

McHale *F5500*



F5500 Baler Operator Instruction Manual Issue 5

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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.

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McHale F5500 Baler

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: CLT00403

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').

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1

Introduction

The **McHale F5500** 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	Grease pump
2	Pick-up wheels
3	Net unit
4	Density clock & knife pressure clock
5	Rotor duplex chain
6	Chopper unit
7	Pick-up reel

2.3 Rear view



No.	Machine function
1	Oil reservoir tank
2	Drive side
3	Chamber door (tailgate)
4	Bale chamber
5	Drive chain
6	Bale kicker

2.4 General specifications

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

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

Transport length	4.53 m (178")
Transport width	2.55 m (100")
Transport height	2.70 m (106")
Transport weight (unladen)	3,620 kg (7,980 lbs)
Axle weight (unladen)	2,935 kg (6,470 lbs)
Maximum road speed	40 km/h (25 mph)
Brake system (optional)	Air brakes Hydraulic brakes*

2.5 Tractor specifications

Tractor capacity (min)	67 kW (90 HP)
Hitch type	Low drawbar High 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	165 bar (2,393 psi)
Minimum flow rate	30 l/min (6.6 gal/min)

*Please note that some specifications may only relate to certain models or optional equipment and may not be available in all countries.

2.6 Machine specifications

Bale chamber diameter		1.25 m (49")
Bale chamber width		1.23 m (48")
Pick-up width		2.10 m (83")
Net wrap	Net width	Max. 1.26 m (49.5")
	Max. roll weight	40 kg (See warning below)

	<p>CAUTION: Heavy net rolls should be handled by two people</p> <p>Pay attention to the heavy weight of the net roll. It is recommended that full net rolls should be handled by two people.</p>
---	---

2.7 Tyre specifications

Details	Type	Field pressure	Road pressure	Part No.
13.5/75-430.9 145 A8 (Vredestein)	AW	1.5 bar	4 bar	CWH00072
500/50-17 140 A8 (Vredestein)	Flo +	1.5 bar	2 bar	CWH00051
500/50-22.5 158 A8 (BKT)	648	1.5 bar	3 bar	CWH00058
520/55 R22.5 148 D (Vredestein)	Flo-Trac	1.5 bar	3.2 bar	CWH00087
560/45 R22.5 152 D (Alliance)	885	1.5 bar	4 bar	CWH00092
170/60-8 71 A8 (Vredestein)	Pick-up	2 bar	2 bar	CWH00037

2.8 Optional equipment*

Drawbar hitch	High/Low drawbar
Drawbar stand	Stand type A/B/C
Brakes	Hydraulic/Air brakes
PTO shaft	Heavy duty PTO

*Please note that some specifications may only relate to certain models or optional equipment and may not be available in all countries.

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.	<ul style="list-style-type: none"> ■ 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:

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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.

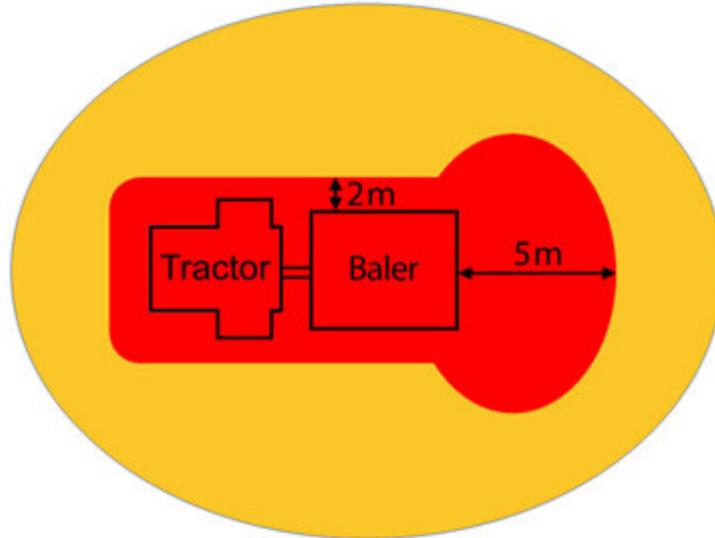
Only competent persons who have read and fully understood this manual are qualified to operate this machine. (See 'Trained operator criteria'). The owner of this machine is obliged, by law, to ensure that every operator understands all of the functions, controls, working processes and safety warnings,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

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- 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.

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- 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.

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- 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.

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- 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'*)

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- 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

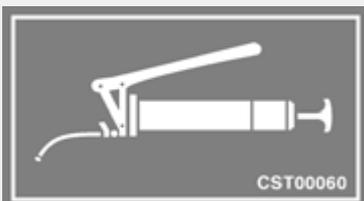


Decals on the side of the machine

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:

	<p>Danger of rotating parts, foreign objects Keep clear of machine while working (CST00014)</p>
	<p>Keep hands clear of rotating rollers (CTS00017)</p>
	<p>Keep hands out of crush area (CST00019)</p>
	<p>Lifting hook location (CST00032)</p>
	<p>Grease daily (CST00060)</p>

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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)

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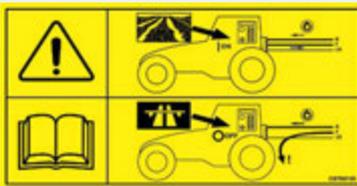
Knife release lever:
horizontal position-locked
vertical position-unlocked
(CST00118)



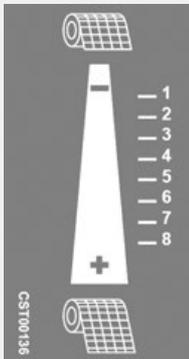
Keep hands out of the crush area between the roller
and chassis rail
(CST00120)



Maximum hydraulic pressure and maximum PTO
speed. This machine must not be connected to
hydraulic systems with pressure higher than 210 bar.
(CST00121) - 540 rpm PTO/gearbox speed
(CST00814) - 1,000 rpm PTO/gearbox speed



Disconnect machine feed line and turn off the control
box during road use. Read the operation instruction
manual before proceeding.
(CST00135)



Net amount setting decal
(CST00136)



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)

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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)



Stay clear of the rotating PTO shaft. Never use the machine if the PTO guarding is missing or damaged. Entanglement in rotating drive line can cause serious injury or death. It is important to ensure that the rotating guard on the driveline rotates freely. Always stop the engine and ensure that driveline has stopped before making connections, adjustments or cleaning out PTO driven equipment.

(CST00143)



Crush hazard. Keep hands clear of rotating elements. Do not remove the guard while the engine is running.

