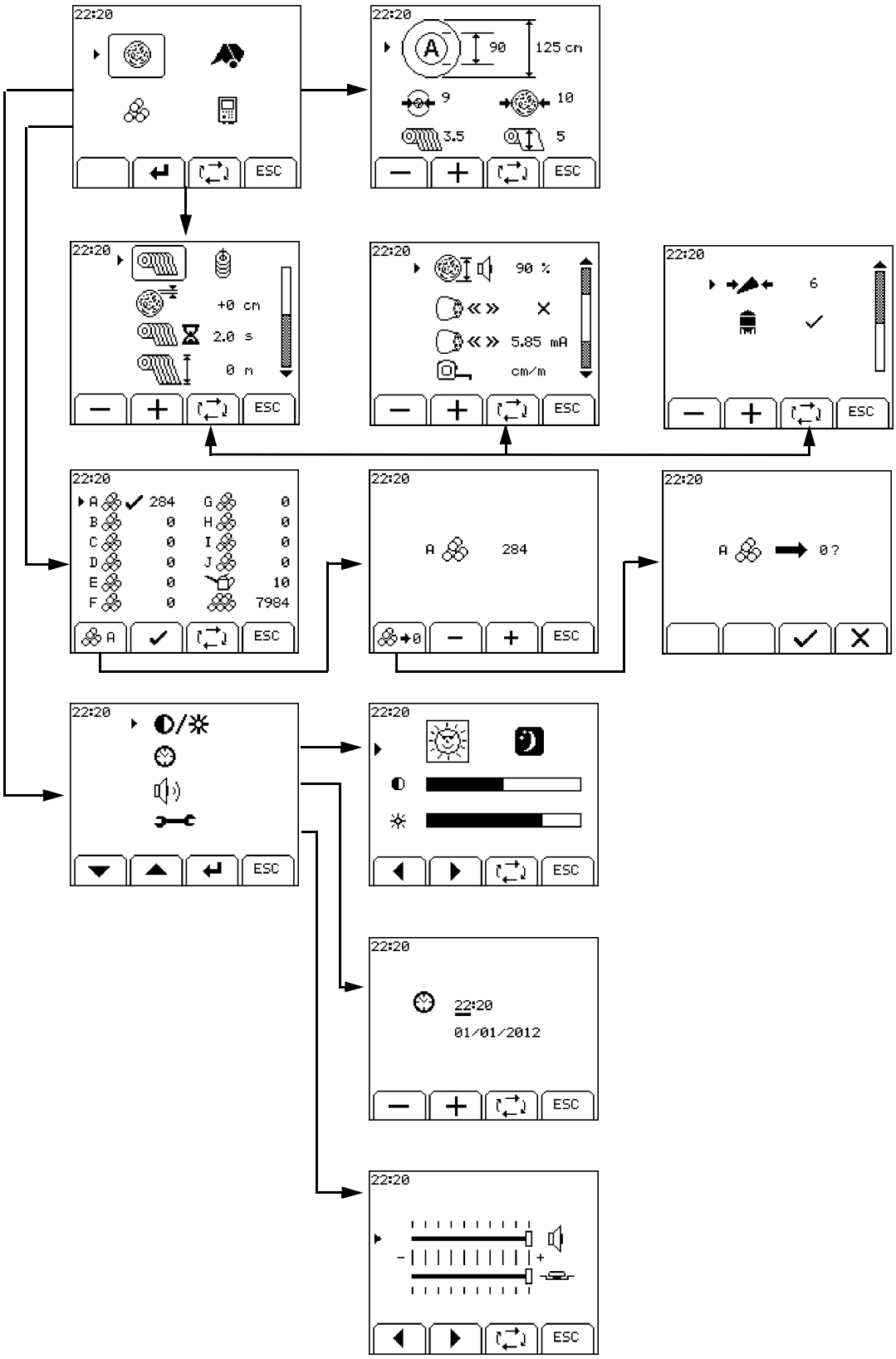
When the alarm sounds, 'RESET' will appear above button 2 which should be pressed to reset the counter after oil and grease levels are checked. To reset the alarm early, go into the counters menu and press the reset button.



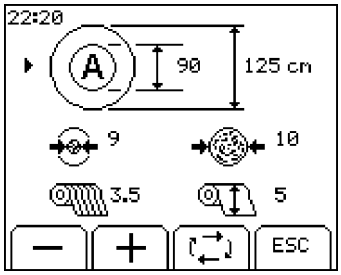
7.4.8 Voltage monitor

The control unit monitors the supply voltage and displays it on the second working screen. If the voltage falls below a safe operating level, this warning screen is displayed. The usual causes are a bad battery, defective charging system on the tractor or loose/corroded connections on the power lead.

7.4.9 Menu structure

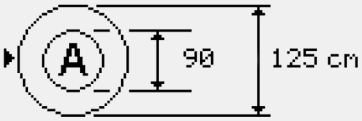


Bale setup



This menu allows the user to adjust settings in relation to bale formation. The toggle key (button 3) can be used to scroll between each setting, for the current profile. When the arrow is beside the required setting then the + and - softkeys (buttons 1 & 2) can be used to increase/ decrease the value.

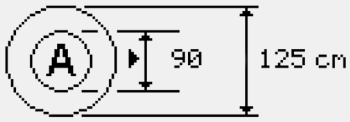
Press ‘ESC’ (button 4) to return to the main menu.



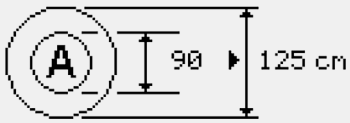
Bale profile
There are 5 bale profiles: A, B, C, D and E. When the arrow is beside the bale profile, then the + and - softkeys (buttons 1 & 2) can be used to select a different profile. The current bale profile is displayed on the main screen. Each bale profile will retain its own settings for:

- Core diameter
- Bale diameter
- Core density
- Bale density
- Net layers
- Net stretch

The settings for each profile can vary so that the machine can easily be changed to work with different crops without needing to change a lot of settings. By default, the ‘A’ profile is for maximum density heavy bales, ranging through to ‘E’, which is for minimum density light bales. However, these profiles can be adjusted to suit individual requirements.

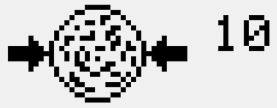


Core diameter
The core diameter can be set from 60 - 150 cm. This adjusts the maximum size of the centre bale core.



Bale diameter
The bale diameter can be adjusted from 60 - 168 cm on the V6740/ V6750 and from 60 - 190 cm on the V8940/ V8950. The bale diameter setting is also displayed on the information bar on the right hand side of the first main working screen. There is also a vertical bar graph which shows progress as the bale is being made.

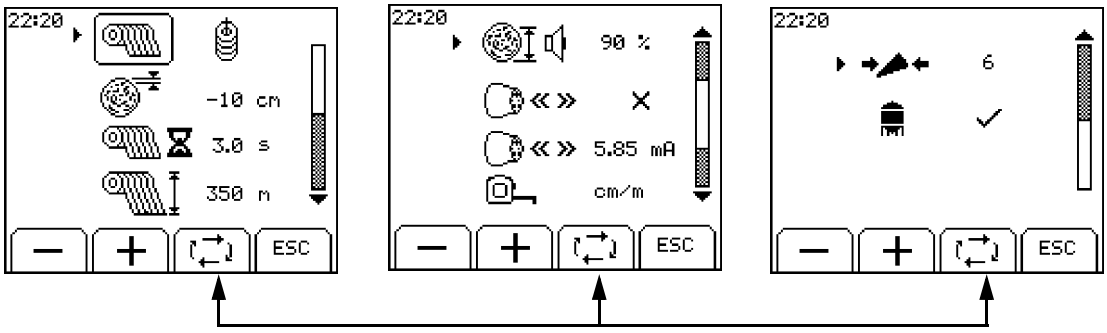
Core density
The core density can be set from 0 - 10. This sets the density for the core diameter setting, then the bale density setting is used for the remainder of the bale formation.

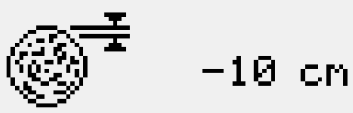
	**Bale density** The density can be set from 0 - 10. Normally a maximum of 8 is adequate to produce good dense bales. A higher setting may be required in wet crop conditions. The selected value is displayed as shown on the main screen.
	**Net layers** The amount of net applied to the bale can be adjusted from 1.1 - 20 layers per bale. The amount of net is automatically adjusted for different bale diameters. The selected amount of layers are displayed on the second working screen. *(See 'Main working screen')*
	**Net stretch** This setting sets the stretch on the net applied to each bale, depending on the option selected. The setting ranges from 1 (min) to 10 (max). **McHale** recommends a net stretch setting of 5 or less for drier materials.

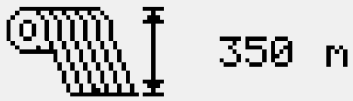
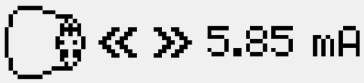
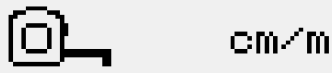
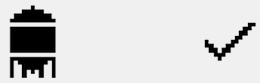
Machine setup

This menu allows the user to adjust settings in relation to the machine setup. The toggle key (button 3) can be used to scroll between each setting. When the arrow is beside the required setting then the + and - keys or the left and right arrows (buttons 1 & 2) can be used to increase/decrease/change the value.

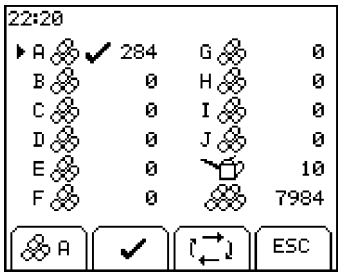
Press 'ESC' (button 4) to return to the main menu.



	**Net or twine** Select net or twine.
	**Diameter correction** This is used to increase/decrease overall bale size to achieve a desired bale diameter. It can be set to +/- 20 cm.

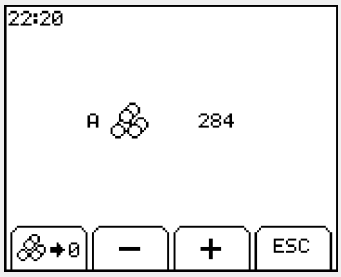
	**Net delay** This is used to set the time delay between the bale full alarm sounding and the net actually feeding into the chamber. Some operators prefer a longer time delay to ensure adequate warning when baling at higher speeds.
	**Net metres** This is used to reset the net metres total. Press 'RESET' (button 1). Press ✓ (button 3) to confirm the reset. *(See 'Net metres')*
	**Pre-warning beep** This is a single warning beep to indicate when the bale is nearly full. The setting is a percentage of the selected bale size. Set to 99% if this function is not desired.
	**Bale shape indicator** This is used to turn on/off the bale shape indicators and beeps. *(See 'Bale shape indicators')* On (✓) = Bale shape indicators are shown on the screen but no beeps are active. Off (✗) = No bale shape indicators or beeps are active. Beep (🔈) = Bale shape indicators are shown on the screen and the beeps are active.
	**Bale shape indicator zero** This is used to set the centre position of the bale shape indicator sensor. Normally, this is only required with a new machine or when the sensor is replaced. To set the zero position, make sure the chamber is fully closed with no crop in the chamber, then select the bale shape indicator zero setting and press 'RESET' (button 1). Press ✓ (button 3) to confirm the reset.
	**Measurement units** Depending on operator preference, either metric or imperial units can be selected.
	**Knife pressure** This sets the target knife pressure and is adjustable between 1 and 10 (32.5-55 bar). The default setting is 6 (45 bar). 'Knife pressure too high' warning is shown if the knife pressure exceeds 65 bar.
	**Additive** This feature is used to activate/de-activate an additive applicator. When this setting is on, the additive applicator output is automatically controlled. It automatically turns off to minimise additive wastage when no crop is feeding in during netting or while the chamber is open. Turning this setting off disables the additive output for baling crops that do not require additive.

7.4.10 Counters

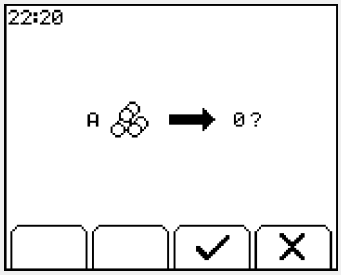


This menu allows the user to manage bale and lube counters. The toggle key (button 3) can be used to scroll between each counter. Press enter (button 2) to select a new subtotal.

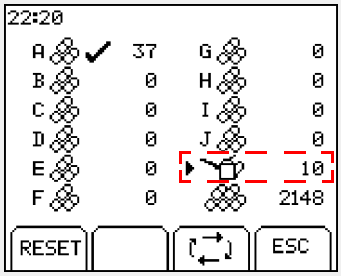
Press ‘ESC’ (button 4) to return to the main menu.



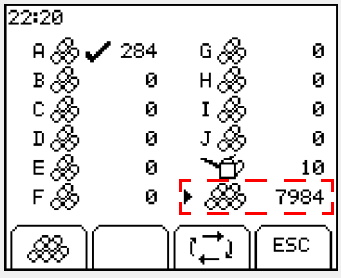
Subtotals
Press softkey 1 to enter the selected subtotal.
Subtotals can be adjusted or reset.
Press the + and - keys to adjust the selected subtotal.



Subtotal reset
To reset a subtotal press softkey 1, followed by the ✓ key to confirm or ✕ key to cancel

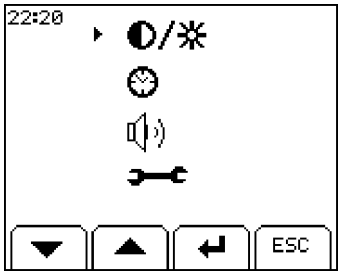


Lube count
The lube count is after bale sub total J and has an oil can symbol. It is an alarm that activates every 300 bales to remind the operator to check oil levels and to grease the machine. The remaining bale count before the alarm will sound is shown. It can be reset in the same way as the subtotals above or from the main screen once the alarm sounds. *(See ‘Lube counter’)*



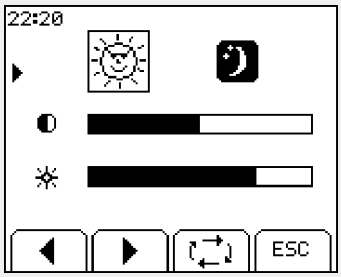
Grand total
The bale grand total cannot be reset and has no letter or symbol displayed.

7.4.11 Control unit setup



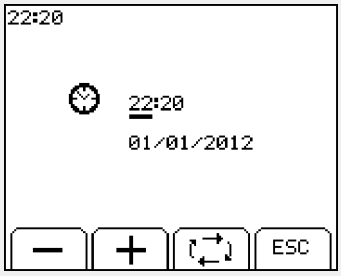
This menu allows the user to adjust settings in relation to the controller. Use the up and down keys (buttons 1 and 2) to move the arrow up/down, then press enter (button 3) to select the current option.

Press 'ESC' (button 4) to return to the main menu.



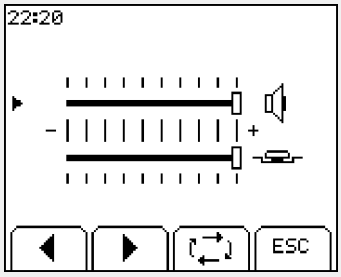
Contrast
Extremes of temperature may affect the contrast of the display, which is adjustable from the contrast menu. There are night and day options so the operator can store two different settings, a bright one for day and slightly darker for night use.