(CST00144)

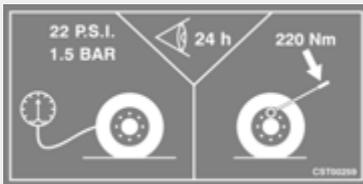
McHale F5500 Baler



Disconnect the power supply to the control box and turn off the tractor before commencing work on the electrical system or welding on the machine.
(CST00145)



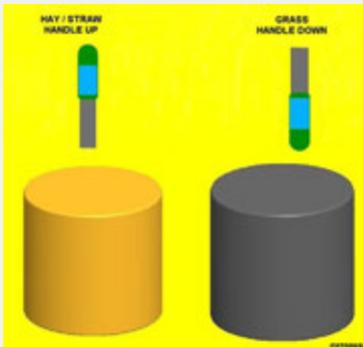
Do not stand in the swashing area of the tailgate while the tractor is running. To avoid injury stay clear of the tailgate while it is being raised and lowered. Also ensure that bystanders are outside the 'Danger Zone' before operating the tailgate.
(CST00146)



Check tyre pressure and nuts daily.
(CST00259)

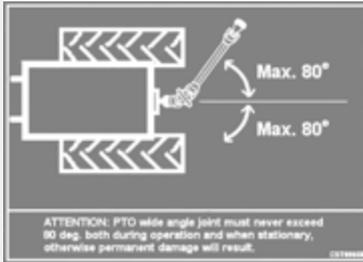


Float decal. Indicating that during operation of the baler, the control lever of the spool operating the pick-up reel should be in the float position.
(CST00609)

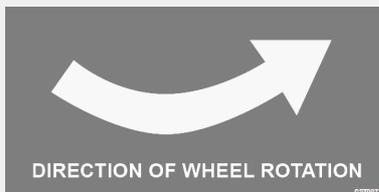


When baling hay, straw or dry material, the handle should be in the UP position. When baling silage, grass or high moisture material the handle should be DOWN.
(CST00656)

McHale F5500 Baler



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)

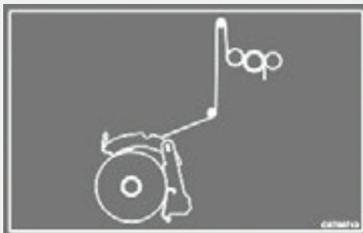
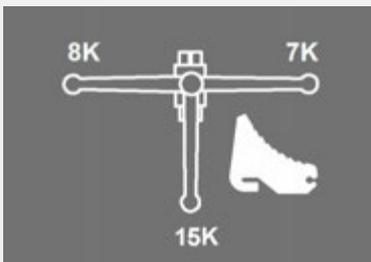
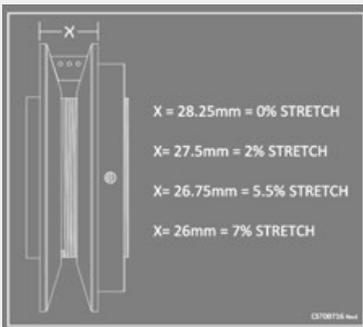


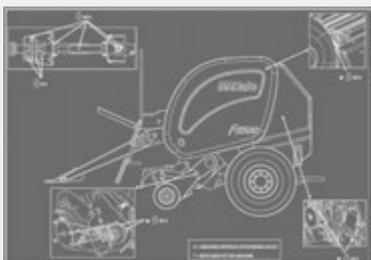
Diagram of net path through feeding rollers
(CST00713)



Knife selection tap
Only applicable to machines with selectable knife option
(CST00714) 15 Knives
(CST00793) 25 Knives



Decal indicating the settings on the variable pulley to adjust the tension on the net
(CST00716)



Decal indicating the locations to be greased regularly and at what intervals in working hours
(CST00743)

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Always lock the chamber door in place before working on the open bale chamber
(CST00769)



Always use correct specification chain oil for automatic chain lubrication
(CST00776)



Tie down points
(CST00901)

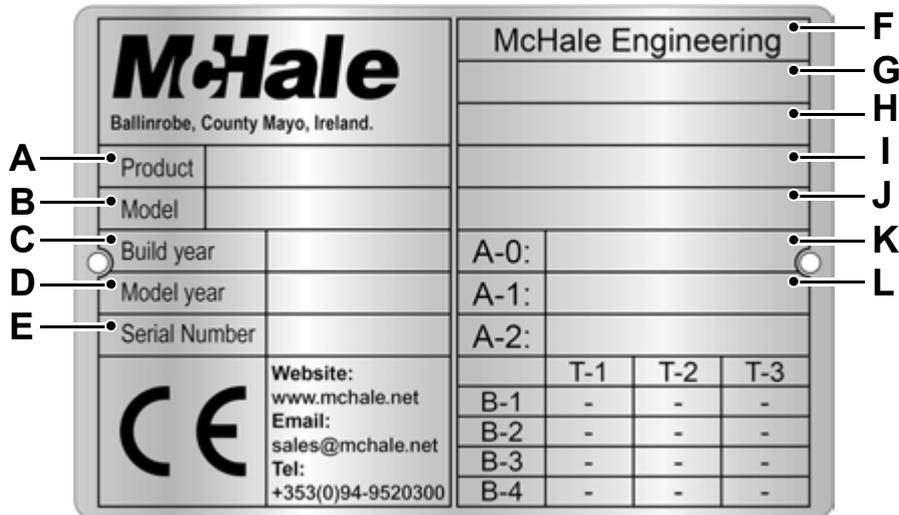


Jacking points
(CST00923)



Maximum PTO speed
(CST00962) - 540 rpm PTO/gearbox speed
(CST00963) - 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 two tonnes (2,500 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 four tonnes (5,000 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

McHale F5500 Baler



RHS lift hook



LHS lift hook

4.10 Jacking guidelines

Jacking points are indicated on the machine with decals. 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. Introduce the jack from the rear of the machine until it is directly under the jacking area. Slowly raise the jack ensuring that there is solid contact between the jack and the machine before raising 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 67 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. Two air-brake couplings or one hydraulic-brake coupling (if brakes are fitted)
4. 12 V / 7-pin socket for lighting
5. 12 V, 20 A socket or battery power cable
6. 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.
7. Suitable location to attach safety chain. 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

* Depending on country of use

5.2 Control box installation

The control box is to be connected to a 12 V, 20 A power supply either using the supplied power socket or the battery power cable. 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.