Use the left and right arrows (buttons 1 and 2) to select between day and night. When you have selected day/ night, press button 3 to move to brightness/contrast. Use the left and right arrows (buttons 1 and 2) to adjust the setting.



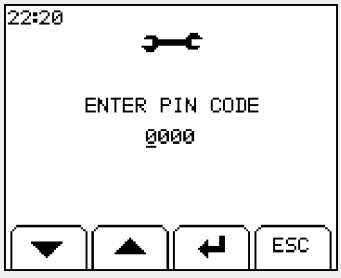
Clock adjust
This is used to set the time on the clock, which is always displayed on the top left of the screen. A date setting is also available.

Press button 3 to select a setting. Use the + and - softkeys (buttons 1 and 2) to increase/decrease the setting.



Volume
The beeper and key tone volumes are both adjustable.

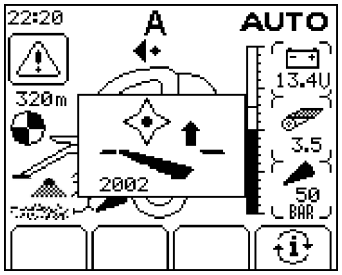
Press button 3 to select the beeper/key tone volume. Use the left and right arrows (buttons 1 and 2) to adjust the setting.



Technician menu
Reserved for **McHale** technicians. This menu is password protected as settings in it are critical to correct machine operation.

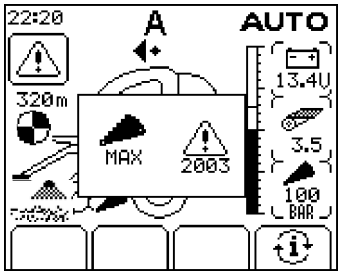
7.5 Warning messages

Drop floor sensor



As soon as the drop floor moves away from the working position, this warning will be displayed to alert the operator. The red light beside button 7 will also flash.
(2002)

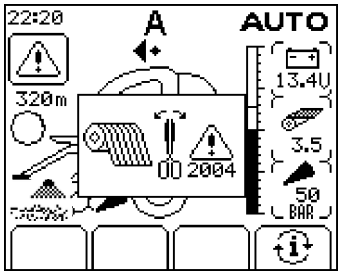
Knife pressure too high (V6750/ V8950 only)



This is displayed when the knife pressure is too high for baling (above 65 bar hydraulic pressure).

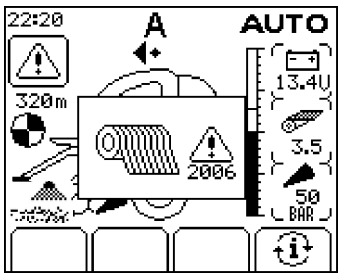
It is normal for this warning to be displayed during knife activation with maximum tractor pressure. It must be lowered again before baling. *(See 'Knife operation (V6750/ V8950 only)')*
(2003)

Net knife position



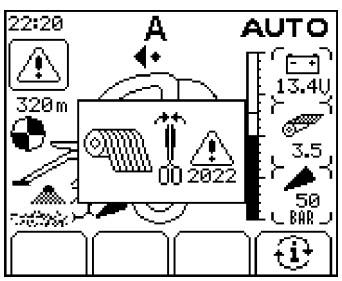
This warning is displayed when entering AUTO mode to tell the operator if the net knife is in the cut position. Net cannot be fed if the knife is already tripped. (Activating the spool valve in the door close direction automatically resets the net knife.)
(2004)

Net error



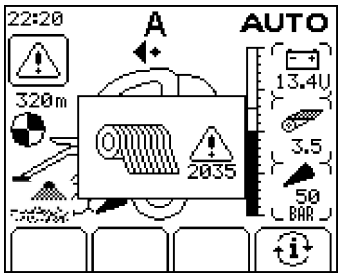
This warning is displayed when the roll of net runs out or if the net fails to feed into the chamber. The red light beside button 5 will also flash. Press button 5 to restart netting and the warning will disappear once net starts feeding again.
(2006)

Net not cut



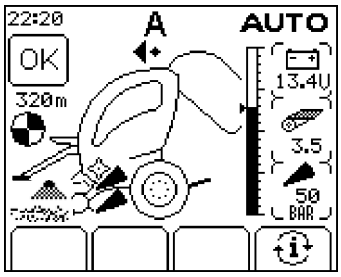
This is displayed if the net cut sensor does not observe that the net has been cut at the end of the netting process.
(2022)

Net feed error



This warning is displayed if it is detected that net is feeding into the chamber at the wrong time.
(2035)

Chamber open

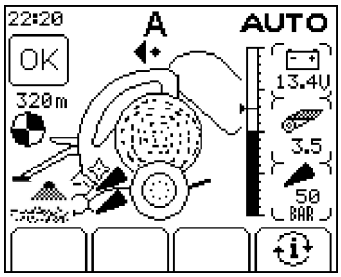


This screen is displayed when either the left or right door latch sensor is detected open.

AUTO mode cannot be selected when the chamber is open.

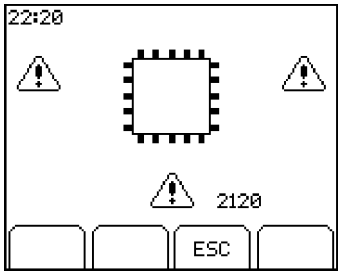
If the chamber opens inadvertently during an automatic cycle, a warning beeper will sound to alert the operator.

Bale not ejected



This screen is always shown as soon as the chamber is opened after netting. As the bale ejects from the chamber and rolls off the kicker, a beep will sound and the bale image will disappear to indicate that the chamber door can be closed.

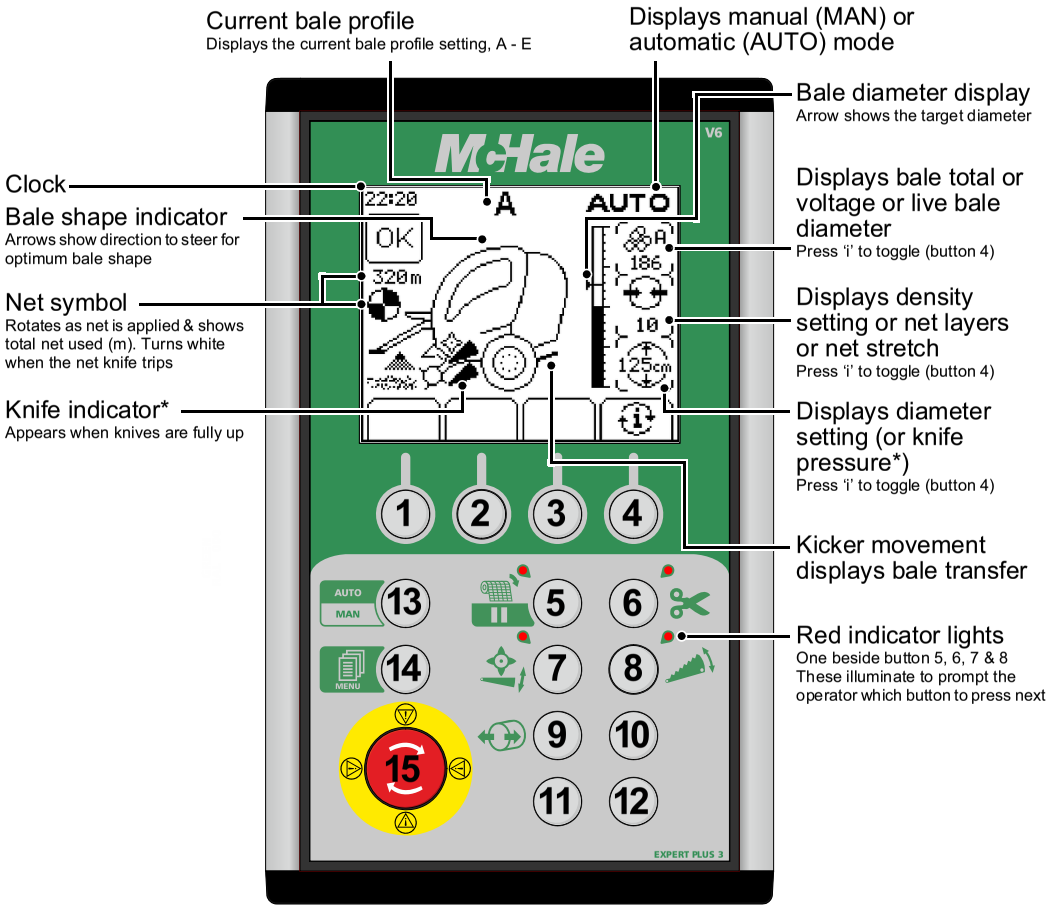
Memory corruption warning



This is shown if bale totals or settings get corrupted or get reset back to default unexpectedly.
(2120)

V Series Control unit overview (net)

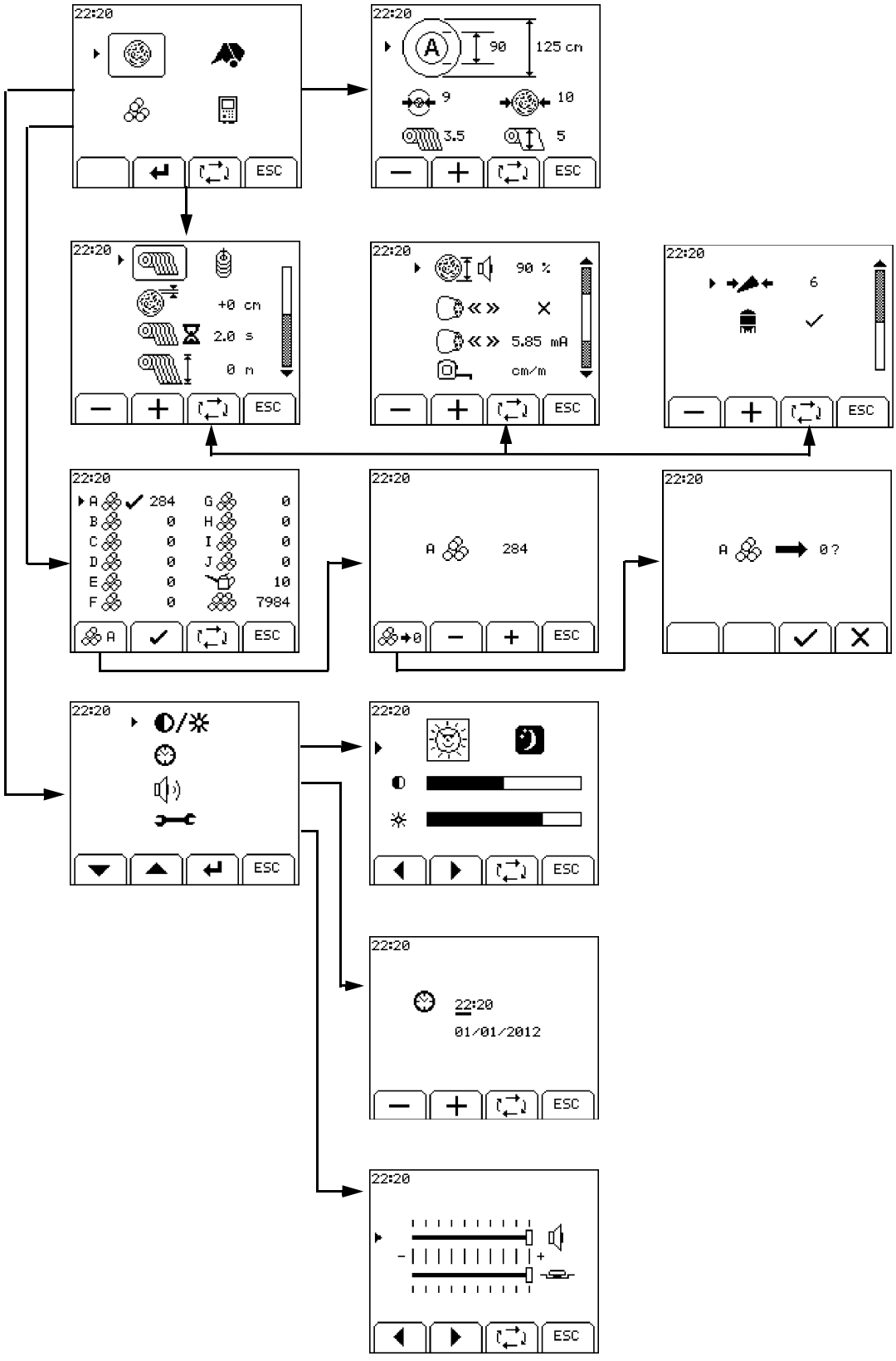
(Software Version EPS660-126)



*Functionality in relation to chopper unit knives applies only to models with chopper units!

No.	Function	
	Manual (MAN)	**Automatic (AUTO)**
1	Multi function	
2	Multi function	
3	Multi function	
4	Information button. Press to toggle between the displayed information on the right of the screen (bale total, density, target diameter, voltage, net layers, knife pressure, live bale diameter and net stretch).	
5	Net feed	Press once to start netting bale early. Hold to delay net feeding. Press to feed net after a net error.
6	Cut net	Cut net after a net error
7	Floor diverter	
8	Knife diverter (Machines with chopper unit knives only)*	
9	Release density pressure	
10	No function	
11	No function	
12	No function	
13	AUTO/MAN button. Press to switch between manual and automatic modes. Press and hold to switch to SEMI mode.	
14	Menu button. Press once to enter the machine menu. Also used to do a factory reset on the control box by holding down and switching on the power to the box.	
15	Emergency stop button. Press to turn off the box. Twist clockwise to turn on.	

V Series Menu structure (net)



8

Road traffic safety & operation

8.1 Before travelling on any public roadway

CAUTION: Complete a full inspection before travelling on the road

Ensure that a full inspection is completed every time before attempting to go on to a public roadway, always think and practice safety!

The following should be inspected every time, before travelling on a public road:

- Ensure that the tyres are set to the correct pressure as per safety decals and according to the specifications. *(See 'Tyre specifications*')*
- Ensure that all doors are securely closed and fastened, ensuring that primary and secondary catches are fully engaged, these should be kept clear of foreign objects to ensure proper and trouble free operation.
- The bale forming chamber should be emptied.
- The machine must be safely cleared of all loose forage. To carry this out, firstly turn off the tractor and fully isolate the machine by disconnecting all of the connections to the tractor unit.
- The PTO shaft must be fixed safely to the tractor PTO stub shaft.
- The lighting system of the machine must be connected to the tractor and must be in a fully functioning condition.
- The electronic control box must be switched off or disconnected from the power supply. *(See 'Electronic control system')*
- Attention must be paid to the maximum travel speed limit (40 km/h).
- The brake system (hydraulic or pressurised air) of the machine, if fitted, must be connected to the tractor. Do not travel, with air brakes, until the required pressure is shown on the indicator of the tractor panel.
- Ensure that all the national road traffic regulations relating to the country are fulfilled i.e. the use of safety chains is mandatory in EU countries when air brakes are not installed. The safety chain must be attached in such a way that if the coupling breaks, the hitch or drawbar cannot make contact with the ground.
- Lift the pick-up reel completely and close the lever on the hydraulic line (if fitted). The hydraulic supply must be turned off and protected from accidental activation by disconnecting the hydraulic feed line. Support all loose lines in a safe manner.