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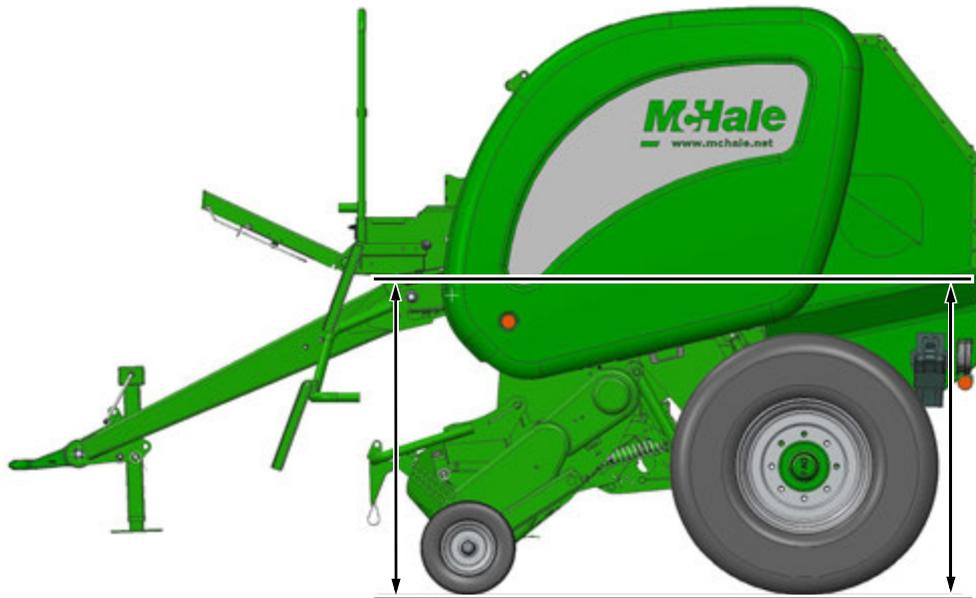


CAUTION: Electrical power supply

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

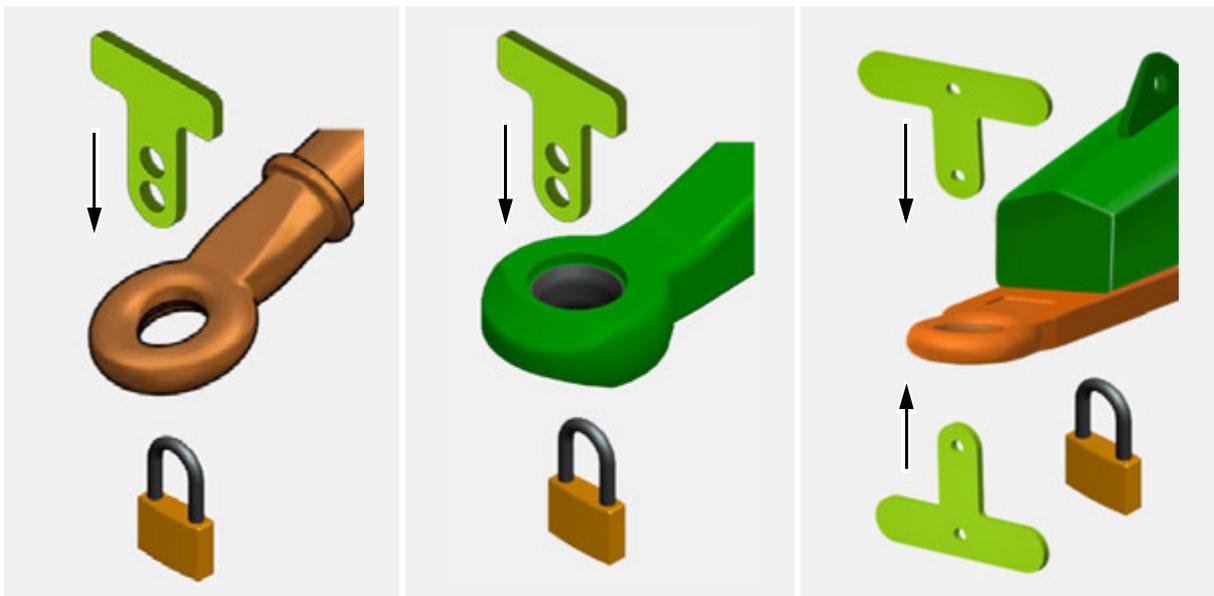
Check that the tractor drawbar is compatible with the coupling device on the machine. If in doubt, consult your **McHale** dealer.

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.

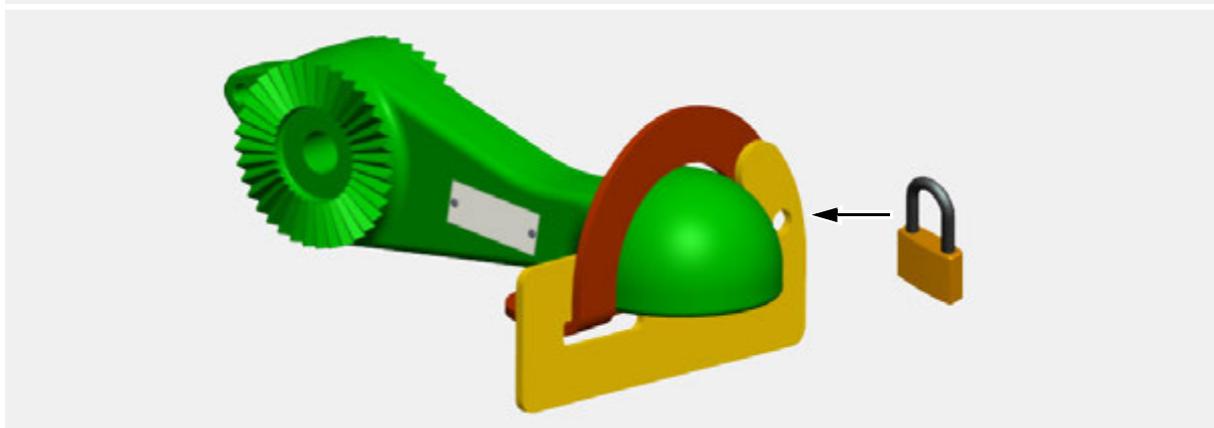
Couplings with holes (Swivel hitch, drawbar eyes or coupling rings)