- Check that the area around the wheels and especially the brake hubs are clear of build-up of crop material.
- The pick-up guide wheels must be fixed in the road transport position and the drawbar/PTO stands secured in a working position. *(See 'Drawbar & PTO shaft stand usage')*

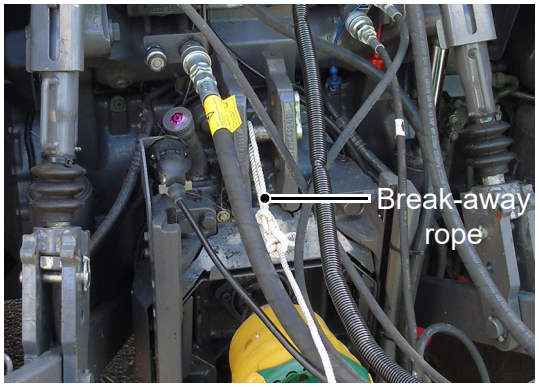
Pick-up wheels in the transport position

8.2 'Break-away' brake (if fitted)

The machine hand brake (if fitted) must be applied when the machine is detached from the tractor. The hand brake handle has a rope fitted to a calibrated ring which must have the other end securely fixed to the tractor, each time the machine is attached to the tractor. If the machine hitch ever becomes detached from the tractor this rope will apply the brakes on the machine.

CAUTION: Ensure the hand brake is released when moving

Always ensure that the hand brake has been released before moving the machine on the road or operating in a field.



Break-away rope fixed to tractor

Hand brake handle

9

Field operation & machine adjustments

9.1 Break-in period

McHale recommends a break-in period of approximately the first 50 bales or until the paint within the machine has lost its shine. During this break-in period, the sides of the bales may appear untidy, but once the side-walls have been polished smooth, then bale sides should look neater. After the initial break-in period the tension of all the chains on the machine should be checked and adjusted, as required *(See 'Chain adjustments')*. Ensure that all grease points are adequately greased to prevent rapid wear of components.

9.2 Swath preparation

An optimum baler performance of the machine requires a good swath preparation in advance. The optimum swath width is 1.5 m.

NOTE: Swath width is the most important factor in proper bale formation

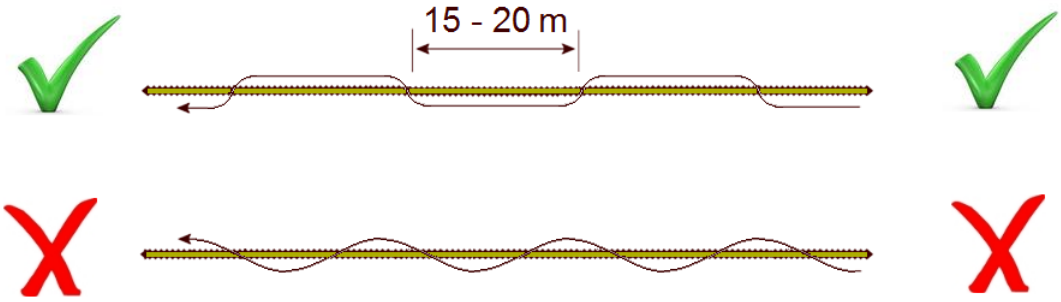
A 1.5 m swath width provides optimum material flow into the bale chamber for even bale formation. A swath width greater or less than 1.5 m will lead to increased bale deformation.

In the case where narrower swaths are unavoidable, it is recommended that the swath be periodically directed 15 - 20 m to the right-hand side and also the same distance to the left-hand side of the pick-up as the baler is driven over the swath.

Collect the material into one side of the pick-up for 6 - 8 seconds. Then cross over the windrow and collect material for the same duration. Reduce the length of time for heavy windrows and increase for lighter windrows.

Continuous weaving is not recommended as this will result in excessive material being placed towards the centre of the bale.

In the case of wider swaths, i.e. >1.5 m; this size of windrow should be avoided, as in this case a greater amount of material will continue to be fed to the outside of the baler. As a result, a greater amount of material will be fed to the outer edges of the bale than to the centre. This will result in concave-shaped bales.



Swath widths - correct & incorrect

9.3 Pick-up reel height adjustment

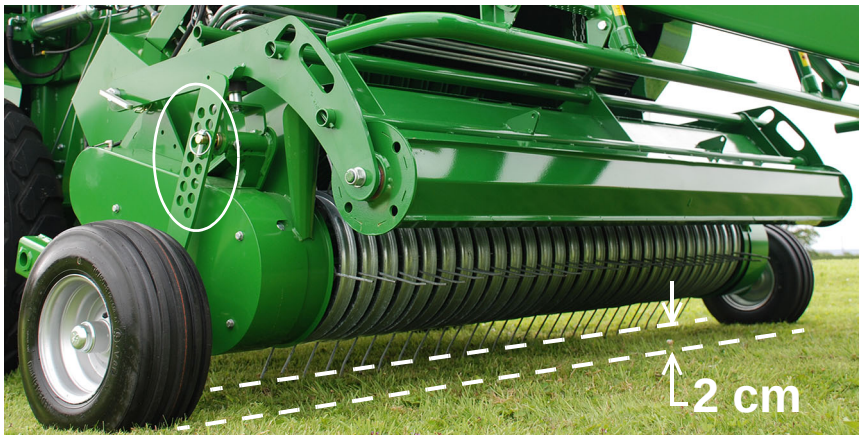
Before working in the field secure the pick-up guide wheels, in their operating position, as shown. Use the appropriate hole in the adjusting bar so that the pick-up is balanced and at the optimum working height with the pick-up tines being 2 cm above the ground.

NOTE: Ensure the spool control lever is in the float position

When baling with this machine ensure that the control lever for the spool operating the pick-up reel height adjustment is in the float position. If the lever is not in the float position then the reel will be fixed in a set position and will be unable to follow the ground contour.

NOTE: Wear and tear of pick-up tines

Working with the pick-up tines set too low will leave them susceptible to breakage and rapid wear!

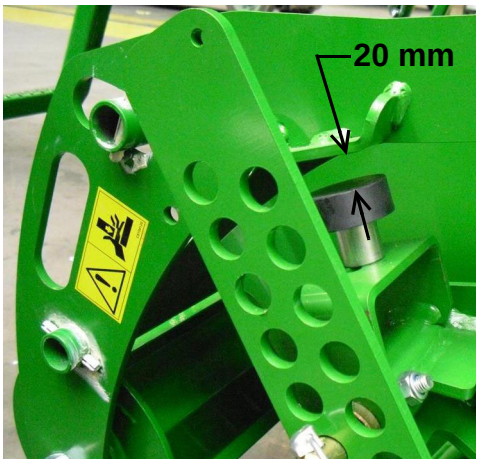


Pick-up reel height adjustment

9.4 Crop roller adjustment

The function of the crop roller and fingers is to hold down and spread out the baling material in order to achieve a smooth crop flow into the pick-up unit. The crop roller height should be adjusted, by engaging the chain links in the keyhole slots, so that the stops do not rest on the rubber bumpers as shown. Once this initial height is set, it is then self adjusting depending on crop conditions. Ensure linch pins are used to secure chain links together. Once adjusted, the crop roller should run along the top of the swath. In lighter conditions it should be adjusted as low as possible, but still ensure that the stops do not rest on the rubber bumpers.

Crop roller adjustment chain



Crop roller stops

9.5 Unblocking system

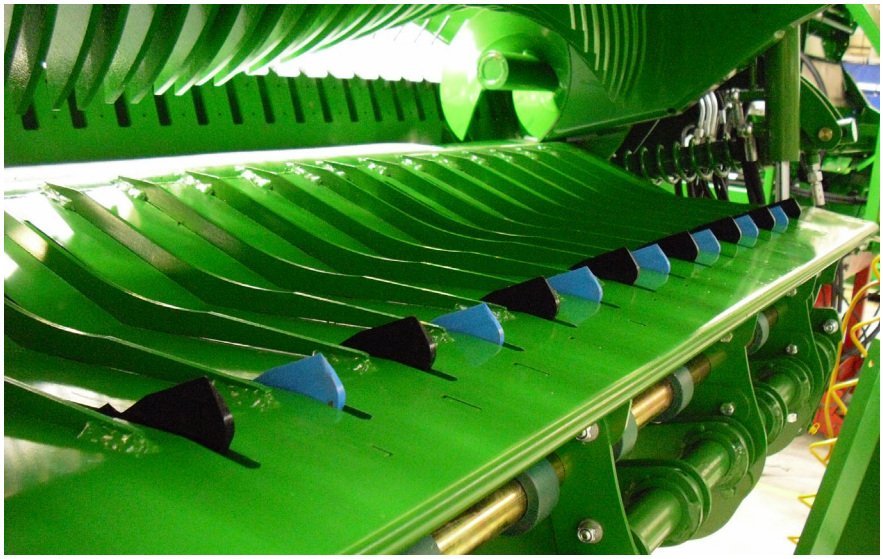
The machine is equipped with an unblock system. In the case of a blockage in the feeding channel, the PTO overload clutch will disengage and a loud clicking noise will be heard. Once this sound is heard, immediately turn off the tractor PTO.

The channel floor can then be lowered by holding the floor diverter (button 7) and operating the pick-up spool lever in the down direction.

Then restart the tractor PTO at a slow speed, increasing speed slowly up to normal working speed. Any lumps of material can now be easily transported into the bale chamber. When the blockage is cleared the floor can be raised again by holding the floor button and operating the pick-up spool lever in the up direction. This works the same in MAN or AUTO mode. *(See 'Unblock floor operation')*. Baling can then resume as normal.

WARNING: Never go near the pick-up reel, while the reel is still rotating and the tractor is running!

Never attempt to go near the pick-up reel while the reel is still rotating and the tractor is running. In the rare case that the reel cannot be unblocked using the procedure above, then the pick-up reel will require manual unblocking, by removing the excess blocked material. To do this safely ensure the PTO is disengaged, tractor shut down, key removed and that all parts have stopped rotating. Also ensure machinery can't roll by parking machinery on level ground with the brakes applied and wheels chocked. Remove excess material carefully. Always wear protective clothing and gloves, beware of sharp edges!



Unblock mode, knives retracted and channel floor lowered

9.6 Chopping system (V6750/ V8950 only)

The machine is equipped with a 15 (or 25) knife chopping system for fine cutting. If a coarser chop is required, some of the knives can be removed. *(See 'Chopper unit knives (V6750/ V8950 only)')*. The knives can be raised or lowered by holding the knife diverter (button 8) and operating the pick-up spool lever in the tractor, in the up/down direction.

It is recommended to switch the chopping device off when baling very dry material.

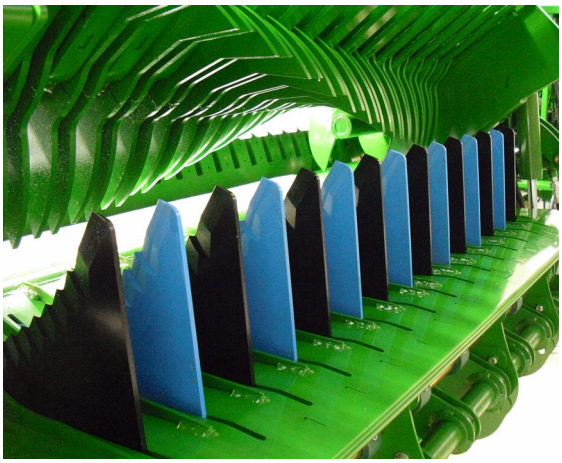
In order to protect the chopping device against overload and damage, the knives are hydraulically protected. If they become overloaded or if a foreign object passes through the rotor and puts undue pressure on the knives, they are able to momentarily retract from the position they are in, to let the material which is causing the overload, to pass into the baler.

NOTE: Keep the knife slots clear of material

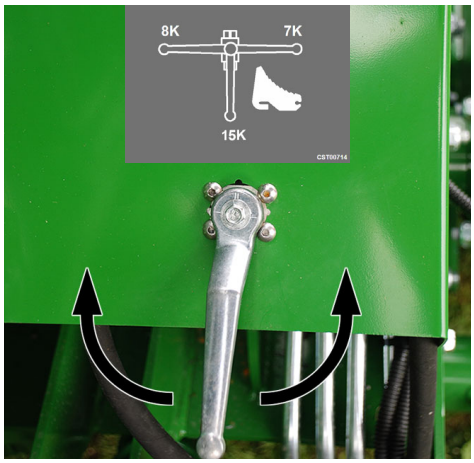
To keep the knife slots clear of material, it is recommended to switch the knives on and off several times daily. *(See 'Knife operation (V6750/ V8950 only)')*

9.7 Selectable knives (V6750/ V8950 only)

Selectable knives are available as an option on the machine. The operator can select between 0, 7, 8 or 15 knives (0, 12, 13, or 25 with 25 knife option), by turning the tap on the right-hand side of the chopper unit. The knives must be fully down, before selecting the desired set of knives. *(See 'Knife operation (V6750/ V8950 only)')*



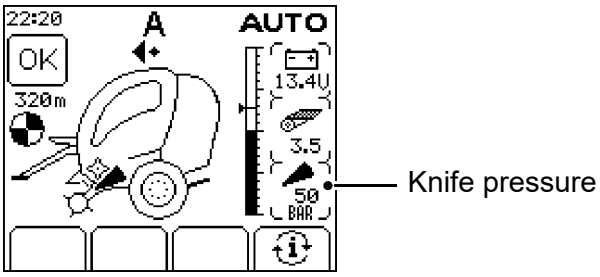
Selectable knives



Selectable knives tap

9.8 Knife pressure monitoring (V6750/ V8950 only)

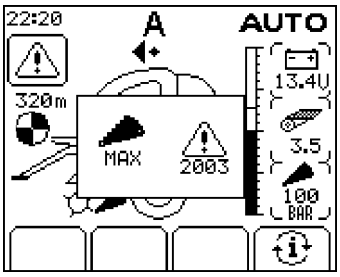
The knife position and pressure display, as shown below, is used to indicate whether the knives are in the 'up' or 'down' position and the pressure applied to the knife operating rams. *(See 'Standard knife operation')*



When the knives are being switched on, the pressure will increase to and stop at the normal working pressure of 35 - 60 bar, which is displayed on the screen. The knife sensor symbol should also appear on the screen to indicate that the knives are fully raised into the chopping position. (On machines with the selectable knife option, a separate indicator is displayed for each set of knives.)

WARNING: Do not bale if the knife pressure is too high!

Do not bale if the knife pressure is too high as machine damage will occur!



Knife pressure too high warning

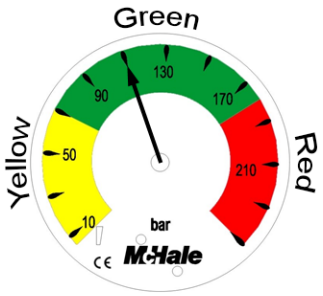
A warning will always be shown when the knife pressure is above working pressure. Lower the knives, then raise again to reset to the normal working pressure.

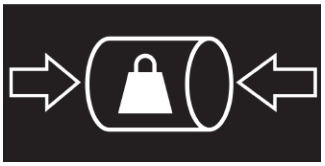
9.9 Netting system

In an automatic cycle the control box emits a single beep when the bale reaches 90% (adjustable) of the set diameter. Further to this when the bale diameter reaches 95% of the diameter the moving roller under the netter unit is triggered and the roller moves to it's inward or netting position. The box will then emit a series of beeps when the bale has reached it's predetermined diameter, this alerts the operator that netting is about to start. ***Note:*** The operator must stop the forward movement of the tractor at once!

Next a continuous beep informs the operator that the netting has started. After the preset number of net layers are applied to the bale, the net is cut. The tailgate can then be opened to eject the bale from the bale chamber, this will also reset the netter knife and the moving roller. Once the bale is ejected the tailgate can then be closed and once the tailgate is fully closed a single beep will inform the operator that the door locks are engaged and baling can resume.

9.10 Bale density gauge





The bale density gauge is used to indicate the pressure applied to the belt tension rams (on the small side). When the tailgate is closed, and no material in the baling chamber, the pressure shown on the gauge is known as 'starting pressure'. This pressure will then increase due to the oil in the cylinders being forced through the density valve as material begins to fill up the baling chamber. The density pressure is irrelevant for approximately the first 600 mm of bale formation, as the density is regulated by the tension springs. The density will then rise to the core density setting and after that the needle should rise to the set bale density and remain there until the bale is complete. Pressure should never go above 210 bar, if it does consult your **McHale** dealer. Crop type and bale density will also affect the net tension on the finished bale.

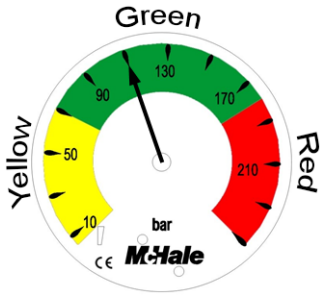
9.11 Setting the bale density

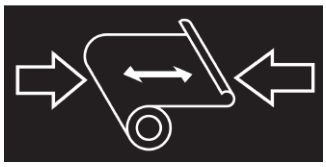
The bale density gauge is divided up into increments of 20 bar per increment and has a yellow zone, green zone and a red zone, as a quick reference during machine operation. When baling drier materials such as straw or hay **McHale** recommend setting the bale density pressure between 70 and 110 bar pressure (setting 4 - 5). When baling wetter materials, such as grass for silage, a pressure of between 110 and 160 bar pressure is recommended (setting 7 - 8). The bale density can be controlled from the control box. The density can be set from 1 - 10. Normally a maximum of 160 bar is adequate to produce good dense bales. A higher setting may be required in wet crop conditions. The selected density setting is displayed on the main screen.

CAUTION: Bale density pressure should not go above 210 bar

The bale density pressure should never be adjusted above 210 bar pressure. If 230 bar is exceeded, damage to the machine components may result.

9.12 Net tension gauge





The net tension gauge is used to indicate the pressure being generated by the tension on the net during application, depending on the 'net stretch' setting on the control box. The pressure is determined by the control unit, depending on the net tension setting. If there is 0 bar pressure during netting, it would indicate a fault and in this case first check the oil level in the tension pump. *(See 'Net tension pump')*. In general, higher tension settings will result in much superior bale shape and presentation, but this depends firstly on the quality of net being used, in that too high a setting will cause lower quality net to break during application or break when the net is on the finished bale. And further, the amount of net being applied will affect the max net tension setting that can be used, in that more layers will allow for a higher overall net tension, as there is more net available to hold the bale together. **McHale** recommends a net stretch setting of 5 or less for drier materials, when set to a high bale density. *(See 'Net stretch')*

9.13 Chamber door lock

The chamber door lock should be used at all times that the operator may wish to enter the chamber in order to change the cutter knives for example. The lock (A) is located on the front right hand side of the platform, at the front of the machine. See below for the safety decal and location of the chamber door lock valve. The lock works by way of a hydraulic on/off valve, while locked the valve is in the 'off' (vertical) position and the hydraulic rams will remain locked open, securing the door in a fixed position.

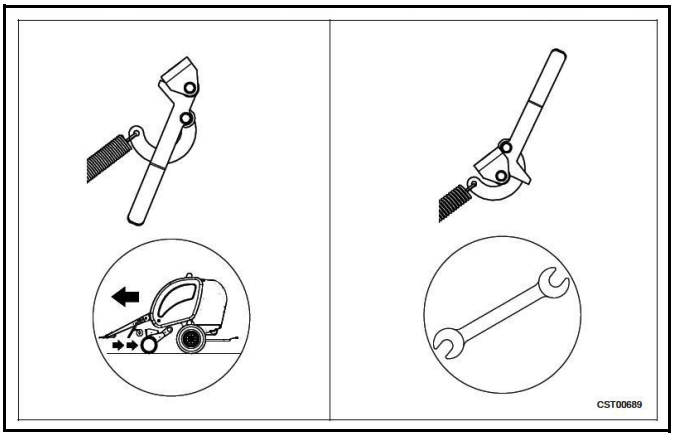
WARNING: The operator must be aware of all related warnings, safety decals and dangers

The operator must be aware of all related warnings, safety decals and dangers before attempting to carry out any work or maintenance from within the baling chamber. *(See 'Chopper unit knives (V6750/ V8950 only)')*

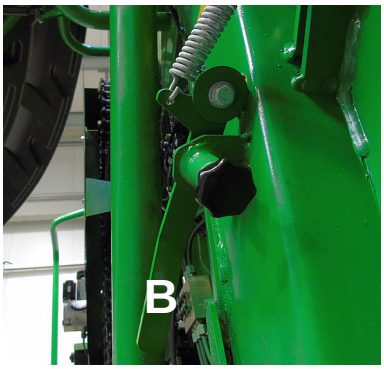
To lock, pull lever (A) forwards and rotate down 90°, to the left vertical position.

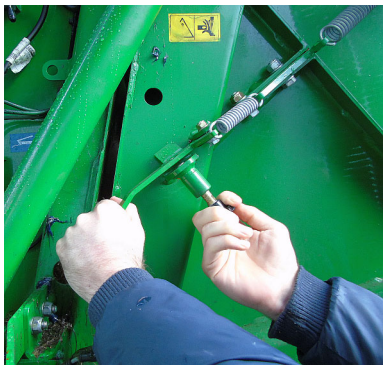
9.14 Tension arm lock

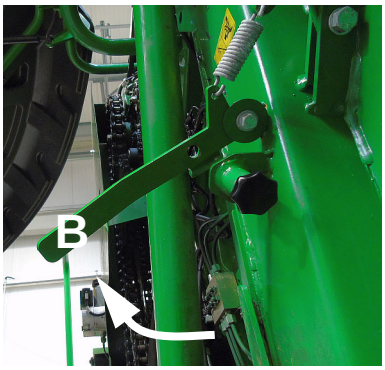
The tension arm lock is provided so that the hydraulic and spring pressure can be released from the belts when clearing a blockage within the machine or carrying out specific maintenance operations. (See the following decal CST00689)



Working position Maintenance position







Working position Maintenance position

Operate the tension arm lock, using the following procedure.

In order to move lever **'B'** from one position to another the spring-loaded plunger must be retracted.

1. Move the lock lever '**B**' from the normal working position to the maintenance position, this will cause the stop to move into the bale chamber.
2. Next the chamber door of the machine should be opened fully so that the tension arm passes the stop.
3. In order to release the pressure from the belts the tailgate must now be closed approximately half way so that the tension arm rests on the stop inside the bale chamber, allowing the belts to hang loose.
4. Close the chamber door lock '**A**' immediately.

CAUTION: Close the chamber door lock first

Ensure the chamber door lock is engaged before carrying out any work inside the chamber or under the tailgate.

Release the hydraulic pressure from the tension arm by pressing the density release (button 9) on the control box until the pressure on the clock falls to zero before carrying out any work inside the chamber or under the tailgate.

The hydraulic and spring pressure is now released allowing the operator to clear any blockage inside the chamber or carry out specific maintenance operations.

In order to grease the bottom two tension arm rollers the tailgate should be closed completely before applying the tailgate lock. The lower roller grease points are now accessible through slots in the chamber walls, two on either side.

To release the tension arm lock, once work has been completed inside the chamber, the lock lever '**B**' should be returned to the working position, before opening the tailgate fully to release the stop and then closing the chamber again. The belts are now re-tensioned and the machine can resume as normal.

9.15 Brake overview (if brakes fitted)

The machine comes with either hydraulic or air brakes. The machine is fitted with a hand brake which must be applied when the machine is detached from the tractor. This also serves as a 'break-away' brake, when the actuation cord is connected to the tractor. Always obey local road regulations!

9.15.1 Hand brake

The machine is equipped with a manual parking brake (hand brake).

Pull the lever to activate the brake. The brake performance increases as you pull the brake (using a normal pulling force), reaching a maximum when the lever stops. The brake performance is at it's best when the cables are adjusted correctly, all moving parts are lubricated and the teeth on the ratchet and pawl are in good condition. If the teeth on the ratchet or pawl become worn or damaged, they must be replaced immediately.

9.15.2 Air brakes

The machine is equipped with a dual-line air brake system. There are two hoses that must be attached to the tractor for the air brake system to function:

- The yellow hose is the service line which controls the rate of braking of the machine.
- The red hose is the emergency line, which if disconnected applies the brakes on the machine.

Connection with the tractor

To connect, attach the yellow hose coupling first, followed by the red hose.

To disconnect, remove the red hose coupling first, followed by the yellow hose.

It is important that the above sequence is followed, as the red hose (emergency line) should never be connected on its own.

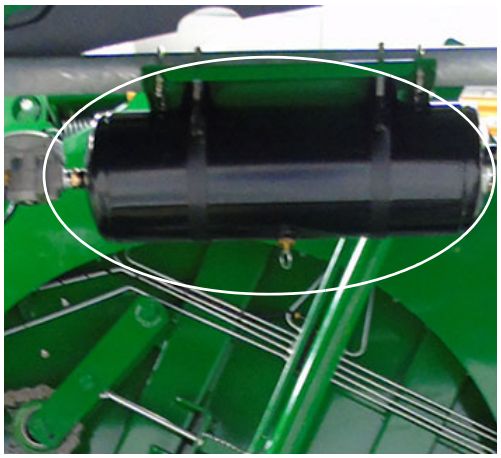
Once the hoses have been disconnected from the tractor, the braking system of the machine is active. The parking brake should also be used to ensure stability of the machine, once disconnected from the tractor.

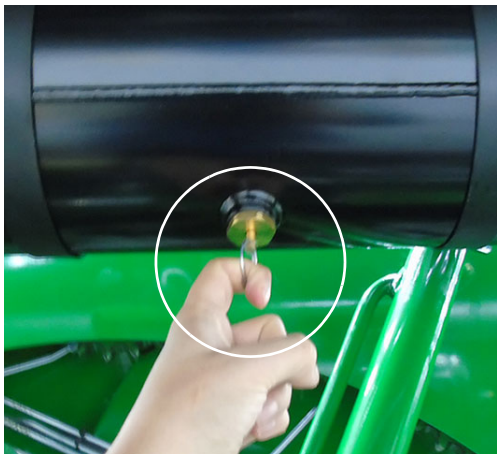
Performance of the brake chamber actuators

The brake chamber actuator movement activates or deactivates the drum brakes.

If the push rods of the brake chamber actuators bottom out, the brake performance may fail completely. Possible causes are damaged or worn brake shoes and/or defective joints or improper adjustment.

Moving the machine with a tractor (without an air brake system)





The machine can be moved by a tractor, without an air brake system, even though the air reservoir is full and the hoses are not connected. Locate the air reservoir tank either on the side of the machine or under the platform. Pull the ring underneath which releases the air and hold until all the air has escaped.

The tractor can now move the machine once the hand brake has been released.

CAUTION: The machine and tractor must be connected first

This procedure is only allowed when the machine is attached to a tractor first. By draining the air, the service air brake line will no longer operate. This procedure should be used for emergency purposes only to move a machine around in a yard on a level surface. The machine should never be operated in such a condition or moved on hilly terrain.

Maintaining and servicing

A maintenance service in a professional workshop is necessary when:

- The brake performance is reducing continuously and/or
- The brakes squeal or grate heavily when activating the foot brake.

WARNING: Must be qualified to work on the brake drums

This work should only be carried out by qualified persons or your **McHale** dealer, who are familiar with braking systems.

9.15.3 Hydraulic brakes (optional)

The machine is equipped with hydraulic drum brakes, using single-line activation.

Connection with the tractor

Connect the female hydraulic brake hose to the tractor after shutting down the engine. The tractor may have a ‘pressure release’ function, allowing connection to the machine brake hose while the engine is running.

The brake is activated by pushing the foot brake pedals in the tractor cabin. For that reason, the brake can only work when the hydraulic hose is connected to the tractor properly and the tractor engine is running.

Performance of the brake chamber cylinders

The brake chamber cylinders activate or deactivate the drum brakes. If the pistons of the brake chamber cylinders bottom out, the brake performance may fail completely. Possible causes are damaged or worn brake shoes and/or defective joints or improper adjustment.

Maintaining and servicing

A maintenance service in a professional workshop is necessary when:

- The brake performance is reducing continuously and/or
- The brakes squeal or grate heavily when activating the foot brake.

WARNING: Must be qualified to work on the brake drums

This work should only be carried out by qualified persons or your **McHale** dealer, who are familiar with braking systems.

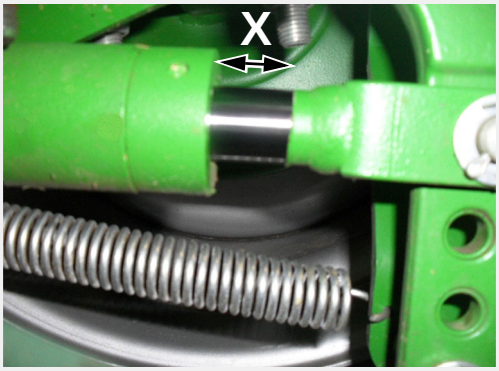
9.15.4 Brake adjustment

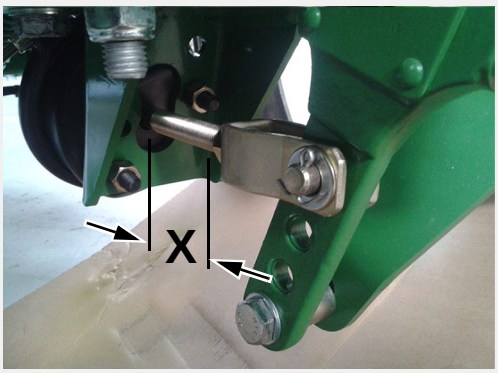
Machines fitted with brakes, either air or hydraulic, must be initially checked after the first 50 hours of use and every 100 hours or yearly thereafter (whichever comes first).

WARNING: Ensure safety before working on brake adjustment

Before attempting to carry out brake adjustment, ensure that the tractor engine has been switched off and the key removed. Testing should be conducted with the hand brake 'off' on both the machine and the tractor and a second trained person will be required to activate brakes from the tractor. Also ensure machinery can't roll by parking machinery on level ground with wheels chocked. Always wear protective clothing and gloves.