- 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



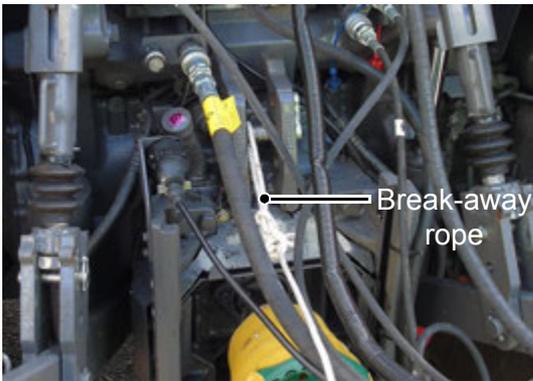
5.5 Attaching break-away brake (if fitted)

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)



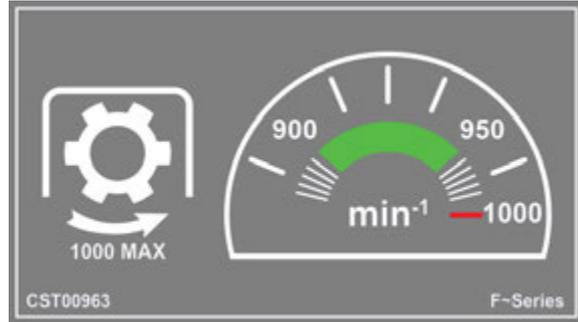
CAUTION: Use correct PTO speed to suit gearbox rating

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 540 rpm, with a maximum of 610 rpm allowed. The 1,000 rpm gearbox should be driven at a PTO speed of 900 rpm, with a maximum of 1,000 rpm allowed. Exceeding specified PTO/gearbox speeds is likely to cause damage to machine components.

McHale F5500 Baler



540 rpm gearbox setting



1,000 rpm gearbox setting

5.7 Making connections to the tractor



WARNING: Turn off tractor before connecting hydraulic hosing

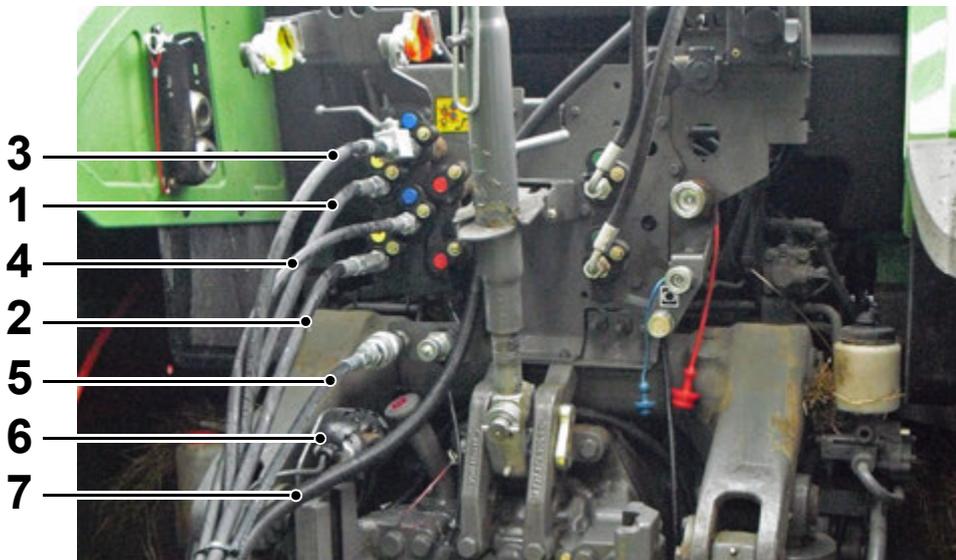
When connecting hydraulic hosing to the tractor, ensure that the tractor engine is turned off and that the ignition key is removed. Ensure that all hydraulic connections are correctly tightened.

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. Two air-brake couplings or one hydraulic-brake coupling (if brakes are fitted)
6. 12 V / 7-pin socket for lighting
7. 12 V, 20 A socket (machine loom to control box shown)

* 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

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. 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 a 1.27 m diameter bale.

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 \pm 10%
- Elongation: 15% \pm 3%
- Strength (in direction of wrap): 900 N / 500 mm
- Material width (ideal): 1,230 mm (Max. 1,260 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.

6.2 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.

6.3 Care of the net wrapping 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

6.4 Loading & operating the netter system



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.

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



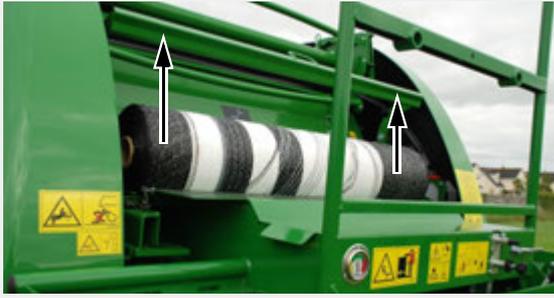
1. Ensure the PTO is disengaged, the tractor is shut down and ignition key has been removed.

If changing a roll, remove the empty cardboard core of the finished net roll and dispose of responsibly.

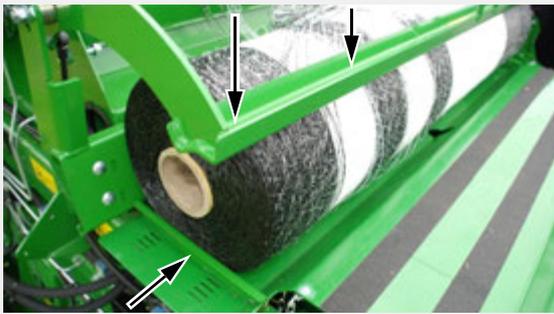
Slide the new roll of net onto the net storage space on the platform.

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

McHale F5500 Baler

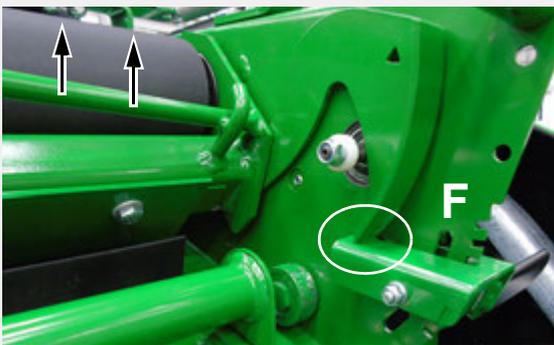


2. Lift the net roll brake bar upwards and roll the roll of net into the net box.



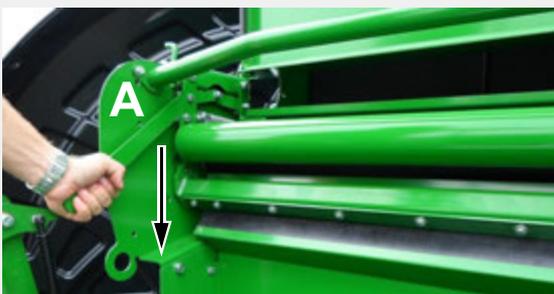
3. With the roll of net positioned in the net box, lower the brake bar down onto the roll of net.