The following is the procedure for checking brakes:



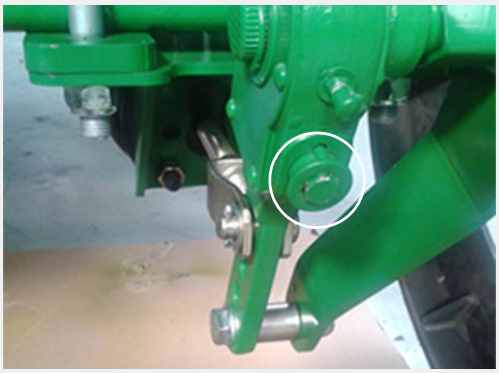


1. Check dimension 'X' before applying brakes and again when brakes are applied. The value for 'X' should be between 12 and 18 mm.

On hydraulic brakes (top picture) this is usually the amount of exposed chrome visible on cylinder rod.

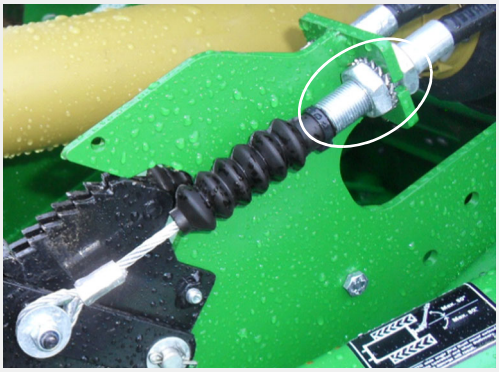
On air-brake systems (bottom picture), some fixed reference point must be used to measure the actuator movement.

2. If the value for 'X' is not within this 12 - 18 mm range, then the brake can be adjusted using the adjuster screw, as shown. Using a 14 mm spanner, turn the adjuster screw clockwise to reduce the value and anti-clockwise to increase. Apply the brake again to check the measurement and repeat this procedure until the movement is within the designated range.



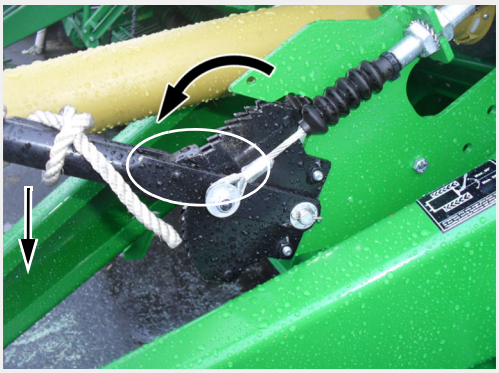
3. Ensure the spring-loaded locking collar is returned, to the locked position, to prevent any further movement of the adjuster screw.

Repeat the procedure for both sides of the machine and ensure brakes are being applied evenly. Both sides should be adjusted as closely as possible to the exact same value.



4. Once the brake levers have been set, the hand brake cables will need to be adjusted. Set the threaded adjusters of both cables, at the hand brake lever, so that most of the available thread is towards the lever (as shown). Ensure that the locknuts are tightened securely against the serrated washers after final adjustment.

5. Use the adjuster beside the wheel to remove any slack from the cable. This must be done for both wheels. Ensure that the locknuts are tightened securely against the serrated washers after final adjustment.



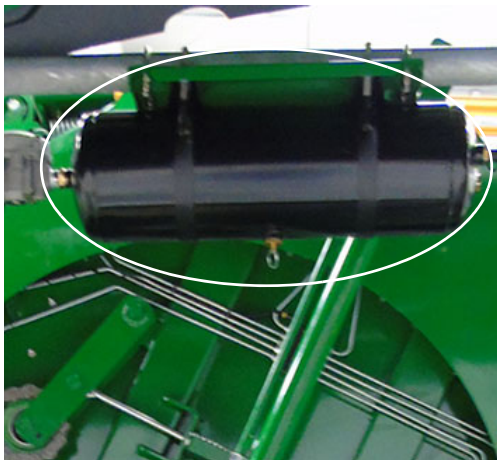
6. It should only be possible to pull the lever about half way down the ratchet to activate the brakes. If the lever can be pulled down towards the bottom of the ratchet, then adjust the cables at the wheels to ensure the lever only pulls half way.

9.15.5 Brake maintenance

Drain condensation water from the air reservoir (air brake only)

Actuate the manual drain valve as necessary by pulling the ring, each day before operating for a few seconds or until the water droplets disappear.

Ensure that the hand brake is engaged before carrying out this procedure.

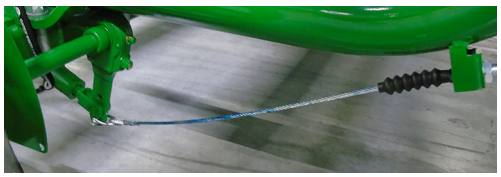


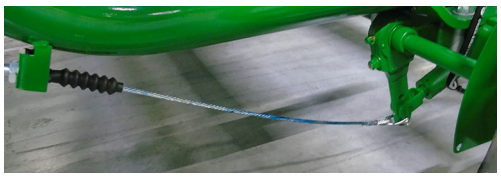
Check the brake hoses regularly

Check the condition of the brake hoses monthly for any signs of cracking or abrasion. Ensure there is no contact from surrounding objects that could cause damage or wear over time.

Check the hand brake cables

Check the hand brake cables monthly for signs of stretch, wear or deterioration.





9.16 Adjusting pick-up float springs

The spring retained collars which are used to adjust the pick-up float springs are located on either side, underneath the chopper unit. To adjust, follow the procedure below:

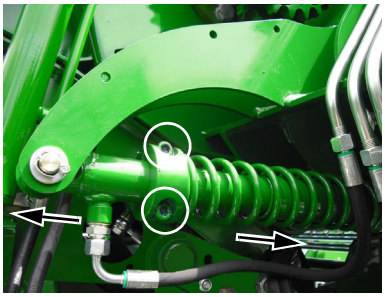
1. Using the tractor spool handle, hydraulically raise the pick-up, in order to release float spring pressure. Close the tap on the hydraulic line to prevent the pick-up from moving.
2. Ensure that the tractor engine has been shut down, the key removed and the brakes applied before carrying out the following procedure.

3. The method of adjustment can be either Type A or Type B, which are shown below.

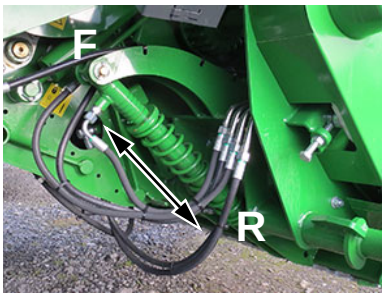
   (a) **Type A:** Loosen the collar by slacking off the bolts, then tap the collar in the direction (R) if increased float is required, or in direction (F) if less float is required. Remember to fully tighten the bolts on the collar when adjustment is complete.

   (b) **Type B:** Loosen the collar by moving the circlip to another groove. The ram body on type B has a series of grooves allowing the circlip and collar to be moved at 10 mm intervals of adjustment. Tap the collar in the direction (R) if increased float is required, or in direction (F) if less float is required. Ensure circlip is positioned fully in the nearest groove to complete adjustment. For normal ground conditions, the circlip should be positioned on the 7th groove.

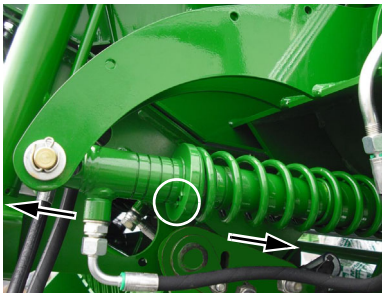
4. Lower the pick-up reel. Both left-hand and right-hand 'float spring' rams should be adjusted in exactly the same way so that the load is balanced and equal.



Type A



Adjustment of pick-up float springs



Type B

NOTE: Adjustment should enable the pick-up to drop completely

This adjustment should enable the pick-up to drop completely, while in the lowered position. If not, re-adjust by lowering the spring tension, i.e. move the collar in direction (F).

NOTE: Additional spring force required when operating at heights

If operating at heights other than the fully lowered position, then additional spring force will be required to obtain adequate float, i.e. move the collar in direction (R).

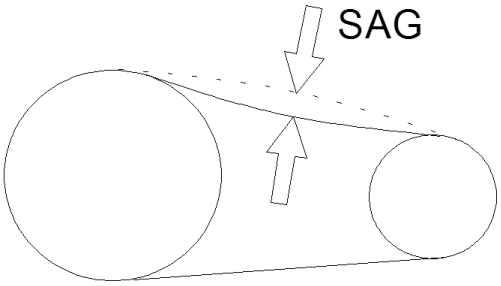
NOTE: Ensure spool control lever is in the 'float' position

When baling with this machine, ensure that the control lever for the spool operating the pick-up reel height adjustment is in the 'float' position. If the lever is not in the 'float' position, then the reel will be fixed in a set position and unable to follow the ground contours.

9.17 Chain adjustments

It is important for the efficient operation of the machine that all drive chains are kept correctly tensioned. The following is a general guide to chain adjustment.

The sag is measured at the midpoint of the chain between the sprockets. Always ensure one side of the chain is tight so that the correct reading is obtained. Even though some drives differ in detail the basic adjustments stay the same.

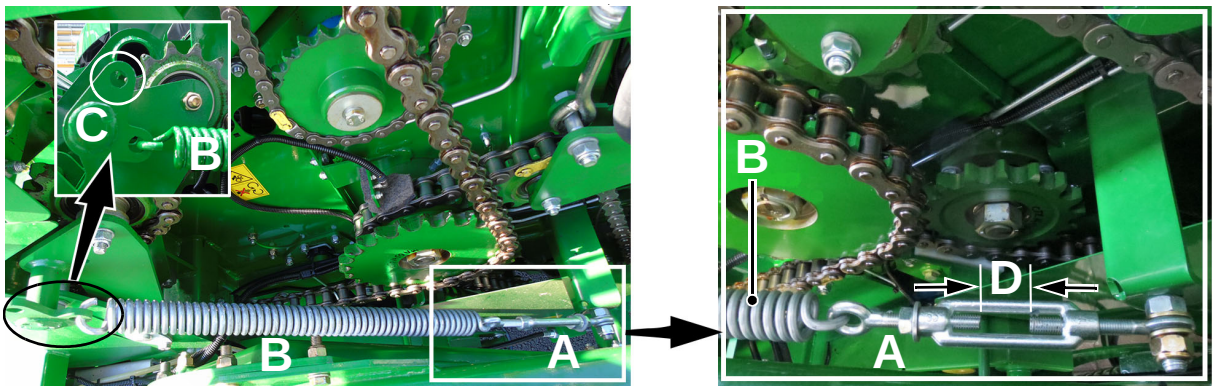


The following chains will require an inspection for sagging after the first 500 bales and must be inspected once per 1,000 bales after that.

9.17.1 Main drive chain adjustment

Adjust turn buckle (A) until the gap between the coils of the spring is 2-3 mm. As the chain wears the gap (D) will need to be reduced. If there is no more adjustment available in the turn buckle (A) the end of spring (B) can be moved to location (C) on the chain tensioner bracket.

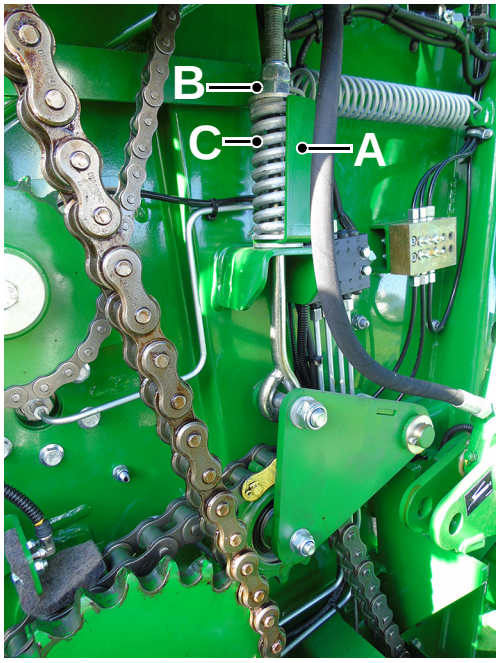
Always inspect the chain tension after adjustment.



9.17.2 Lower drive chain adjustment

To adjust the chain, the use of two 24 mm spanners is required.

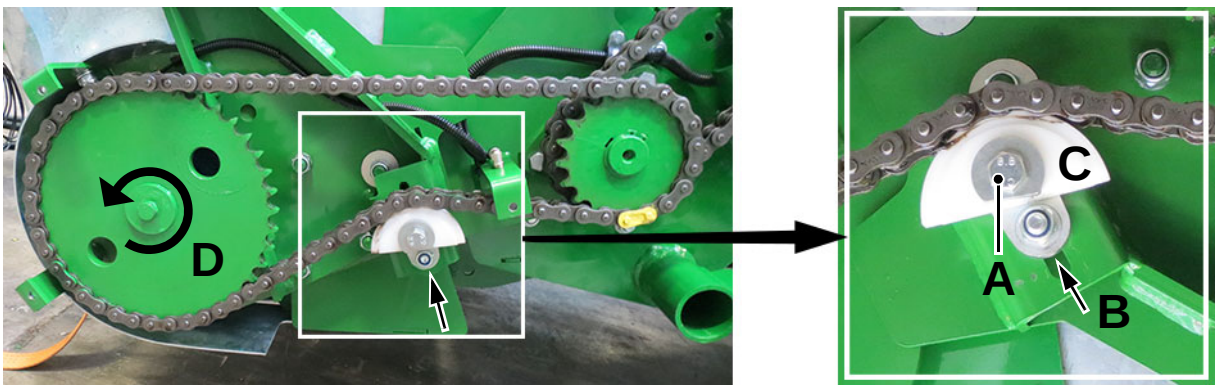
Slacken the nyloc nut, whilst holding lock nut (B), then adjust lock nut (B) until compression of spring (C) has reached the same length as spring guide (A). Spring guide (A) is an indicator only and always inspect chain tension after adjustment, as greater spring compression may be required, due to chain wear, chain damage, etc. Tighten nyloc nut securely against the lock nut (B).



9.17.3 Pick-up reel tine chain adjustment

To adjust the tine reel chain, the use of a 17 mm spanner and socket is required.

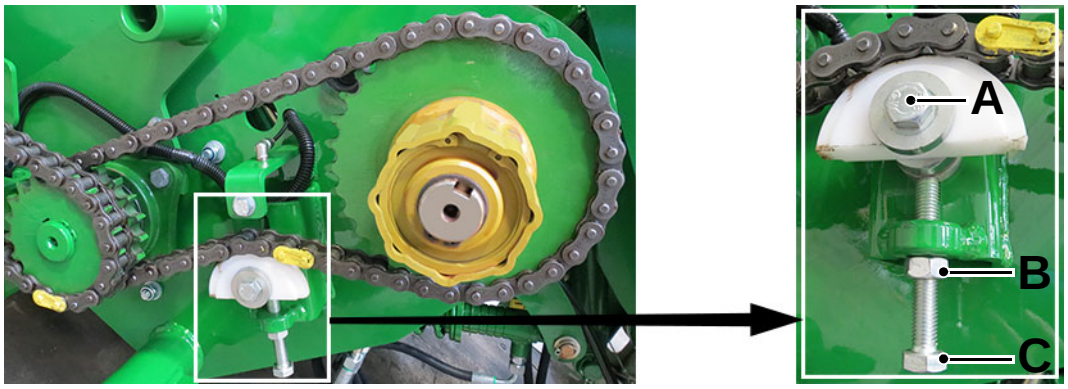
1. Loosen (A) and turn tine sprocket (D) anti-clockwise, as shown below.
2. Apply upward pressure (along slot B) to nylon chain slide (C), while continuing to hold sprocket (D) in position.
3. Tighten (A) and ensure that sagging is kept to a minimum.



9.17.4 Reel drive chain adjustment

To adjust the reel drive chain the use of both a 17 mm and 19 mm spanner and socket are required.

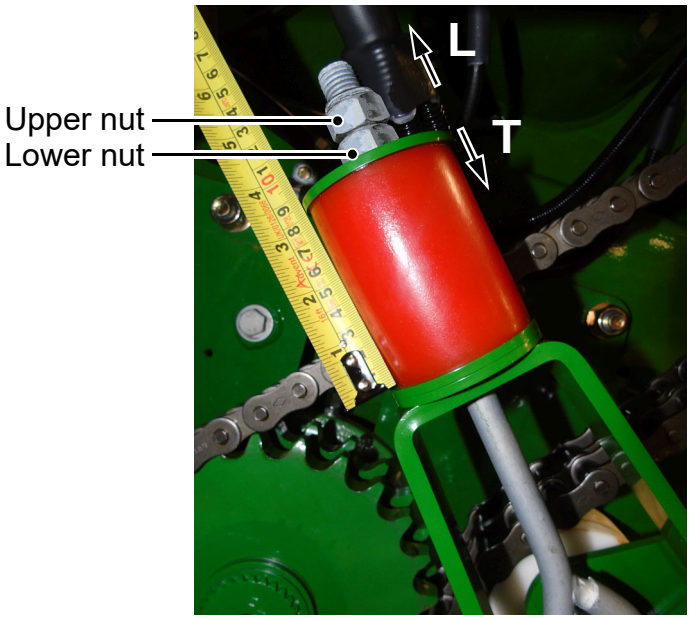
1. Using 17 mm tools, loosen (A) anti-clockwise by approx.1 turn.
2. Using a 19 mm spanner, loosen locknut (B).
3. Tighten setscrew (C) until there is little or no sagging of the chain and retighten bolt (A).
4. Retighten locknut (B).



9.17.5 Rotor duplex chain adjustment

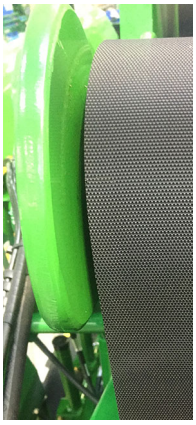
To adjust the duplex chain the following tools are required; two 24 mm spanners.

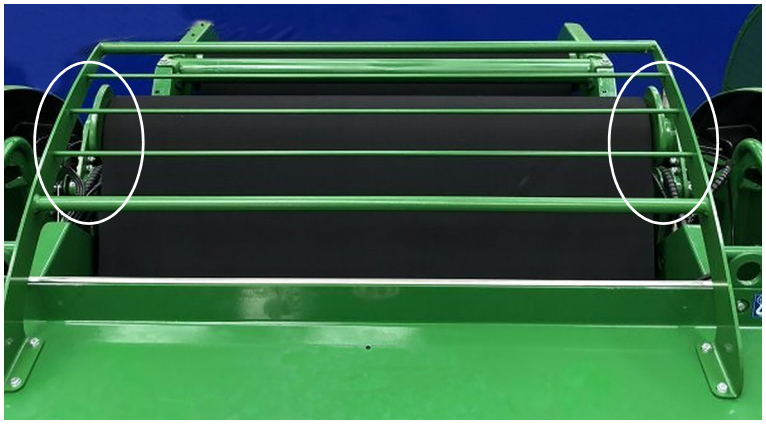
1. Hold the lower nut and loosen the upper nut.
2. To tighten - screw down the lower nut in the direction (T).
3. When the chain is at the required tension, screw down the upper nut.
4. Lock the two nuts together to secure in place.

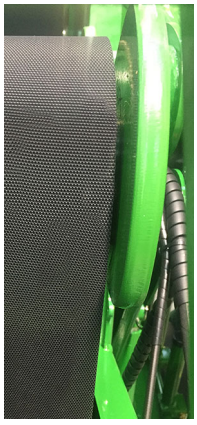


9.18 Adjusting belt alignment

Assuming crop is fed evenly into the bale chamber, generating consistent good profile bales, the belt(s) should run smoothly and remain in line. All machines are checked during production, to ensure the belt(s) are properly aligned and tracking correctly. However, once the machine has been bedded in (50 - 150 bales), and periodically thereafter, if the belt(s) are touching off the side walls (or each other), then adjustment may be necessary.



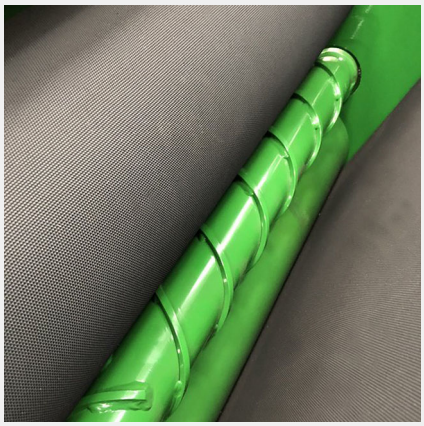




Different machines may have either 1 (wide) or 3 (narrow) belt(s), depending on the available options at the time of purchase.

WARNING: Ensure safety first!

Before approaching the machine, make sure that the tractor is shut down, with the hand brake applied and the ignition key removed.

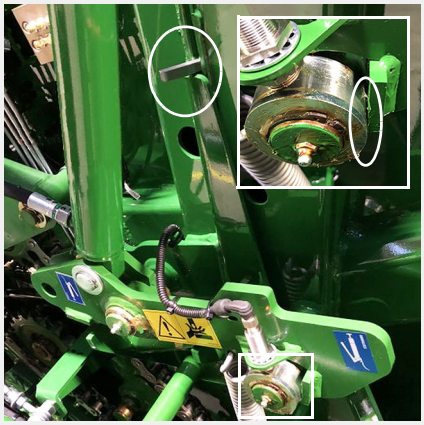


1. Before carrying out the following procedure, make sure that the bale chamber is empty and that all rollers and belt(s) are free of any loose debris or crop. To do this, open the chamber door then shut down the tractor and remove the ignition key.

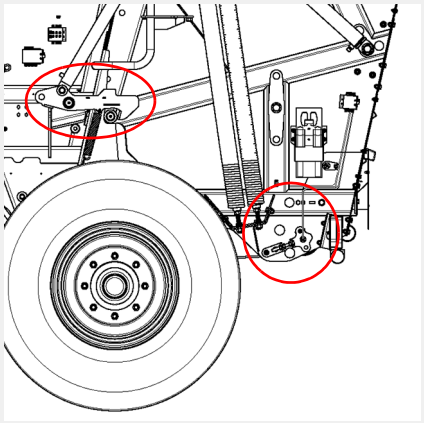
   Using the lever valve (A), lock the chamber door in position, by pulling it towards you and then rotating it 90° to the left vertical position, as shown.

   Inspect all chamber rollers and cleaning augers to ensure they are clean and there is no crop obstructing the belt(s).

   Next, open the chamber door lock (A) and then restart the tractor and close the chamber door.

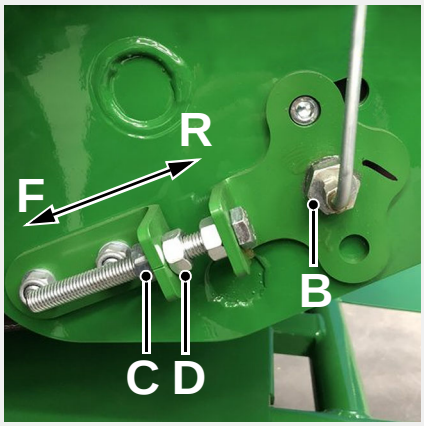


2. With the chamber door pressurised closed, check that the door pin rollers are tight against the door lock hooks. If not, then the chamber door must be wedged back, until full contact is established. A thin wedge can be hammered into the gap, as shown, to ensure the chamber door pin rollers are tight against the door lock hooks. This should be repeated on both sides as it simulates the working conditions while baling.



3. Restart the tractor and run the machine. Check the direction (right or left) in which the belt(s) have moved. This is most clearly seen on either the top tension arm roller or the tracking roller itself. The belt(s) can be aligned by adjusting the belt tracking roller which is located at the lower back corner of the tailgate.

WARNING: Before approaching the machine, make sure that the tractor is shut down, with the hand brake applied and the ignition key removed.

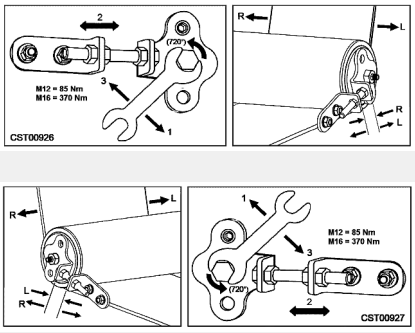


4. Adjustment should only be necessary on one end of roller (i.e. either left or right-hand side).

First, the grease pipe fitting must be disconnected from bolt (B).

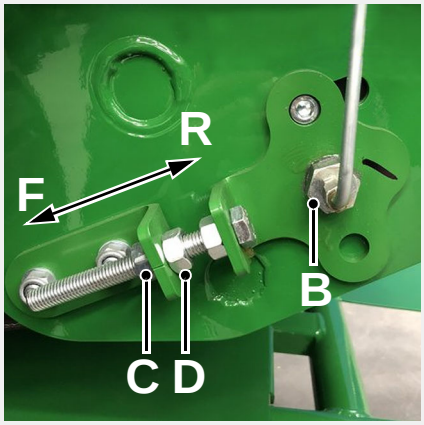
Next, loosen bolt (B) using a 24 mm A/F socket or spanner and back off just a few millimetres (a maximum of 2 full turns)

Using a 19 mm open-end spanner, back off locknuts (C & D), as shown.



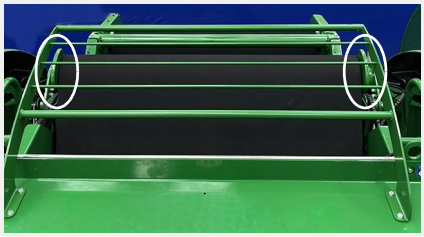
5. By adjusting locknut (C or D), the roller centre can be moved either rearwards (R) or forwards (F). Moving the roller end forwards will encourage the belt(s) away from the side being adjusted and moving the roller end rearwards will encourage the belt(s) towards that side.

Make very fine adjustments as a very small amount can make a noticeable difference.

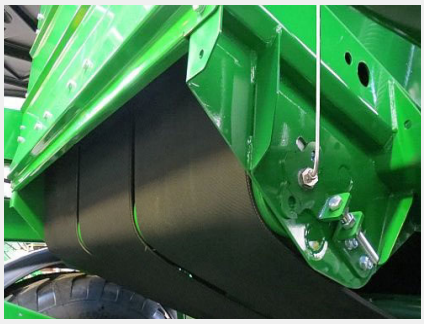


6. Once adjusted, tighten the remaining locknut, bolt (B) and grease pipe and with the Danger Zone clear, run the machine to see if the belt(s) are tracking evenly.

The belt(s) will take one or two minutes, running at 540 rpm, to respond to the change and settle into the adjustment.

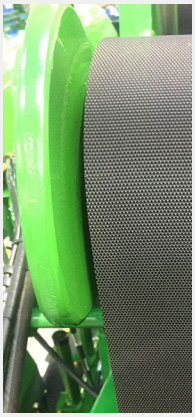


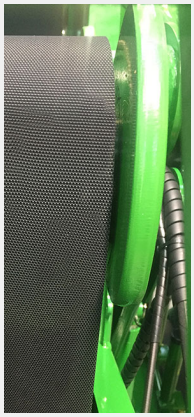
7. Watch the roller from the tractor cab for 1 or 2 minutes to see if the belt(s) have stopped rubbing against the belt stops on the tension arm. If not, repeat steps 4 and 5 (ensuring tractor is shut down, PTO disengaged and ignition key removed) until tracking is aligned.



8. Open and close the door a number of times with the PTO running at 540 rpm. Inspect the belt(s) again (with the wedges put back into the door opening) to see that it is not running against the tension arm belt stops. The process may have to be repeated a number of times, to get a good result, as the adjustment is very fine.

Finally, tighten bolt (B) to a torque of 280 Nm and reattach the grease pipe. Then the locknuts (C & D) and the grease fitting must be tightened securely.





9. The belts are aligned, once there is a consistent and even gap on both sides, as shown, between the belt(s) and stops.

When adjustment is complete and the wedges have been removed, baling can resume as normal.

10

Machine maintenance

To maintain the machine in good working order it is necessary to carry out preventative maintenance regularly. The following section gives details of how this may be carried out and how often it will be required.

Replace any electrical or hydraulic devices immediately, at the first sign of malfunction or failure, as these components affect the functionality, sequencing and thus safety of operation. Never use a machine where a malfunction exists! Contact your **McHale** dealer to achieve a solution. Always think ‘Safety First’!

WARNING: Wear proper safety equipment & follow all instructions

Ensure to wear proper safety equipment at all times when working with the machine, such as gloves, eye protection, etc. and follow all safety decals and instructions.

WARNING: Inspections in the ‘Danger Zone’ with the machine running, shall only occur with a trained operator at the controls

Entering the ‘Danger Zone’ while the machine is running is not recommended. If it is to be carried out, a fully trained operator shall be at the controls. The tractor hand brake shall be applied and the electronic control box shall be in manual mode. The operator shall remain in communication with the inspector throughout. If communication is lost with the inspector, or they move within 1.1 m of moving parts or parts that have the potential to move, all tractor power shall be turned off immediately.

10.1 Maintenance intervals

The following intervals should be adhered to, in order to ensure a long and efficient life for the machine and maximum safety of personnel. They assume constant working during the harvesting season.

First 5 working hours

- Check all nuts and bolts for tightness and tighten, if necessary
- Ensure axle bolts are tightened to a torque of 250 Nm
- Check and correct, if necessary, the air pressure in the tyres
- Drain and change gearbox oil *(See ‘Gearbox oil’)*
- Carry out adjustment of chopper unit duplex chain. Inspect all other chains. *(See ‘Chain adjustments’)*

Every day

- Check wheel nuts
- Check all guards and safety devices
- Check road traffic equipment
- Check for any oil leaks and damaged pipes
- Grease 3 x heavy duty grease points on PTO shaft
- Fill chain oil reservoir (300 bales approx.)
- Grease chamber door hinge points
- Additional greasing needs to be carried out *(See 'Additional greasing')*
- Check all chain adjustments, and adjust as necessary *(See 'Chain adjustments')*
- Clear away crop or debris built us around brake-hubs several times per day

Grease tension arm rollers (1,200 bales approx.) Apply one stroke only with a grease gun at each grease point. Grease all pivot points from central grease blocks.

Replace grease cartridge (1,200 bales approx.) (if fitted)

Check bearings for early warning signs of wear or damage and replace if necessary. Always be on alert for bearings that are squeaky or noisy despite being well lubricated and bearing housings that are running very hot especially with a burning smell or paint discolouration. Carry out these checks daily, immediately after using the machine, with the tractor shut down and the handbrake applied.