Adjust the net roll stops at either end to secure the roll of net centrally in the net box.

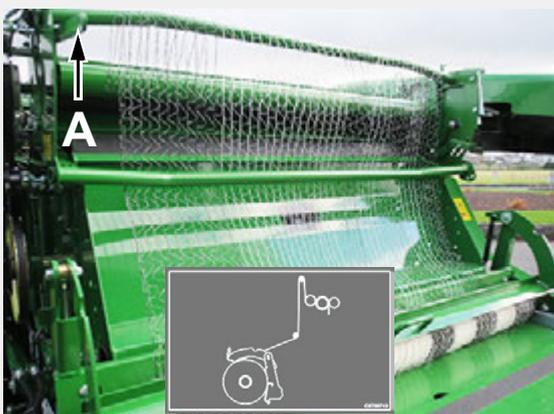


4. Before threading the net, ensure that the net knife is in the re-set position.

The net knife can be re-set by pulling upwards on the knife frame bar until the hook sits on the net adjustment handle. (F)



5. Press the roller tension release lever (A) downwards until it locks in position, which results in the two steel rollers being spread apart from the black net-feed rubber roller.



6. Thread the net as shown. The net should be routed underneath the first steel roller and over the black rubber drive roller.

When the net is threaded, pull upwards to release the roller tension lever (A) which will compress the three net rollers together.

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

McHale F5500 Baler

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.

6.5 Net layer adjustment setting

In an automatic cycle, the netter starts feeding net once the set bale density has been reached. The bale is then wrapped with the predetermined net length and the net knife is tripped. The net length can be adjusted at the net cutter drive on the left-hand side of the machine. 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 four (4) or more layers to ensure a good bale shape.



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.



WARNING: Adjusting the net adjustment lever

Never adjust the net adjustment lever while the baler PTO shaft is engaged and the tractor is running. Never climb onto the baler platform while the pick-up reel is still spinning! Beware of sharp knife edges!



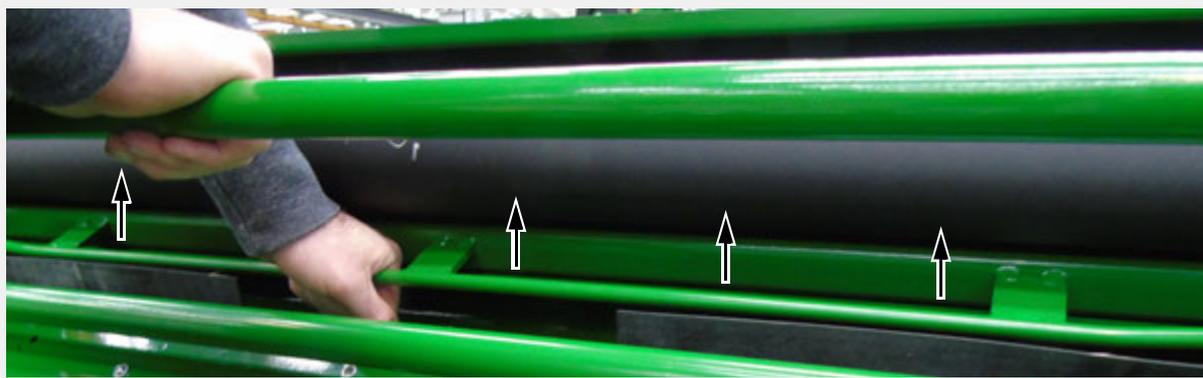
CAUTION: Adjusting the net cutter

Never attempt to adjust the net cutter setting until the knife has tripped (C), see the following images.

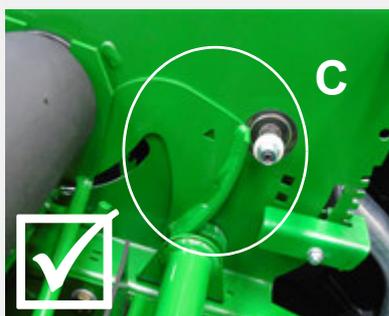
If the knife hasn't tripped, trip the knife by following the procedure below:

1. Ensure the PTO is disengaged, the tractor is shut down with the ignition key removed and the machine is safely parked with wheels chocked, i.e. cannot roll.
2. Climb onto the baler platform. Carefully pull upwards on the knife frame bar and while applying upwards pressure on the bar, release the bill hook, by pushing it off the adjuster. (Refer to the following images)
3. Allow the knife to return to its tripped position, by lowering the knife frame bar gently. (C)
4. Adjust the net amount adjuster accordingly. Adjustment is achieved by pushing the adjustment lever (D) to the right in order to release the latch from the notches. Choose the desired notch, upwards or downwards, for less or more net to be applied, before re-engaging. The notches are sequenced from top to bottom and are numbered from 1 to 8 respectively. See the table below for the exact amount of net applied for each specific notch.
5. Once the desired setting is selected, replace the bill hook onto the adjuster by pulling upwards on the knife frame bar. Ensure that the bill hook rests on the adjuster, in the knife re-set position. (F)

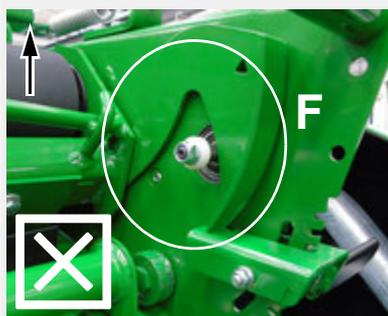
McHale F5500 Baler



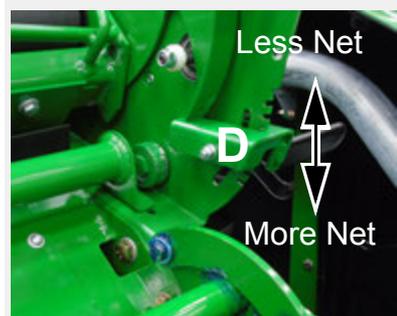
Knife frame bar



Knife tripped



Knife not tripped (re-set)



Net adjustment

The following table shows the amount of net applied for each specific notch.