Every week

- Check for correct air pressure in the tyres
- Grease 5 x standard duty grease points on PTO shaft *(See 'PTO shaft adjustment & maintenance')*

Every month

- Grease pick-up and reel shaft bearings
- Grease pick-up cam clutch
- Check sufficient oil level in the gearbox *(See 'Gearbox oil')*

Every year

- Ensure axle bolts are tightened to a torque of 250 Nm
- Clean and lubricate all moving parts of the netter unit
- Drain and change gearbox oil *(See 'Gearbox oil')*

At the end of the season the machine should be washed and cleaned.

Carefully clean all machine sections, inside and out. Dirt and foreign objects are likely to draw moisture and cause rusting of steel components. **McHale** recommend that the machine be blown down with an air line, as opposed to a pressure washer, due to the dangers involved with pressure washing and to protect the overall paint work on the machine. If, despite our advice, a pressure washer is used, then take extreme caution

and operate from ground level only. Do not point pressurized water at or near electrical components, pivots points, valves or bearings.

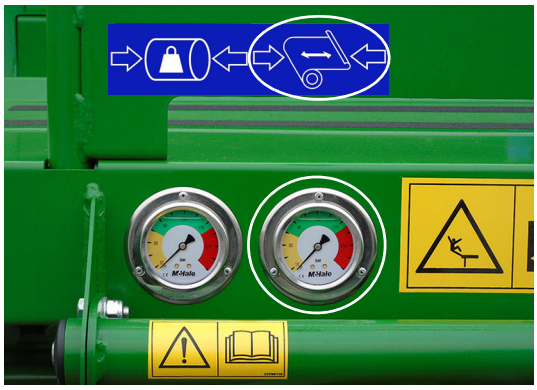
Never climb onto any part of the machine, while pressure washing, due to the fact that all metal surfaces become extremely wet and slippery and always ensure that the tractor has been shut down, with the ignition key removed.

Any damaged paintwork should be touched up. Any maintenance or repairs should be carried out at this stage. The electronic control box is not waterproof, so it must always be stored in a dry environment. All exposed hydraulic cylinder rods should be greased. The pick-up and the cutting device area as well as the bale chamber should be cleaned and lubricated. *(See 'Storage')*

CAUTION: Wear proper safety equipment & follow all instructions

Ensure to wear proper safety equipment at all times when working with the machine, such as gloves, eye protection, etc. and follow all safety decals and instructions.

10.2 Net tension pump



If the pressure of the net tension gauge drops below 50 bar, it may be an indication that the tension pump is low in oil. Remove the filler cap and top-up with any Universal Tractor Transmission Oil (THF/UTTO (20W-30 STOU)) until almost full, then replace the cap. The total capacity of the pump is approximately 50 cc.

ENVIRONMENT: Health and safety rules for the environment

It is vitally important to observe health and safety rules in order to avoid unnecessary environmental damage or danger to anybody near the machine. This especially applies to the responsible disposal of oil. Never spill pollutants (oil, grease, filters, etc.) on the ground, never pour them down the drain and never discard them where they can pollute the environment. Never throw away or burn waste net or plastic. Burning plastics is toxic as they release dioxins and furans. To inhale dioxins or to be exposed to its fumes can cause deadly results. Respect the environment! Always take waste materials to a recycling centre.

10.3 Tightening torque values

It is important that the correct torques for fasteners are adhered to. Below are tables of recommended torques for these. These are to be used unless torques are otherwise specified. These values are for general use only. Check tightness of all fasteners periodically. Torque values are in Nm (Newton metres).

Nuts and bolts		**Black, Phosphated or Galvanized**		
Grade marking		8.8	10.9	12.9
	Dimensions	**Metric standard thread**		
Hex. bolts	M4	2.7	3.8	4.6
DIN 931	M5	5.5	8	9.5
DIN 933	M6	10	14	16
	M8	23	33	40
Socket head	M10	45	63	75
Cap screws	M12	78	110	130
DIN 912	M14	122	175	210
	M16	195	270	325
Hex. nuts	M18	260	370	440
DIN 934	M20	370	525	630
	M22	510	720	870
	M24	640	900	1,080
	M27	980	1,400	1,650
	M30	1,260	1,800	2,160
	Dimensions	**Metric fine thread**		
Hex. bolts	M8 x 1	25	35	42
DIN 960	M10 x 1.25	48	67	80
DIN 961	M12 x 1.25	88	125	150
	M12 x 1.5	82	113	140
Hex. nuts	M14 x 1.5	135	190	225
DIN 934	M16 x 1.5	210	290	345
	M18 x 1.5	300	415	505
	M20 x 1.5	415	585	700
	M22 x 1.5	560	785	945
	M24 x 2	720	1,000	1,200
	M27 x 2	1,050	1,500	1,800
	M30 x 2	1,450	2,050	2,500
NOTE:	For nuts and bolts from different materials and/or surface finishes a torque value must be used that is lower than the value stated above.			

11

Storage

11.1 End of season

- Carefully clean all machine sections, inside and out. Dirt and foreign objects are likely to draw moisture and cause rusting of steel components. **McHale** recommend that the machine be blown down with an air line, as opposed to a pressure washer, due to the dangers involved with pressure washing and to protect the overall paint work on the machine. If, despite our advice, a pressure washer is used then take extreme caution and operate from ground level only. Do not point pressurized water at or near electrical components, pivots points, valves or bearings. Never climb onto any part of the machine, while pressure washing, due to the fact that all metal surfaces become extremely wet and slippery and always ensure that the tractor has been shut down, with the ignition key removed.
- Remove the control box from the tractor and store in a dry, safe environment.
- Clean the net wrapping system. *(See 'Care of the netting system')*. Remove net roll and store, as per manufacturer's instructions. Grease the net knife to prevent rusting. Use extreme caution when carrying out this operation, ensure to wear protective gloves and clothing!
- Lubricate all pivot points and apply a thin layer of grease to all adjustment bolt threads and exposed ram rods.
- Check all oil and grease lines for damage and repair them if required.
- Any components from which paint has become worn should be touched up or coated with grease to prevent rusting.
- Remove all dirt from all chains and blow dry using compressed air.
- Fill chain oil reservoir with chain oil and run PTO at approx. 200 rpm for 10-15 minutes, to ensure that all chains have a heavy coating of oil applied. Pump grease into all areas to ensure all bearings and joints are well lubricated.
- Pump grease into all grease points and centralised grease blocks to ensure all bearings and joints are well lubricated.
- Remove the knives from the chopping unit to prevent them from sticking and store them in the spare knife holder.

11.2 Start of season

- Fully review this operators instruction manual.
- Check and fill gearbox oil level, if necessary. *(See 'Gearbox oil')*
- Lubricate all pivot points.
- Tighten all bolts, nuts and setscrews.
- Check air pressure of all tyres. *(See 'Tyre inflation pressures')*
- Connect control box and inspect for correct operation of all functions. *(See 'Electronic control system')*
- Inspect and modify, if necessary, all machine adjustments. *(See 'Field operation & machine adjustments')*
- Refit the knives back into the chopping unit.
- Check net wrapping adjustments and inspect net knife for sharpness, ensure to wear protective clothing whenever working in this area! Remove the grease from the net cutting knife. *(See 'Care of the netting system')*
- Fill chain oil reservoir with chain oil and run PTO at approx. 200 rpm for 10-15 minutes, to ensure that all chains have a heavy coating of oil applied. Pump grease into all areas to ensure all bearings and joints are well lubricated.
- Pump grease into all grease points and centralised grease blocks to ensure all bearings and joints are well lubricated.
- Check sufficient oil level in net tension pump.

12

Troubleshooting

12.1 Troubleshooting overview

This section has been compiled by **McHale** service personnel in conjunction with **McHale** importers and dealers.

It outlines some common problems which can occur and acts as a quick reference section or check list to resolve the problem. It is important to note that it outlines the common problems and to this effect it is not exhaustive.

Should you experience additional problems which you need help with; please do not hesitate to contact your **McHale** dealer.

12.1.1 Pick-up slip clutch going off easily

Symptom	Reason	Solution
Pick-up slip clutch going off easily or machine breaking tines	Pick-up set too close to the ground	Adjust the pick-up to a higher position. Tines should not be getting caught in the ground.
Pick-up slip clutch going off easily	Pick-up chains loose	Tighten the pick-up chains *(See 'Chain adjustments')*

12.1.2 PTO slip clutch going off easily

Symptom	Reason	Solution
PTO slip clutch going off easily	Rotor chain loose	Tighten the rotor chain and check, as specified
PTO slip clutch going off easily	Poor swath preparation	Prepare the swath in line with the recommendations in the machine setup *(See 'Swath preparation')*
PTO slip clutch going off easily	Knives blunt	Check and sharpen, if needed, or replace!
PTO slip clutch going off easily	Chamber pressure / ground speed too high	Reduce

12.1.3 Chamber losing pressure

Symptom	Reason	Solution
Chamber losing pressure	Oil leak	Find leak and resolve
Chamber losing pressure	Relief valve loose / restriction in relief	Contact **McHale** dealer

12.1.4 Machine won’t cut the net

Symptom	Reason	Solution
Machine won’t cut the net	Bill hook worn and catching on plastic reset bushing	Replace bill hook
Machine won’t cut the net	Bill hook has too much free play and is catching on the plastic reset bushing	Realign and/or lubricate
Machine won’t cut the net	Knife jammed or not enough spring pressure	Check for free movement and increase spring pressure, if needed

12.1.5 Net not cut correctly

Symptom	Reason	Solution
Net not cut correctly	Blunt/rusty knife	Fit new knife
Net not cut correctly	Grease on knife (new machine / machine after winter storage)	Clean grease off knife Use extreme caution and protective clothing!
Net not cut correctly	Knife spring too slack	Check or replace the spring

12.1.6 Issues with bale rotation/intake

Symptom	Reason	Solution
Baler won’t take crop in even though the bale chamber is not full	Drop floor down - this can cause problems with bale rotation	Reset the floor to the working position

12.1.7 Issue with bale quality/density

Symptom	Reason	Solution
Issues with bale quality/ density	When closing the door the spool is moving into the float position, as a result the chamber is not being pressurised	Attach the door functions to the tractor spool without a float position
Issues with bale quality/ density	Density set too low for the crop conditions	Increase the density
Issues with bale quality/ density	Ground speed too high	Reducing ground speed will allow the machine to pack the bale better
Machine making bales with soft edges/corners	The centre of the bale is being overfilled	*(See 'Swath preparation')*

12.1.8 Net not feeding during an automatic cycle

Net not feeding during an automatic cycle	Control box is in MAN mode	Switch the control box to AUTO mode
Net not feeding during an automatic cycle	Net knife has tripped	Activating the spool valve in the door close direction automatically resets the net knife
Net not feeding during an automatic cycle	Bad power supply to control box	Check power source
Net not feeding during an automatic cycle	Faulty net knife sensor	Contact **McHale** dealer
Net not feeding during an automatic cycle	Faulty clutch / belts loose or worn	Contact **McHale** dealer / tighten or replace belts

12.1.9 Greaser not working (if fitted)

Symptom	Reason	Solution
Machine not using grease	Air locked	Bleed the cartridge by unscrewing it 2-3 turns *(See 'Replacing refill grease cartridge and releasing airlock:')*
Machine not using grease	Blockage in the system	Contact **McHale** dealer

12.1.10 Drop floor won’t move (up or down) - pick-up moves

Symptom	Reason	Solution
Drop floor won’t move (up/down)	Faulty hydraulic valve	Contact **McHale** dealer
Drop floor won’t move (up/down)	Low power supply to the control box	Check power source

12.1.11 Machine using higher than expected horse power when chopping

Symptom	Reason	Solution
Machine using higher than expected horse power	Knives in chopper unit are blunt or bale density too high	Remove the knives, sharpen and replace

12.1.12 Knives not remaining up while chopping

Symptom	Reason	Solution
Knives not remaining up while chopping	Knives are blunt	Remove the knives and sharpen
Knives not remaining up while chopping	Roll pins are broken in knife activator arms	Replace broken roll pins

12.1.13 Knife pressure too low or dropping completely

Symptom	Reason	Solution
Knife pressure too low or dropping completely	Leaking hydraulic hose	Check all hoses and tighten, if necessary
Knife pressure too low or dropping completely	Leakage in hydraulic valve	Contact **McHale** dealer

12.1.14 Knife pressure too high

Symptom	Reason	Solution
Knife pressure too high	Knives have been raised to max pressure	Lower knives and raise again to set at correct pressure
Knife pressure too high	Faulty hydraulic valve	Contact **McHale** dealer

12.1.15 Chopper knives won’t move (activate/disengage) - pick-up moves

Symptom	Reason	Solution
Knives won’t move (activate/disengage)	Faulty hydraulic valve	Contact **McHale** dealer
Knives won’t move (activate/disengage)	Low power supply to the control box	Check power source

13

Certification & Warranty

13.1 Declaration of Conformity

The Declaration of Conformity is provided by **McHale**. It certifies the new machine under all the relevant provisions of the EC machinery directive and the national laws and regulations adopting this directive.

The declaration gives a description of the machine and its function, along with the model and serial number details. *(See 'Declaration of Conformity')*

By any alteration of the machine, the Declaration of Conformity, as well as the CE sign on the machine, loses its validity.

13.2 PDI form

The PDI (pre-delivery inspection) form is filled out on the commissioning of every new machine, by the **McHale** dealer. The following checks are completed and signed off:

- All parts and accessories are provided to the customer, with the machine
- Machine is reassembled correctly
- Tyre pressure is correct
- Hydraulics, electrics and lighting are working
- New owner has been instructed on how to operate & maintain the machine

The PDI is included in this operator manual. *(See 'Pre-delivery inspection form')*

13.3 Change of ownership pre-checks

The PDI (pre-delivery inspection) form that is filled out on the commissioning of every new machine, should also be used during the transfer of ownership of a **McHale** machine. The same check list must be completed and any areas requiring attention addressed before the re-sale of the machine should occur. Pay particular attention to all safety related areas. Take time to familiarise the new owner with machine operation, maintenance and all its safety features.

13.4 Limited Warranty

Limited Warranty conditions are supplied with each **McHale** product. They cover the terms & conditions associated with abnormal failure under normal working conditions. *(See 'McHale Limited Warranty')*

Declaration of Conformity

DECLARATION OF CONFORMITY

We hereby certify that the machinery stipulated below complies with all the relevant provisions of the EC Machinery Directive 2006/42/EC and the national laws and regulations adopting this directive. Modifications to the machine, without prior approval from the undersigned, will render this declaration null and void.

Machine description and function: Variable chamber round baler for making various sizes of round bales of agricultural fodder.

Model: _____ **Serial Number:** _____

Name of manufacturer:
Address:

McHale Hungária Kft.
5000 Szolnok, Tószegi út 47, Hungary

Is also in conformity with the provisions of the following other EU directives:
2014/30/EU - Electromagnetic compatibility (EMC)

Technical file compiled by:

James Heaney
c/o **McHale** Engineering
Ballinrobe, Co. Mayo, Ireland, F31 K138

Harmonised standards applied:

EN ISO 12100	Safety of machinery - General principles for design - Risk assessment and risk reduction
EN ISO 4254 - 1	Agricultural machinery - Safety - Part 1: General requirements
EN 15811	Agricultural machinery - Fixed guards and interlocked guards with or without guard locking for moving transmission parts

Signed:
Date: ..... **Place:** Ballinrobe, Co. Mayo, Ireland, F31 K138
Name: James Heaney
Position: Design Office Manager

Signed:
Date: ..... **Place:** Szolnok, Hungary
Name: Csaba Sulyok
Position: Quality Manager

QUALITY
I.S. EN ISO 9001:2015
NSAI Certified

Pre-delivery inspection form

PRE-DELIVERY INSPECTION (PDI)

Dealer:.....	**Model: F5 & V Series balers**
Full address:.....	Serial No:.....
.....	Date delivered:.....
Fitter:.....	Date inspected:.....
Customer:.....	
Full address:.....	Tel:.....
.....	Mobile:.....
.....	E-mail:.....

ENSURE THAT THE TRACTOR IS OF THE CORRECT SPECIFICATION FOR THIS MACHINE.
REFER TO THE OPERATOR INSTRUCTION MANUAL BEFORE MAKING ANY ADJUSTMENTS!

This machine must be registered on www.mchale.net by the dealer in order to qualify for warranty!

1. **Check that all accessories are with the owner/operator. Check Operators Instruction Manual and Parts Lists.**		9. **Ensure that the control-unit is on the correct program to suit the machine specification.**	
2. **Ensure machine is re-assembled correctly. (Refer to all assembly instructions supplied)**		10. **Check both Manual and Auto functions on the control box. Run machine through automatic cycle on the control unit.**	
3. **Ensure that the wheels are correctly fitted (i.e. valve to the outside). Torque wheel nuts correctly.**		11. **Check for smooth operation of the pick-up reel when machine is run at 540/ 1,000 rpm.**	
4. **Check for correct tyre type, tread and pressure.**		12. **Check that all electrics and lights function correctly.**	
5. **Hitch machine to tractor, then connect PTO shaft. Adjust PTO length if required.**		13. **Ensure netter operation and netter-knife are operating correctly.**	
6. **When hitched to tractor check that the machine is level with the ground. Adjust drawbar if necessary. Attach 7-pin plug for lighting system.**		14. **The operator must be fully aware of all hazards, controls (electric & hydraulic), all functions & safety devices of both the machine and the tractor.**	
7. **Connect hydraulic hosing to tractor and ensure proper hydraulic setup. Note: Ensure free-flow return to tank is fitted where required.**		15. **Ensure that the owner/operator reads the operator instruction manual and understands fully all safety & operating aspects of the machine, as described.**	
8. **Ensure control-unit power supply is 12 V direct from battery otherwise the machine may malfunction.**		16. **Instruct operator on machine maintenance i.e. check chain tensions, adjustments, tyre pressure and wheel nuts, also areas to be greased daily and oiler/greaser functions.**	

I am satisfied that the above checks have been carried out, and that the machine is complete with all accessories and manuals.

Signed:..... **(Dealer)** **Date:**.....

Signed:..... **(Owner)** **Date:**.....

A signed copy of this form is to be retained by both the dealer and the customer.

McHale Limited Warranty

McHale Engineering, Ballinrobe, Co. Mayo, Ireland (hereinafter called 'the company') warrants to the original retail purchaser that new products sold and registered with the company, shall be, at the time of delivery, free from defects in material and workmanship, and that such equipment is covered under Limited Warranty providing the machine is used and serviced in accordance with the recommendations in the operator's manual.

This Limited Warranty covers the equipment for 10,000 bales, or a period of one year starting from the date the equipment is commissioned, whichever comes first.

The online submission of the pre-delivery inspection (PDI) form by the dealer (importer) is taken as evidence of the delivery of the machine to the original retail purchaser. This is compulsory, and is required to record the machine in the **McHale** warranty system.

These conditions are subject to the following exceptions:

- Parts of the machine which are not of **McHale** manufacture, such as tyres, PTO shafts, slip clutches, hydraulic cylinders, etc. are not covered by this Limited Warranty, but are subject to the warranty of the original manufacturer. Warranty claims applying to these types of parts must be submitted in the same way as if they were parts manufactured by **McHale**. However, compensation will be paid in accordance with the warranty agreement of the manufacturer concerned.
- This Limited Warranty does not apply to failure through normal wear and tear, to damage resulting from negligence or from lack of inspection, from misuse, from lack of maintenance and/or if the machine has been involved in an accident, lent out or used for purposes other than those for which it was intended by the company.
- This Limited Warranty will not apply to any product that has been altered or modified in any way without the express permission of the company, or if parts not approved by **McHale** are used in repair.
- The company take no responsibility for any additional costs, including loss of oil and/or consumables incurred during the failure and repair of a product.
- The company cannot be held responsible for any claims or injuries to the owner or to the third party, nor to any resulting responsibility.
- Also, on no account can the company be held liable for incidental or consequential damages (including loss of anticipated profits) or for any impairment due to failure, a latent defect or a breakdown of a machine.

The customer will be responsible for the following costs:

- Normal maintenance such as greasing, maintenance of oil levels, minor adjustments, etc. as specified in the operator's manual.
- Labour charges other than originally agreed, incurred in the removal and replacement of components.
- Dealer's travel time and travel costs to and from the machine.
- Parts defined as normal wear items such as, but not limited to PTO shafts, chains, tyres, bearings, belts, blades, knives, tines, tine bars, slip clutches, nylon chain runners and slides, etc. that are not covered under the Limited Warranty.

The importer will be responsible for the following costs:

- All warranty labour charges.

The warranty is dependent on the strict observance of the following:

- The machine has been put in service by the **McHale** dealer according to our instructions.
- The online pre-delivery inspection (PDI) form has been correctly completed by the dealer.
- A printed version of the PDI form has been signed and dated by the original retail purchaser. This copy is to be stored by the dealer and made available to **McHale** when requested.
- The warranty claim is submitted using the **McHale** online claims system.
- The warranty claim must be submitted by the original retailing **McHale** dealer only.
- The decision of the company in all cases is final.
- Warranty parts must be held by the dealer for a period of two years from the date the warranty claim is submitted to **McHale**, or until a return request has been issued within the two years.
- When **McHale** issue a return request, parts must have the claim number written clearly on each individual part. These parts must be free from dirt and oil. If a part is returned in an unfit state, the claim will be refused.
- If damaged parts have been returned to the company and warranty is refused, the dealer is allowed a period of one month from the date of receiving our notification to request the return of the damaged parts to the dealer site.

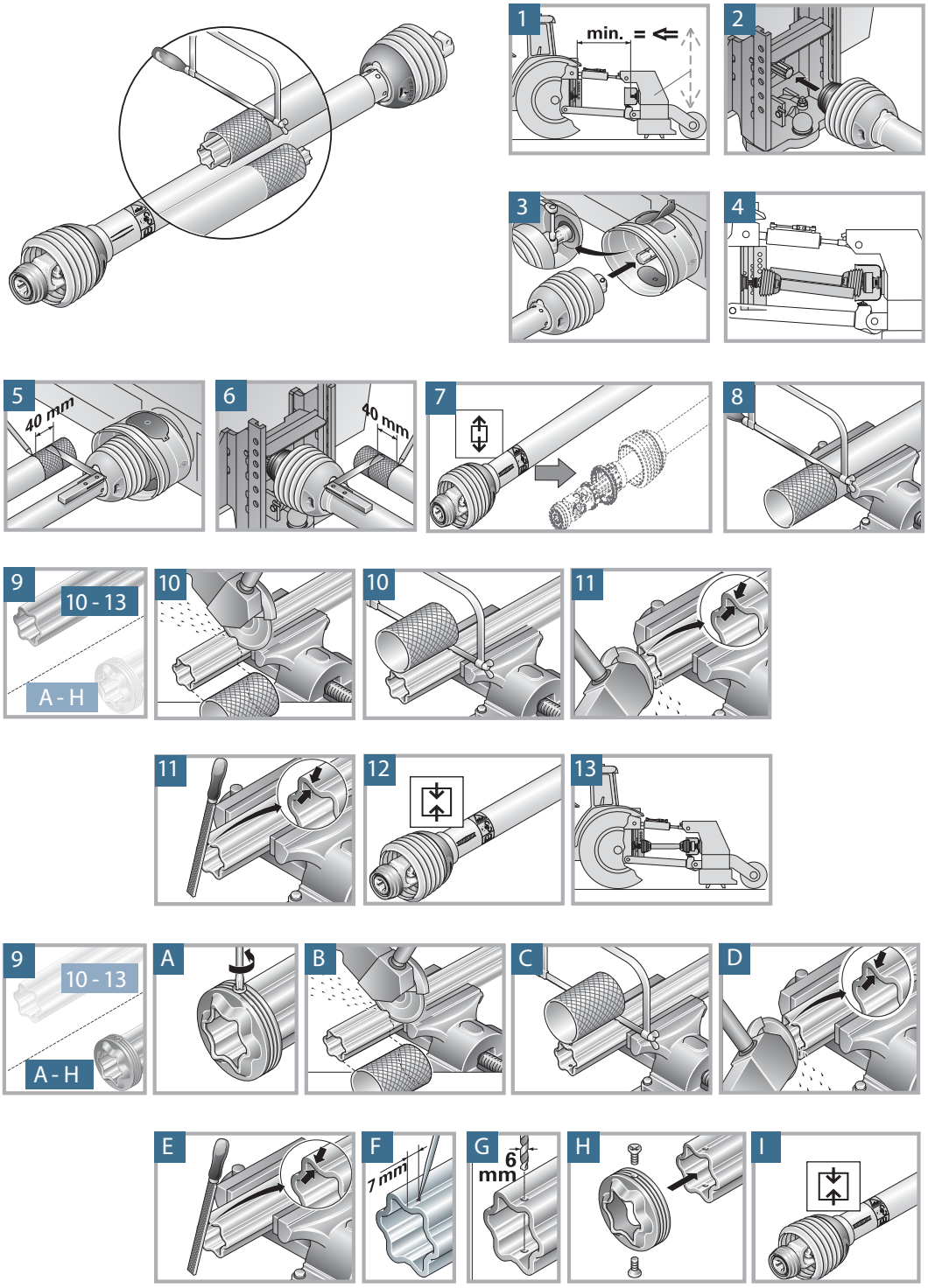
Further conditions - limits of application and responsibility:

- This Limited Warranty cannot be assigned or transferred to anyone without the prior written consent of the company.
- **McHale** dealers have no right or authority to assume any obligation or take any decision on the company's behalf, whether expressly or tacitly.
- Technical assistance given by the company or its agents for repairing or operating equipment does not lead to any responsibility on the company's behalf and cannot under any circumstances bring novation or derogation to the conditions of the present Limited Warranty.
- The company reserves the right to incorporate changes in its machines without prior notice and without obligation to apply these changes to machines previously manufactured.
- The present Limited Warranty excludes any other responsibility, whether legal or conventional, express or implied, and there are no warranties extending beyond those defined herein.

14

Appendix

14.1 Adjusting the PTO shaft to the tractor



14.2 Unit conversion tables

Length

mm	cm	m	km	inch (in)	foot (ft)	yard (yd)	mile (mi)
1	0.1	0.001	0.000001	0.03937	0.003281	0.001094	6.21e-07
10	1	0.01	0.00001	0.393701	0.032808	0.010936	0.000006
1000	100	1	0.001	39.37008	3.28084	1.093613	0.000621
1000000	100000	1000	1	39370.08	3280.84	1093.613	0.621371
25.4	2.54	0.0254	0.000025	1	0.083333	0.027778	0.000016
304.8	30.48	0.3048	0.000305	12	1	0.333333	0.000189
914.4	91.44	0.9144	0.000914	36	3	1	0.000568
1609344	160934.4	1609.344	1.609344	63360	5280	1760	1

Area

mm^2	cm^2	m^2	in^2	ft^2	yd^2
1	0.01	0.000001	0.00155	0.000011	0.000001
100	1	0.0001	0.155	0.001076	0.00012
1000000	10000	1	1550.003	10.76391	1.19599
645.16	6.4516	0.000645	1	0.006944	0.000772
92903	929.0304	0.092903	144	1	0.111111
836127	8361.274	0.836127	1296	9	1

Volume

cm^3 (ml)	m^3	litre (l)	in^3	ft^3	US gal	Imp. gal	US barrel
1	0.000001	0.001	0.061024	0.000035	0.000264	0.00022	0.000006
1000000	1	1000	61024	35	264	220	6.29
1000	0.001	1	61	0.035	0.264201	0.22	0.00629
16.4	0.000016	0.016387	1	0.000579	0.004329	0.003605	0.000103
28317	0.028317	28.31685	1728	1	7.481333	6.229712	0.178127
3785	0.003785	3.79	231	0.13	1	0.832701	0.02381
4545	0.004545	4.55	277	0.16	1.20	1	0.028593
158970	0.15897	159	9701	6	42	35	1

Mass

gram (g)	kg	tonne	US ton	Imp. ton	pound (lb)	ounce (oz)
1	0.001	0.000001	0.000001	9.84e-07	0.002205	0.035273
1000	1	0.001	0.001102	0.000984	2.204586	35.27337
1000000	1000	1	1.102293	0.984252	2204.623	35273.96
907200	907.2	0.9072	1	0.892913	2000	32000
1016000	1016	1.016	1.12	1	2240	35840
453.6	0.4536	0.000454	0.0005	0.000446	1	16
28	0.02835	0.000028	0.000031	0.000028	0.0625	1

Flow rate

l/sec	l/min	m^3/h	ft^3/min	ft^3/h	gal/min	US brl/day
1	60	3.6	2.119093	127.1197	15.85037	543.4783
0.016666	1	0.06	0.035317	2.118577	0.264162	9.057609
0.277778	16.6667	1	0.588637	35.31102	4.40288	150.9661
0.4719	28.31513	1.69884	1	60	7.479791	256.4674
0.007867	0.472015	0.02832	0.01667	1	0.124689	4.275326
0.06309	3.785551	0.227124	0.133694	8.019983	1	34.28804
0.00184	0.110404	0.006624	0.003899	0.2339	0.029165	1

Pressure

bar	psi	kPa	MPa	kgf/cm^2	mm Hg	atm
1	14.50326	100	0.1	1.01968	750.0188	0.987167
0.06895	1	6.895	0.006895	0.070307	51.71379	0.068065
0.01	0.1450	1	0.001	0.01020	7.5002	0.00987
10	145.03	1000	1	10.197	7500.2	9.8717
0.9807	14.22335	98.07	0.09807	1	735.5434	0.968115
0.001333	0.019337	0.13333	0.000133	0.00136	1	0.001316
1.013	14.69181	101.3	0.1013	1.032936	759.769	1

Speed

m/s	m/min	km/h	ft/s	ft/min	mi/h
1	60	3.6	3.28084	196.8504	2.237136
0.01667	1	0.060007	0.054692	3.281496	0.037293
0.2778	16.66467	1	0.911417	54.68504	0.621477
0.3048	18.28434	1.097192	1	60	0.681879
0.00508	0.304739	0.018287	0.016667	1	0.011365
0.447	26.81464	1.609071	1.466535	87.99213	1

Torque

Nm	kgfm	ftlb	inlb
1	0.101972	0.737561	8.850732
9.80665	1	7.233003	86.79603
1.35582	0.138255	1	12
0.112985	0.011521	0.083333	1

Temperature conversion formulas

Degree Celsius (°C)	(°F - 32) x 5/9	(K - 273.15)
Degree Fahrenheit (°F)	(°C x 9/5) + 32	(1.8 x K) - 459.67
Kelvin (K)	(°C + 273.15)	(°F + 459.67) ÷ 1.8