Notch (#)	Layers of Net* (#)	Length of Net* (m)
1	2	7.5
2	2.25	8.5
3	2.5	9.4
4	2.75	10.4
5	3	11.3
6	3.25	12.3
7	3.5	13.2
8	3.75	14.2

*Calculated net settings



NOTE: Ensure bill hook rests on the adjuster

Always ensure that the bill hook rests on the adjuster, in the knife re-set position.



NOTE: Figures in the table are approximate

Figures are calculated assuming a bale circumference of 3.77 m (diameter of 1.2 m). The values of the layers and length of net will be approximate due to differing bale diameters, varying crop conditions, etc.

6.6 Chopper unit knife removal & installation



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!

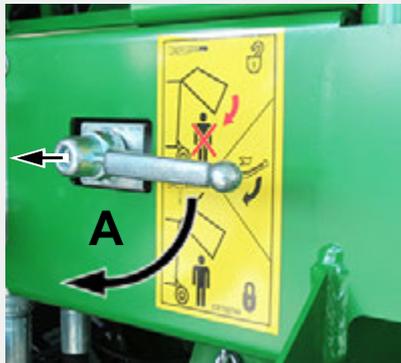


CAUTION: Use protective gloves

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

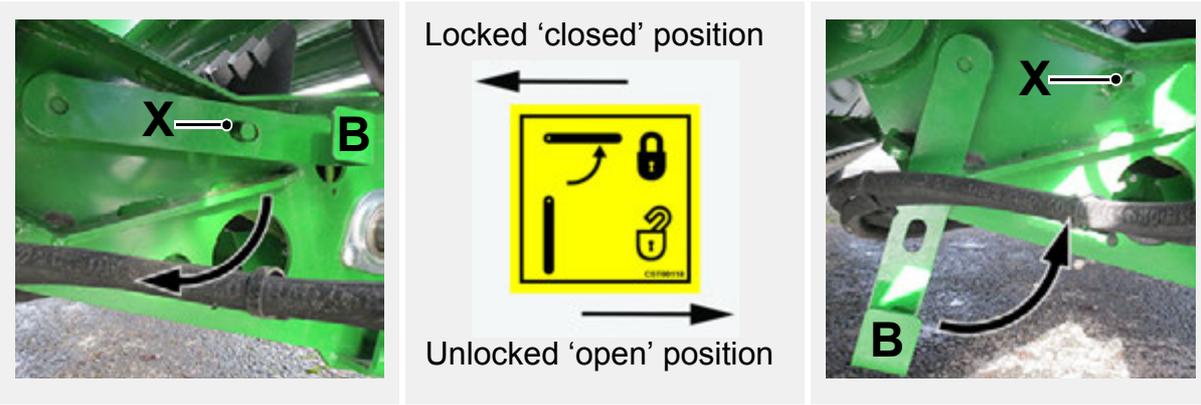
Knife installation/removal should be carried out in the following way:

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.

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

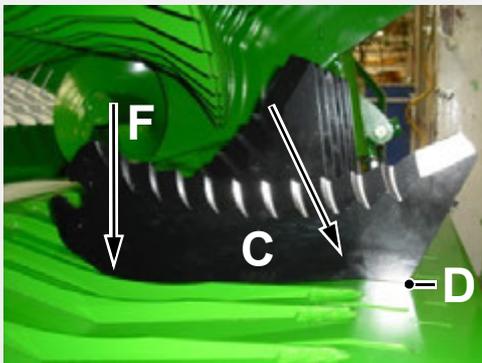


Knife



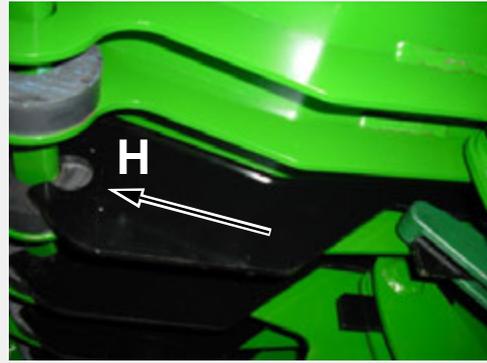
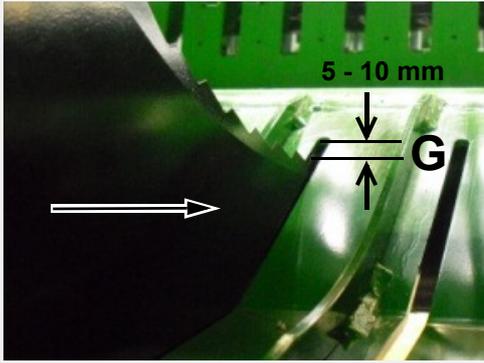
Knife blank

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.

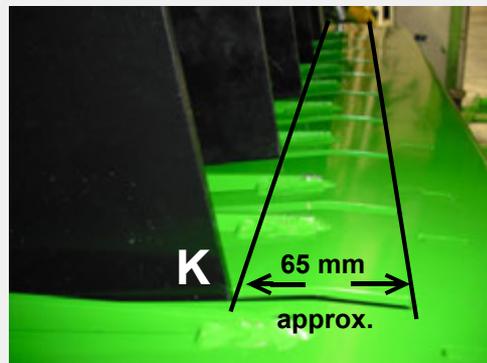
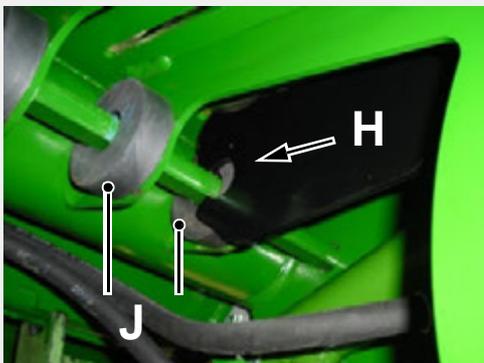


8. A new knife (C) can be installed by inserting it into the back of the slot in the drop floor (D), so it engages with the raised actuator arm (E). Next rotate the knife downwards (F), whilst continuing to hold it towards the back of the slot (D), until the front toothed area looks like it will clear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

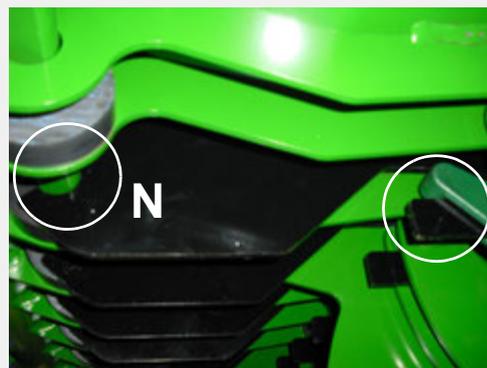
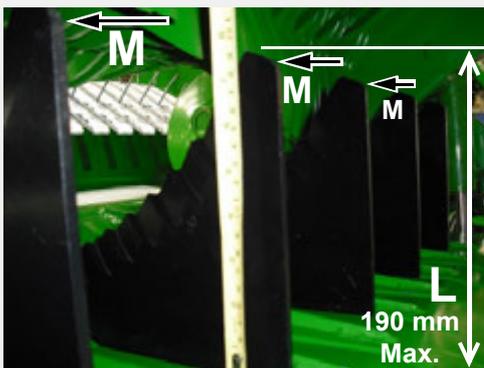
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9. Now push the knife forwards, continuing to maintain this 5 - 10 mm clearance under the front of the slot. The keyhole slot on the front end of the knife should now guide itself over the 'flats' of the lock shaft (H).



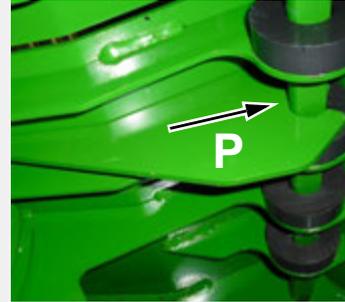
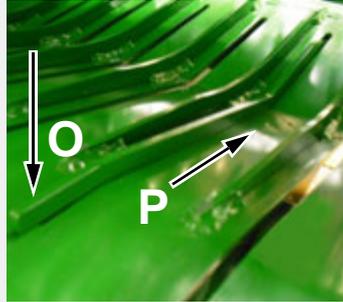
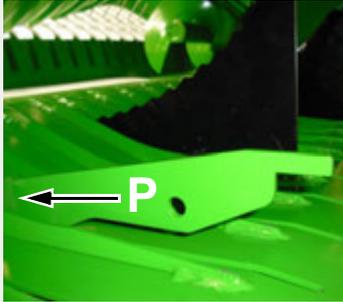
10. Continue to push the knife forward until it is in the fully home position, which should leave a gap between the knife and back end of slot of approx. 65 mm (K), with a maximum protrusion of approx. 190 mm (L) (assuming the knife actuators are fully up). The retaining magnets (J) will hold knives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



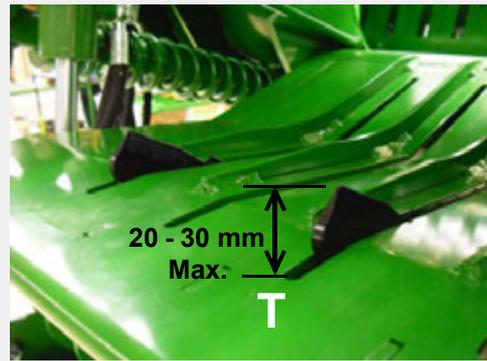
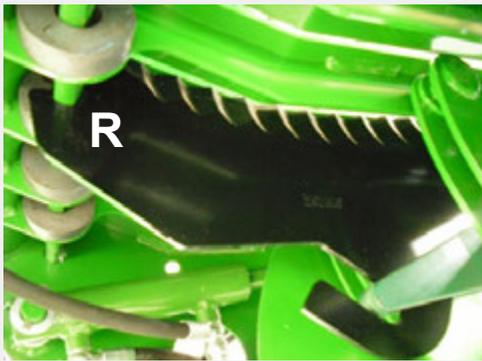
11. After installing, push the top of each knife forward, in the direction of the arrow (M) as shown, to ensure proper engagement within both the lock shaft and the actuator arm. If the knife moves, then it is not positioned correctly. The correct position is shown at (N).

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.

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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.

6.6.1 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.



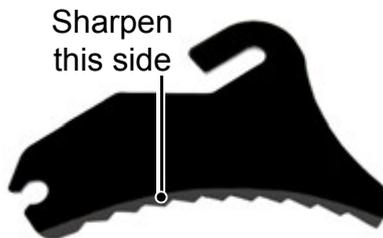
Knives/blanks storage



Knife blank

6.6.2 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.

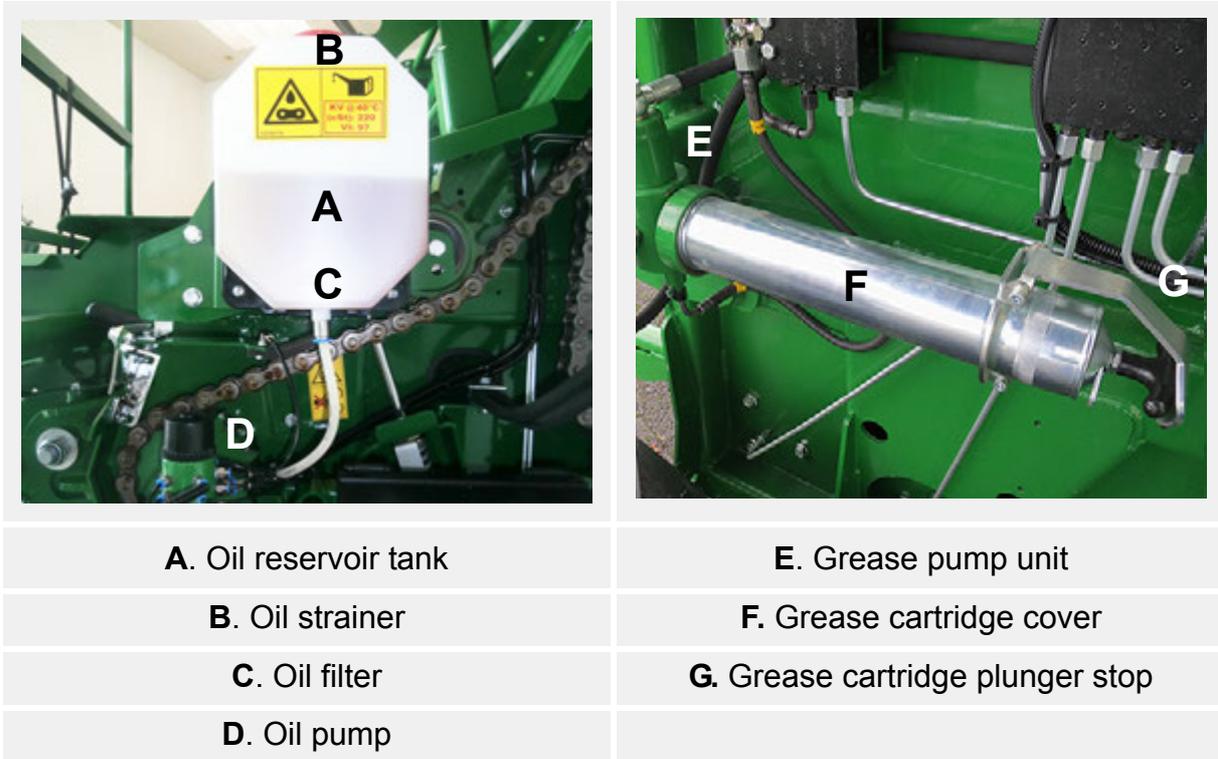
6.7 Automatic lubrication system

The machine is equipped with a fully automatic greasing and oiling system which is responsible for greasing the roller bearings in the baling chamber and oiling of all chain systems. All other grease points must be greased, as specified. (See 'Machine maintenance')

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

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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. A grease cartridge is required after every 300 bales approximately. On the control box, an alarm is provided to remind the operator to change the grease cartridge and 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')



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 200)).
2. Replace the cap and tighten fully.



NOTE: Oil in the reservoir tank should always be clean

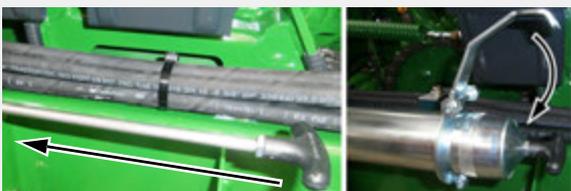
The oil in the oil reservoir tank should always be clean, strained and free of any impurities during top-up, as this will ensure proper operation and lubrication.

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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.

	<ol style="list-style-type: none">1. Flip back the the grease plunger stop bracket. Unscrew the cartridge holder from the pump and remove the used cartridge.
	<ol style="list-style-type: none">2. Pull the plunger all the way back and locate a new refill cartridge.
	<ol style="list-style-type: none">3. Remove the cap from the plunger end of the refill cartridge. Insert the refill cartridge, as shown, and remove the pull tab seal.
	<ol style="list-style-type: none">4. Screw the cartridge holder onto the pump, but do not tighten. Only screw the cartridge a few turns, once the threads are engaged.
	<ol style="list-style-type: none">5. Release the plunger and push the plunger rod all the way back into the cartridge holder.
	<ol style="list-style-type: none">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.

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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.

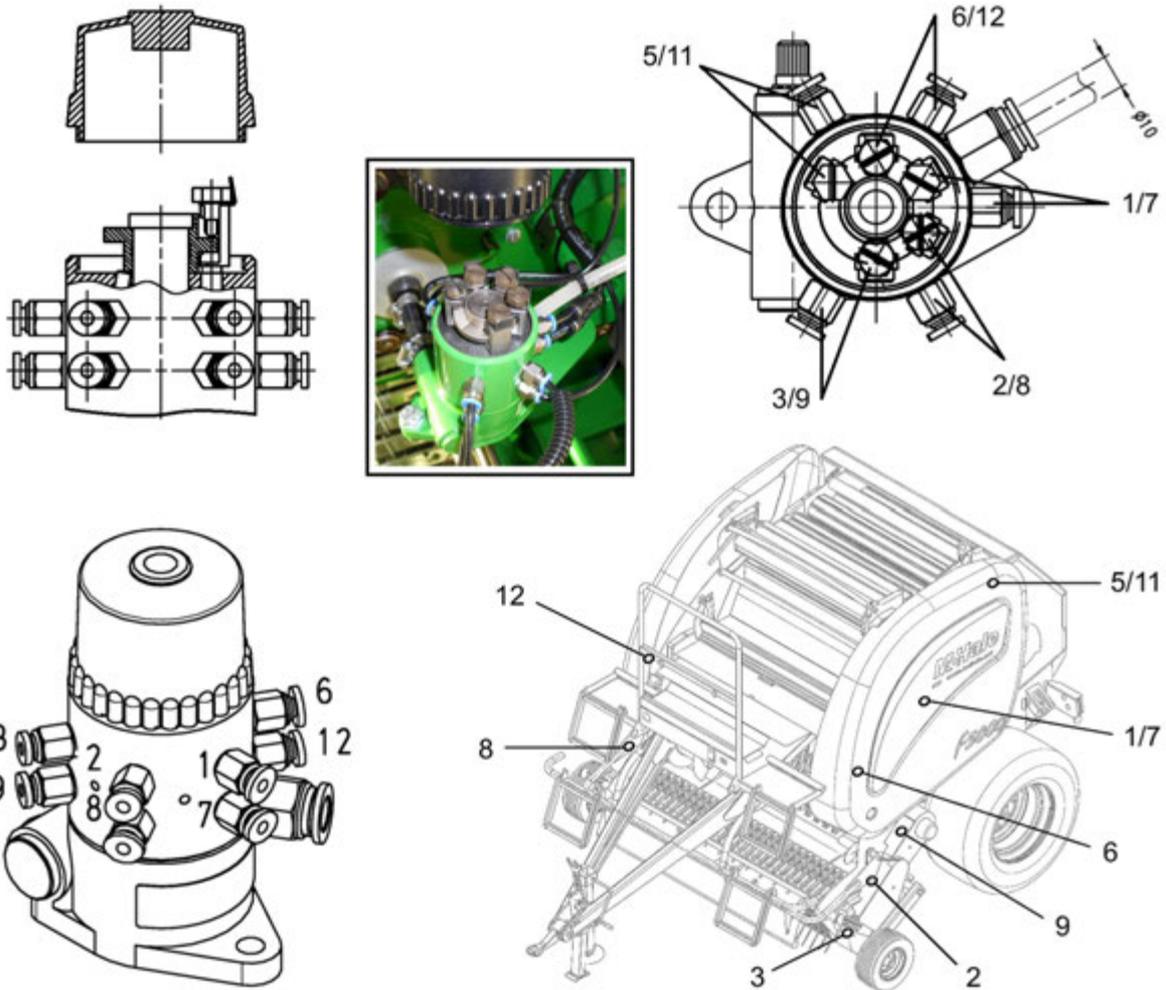
Oil pump adjustment:

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

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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.

6.8 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.

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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.

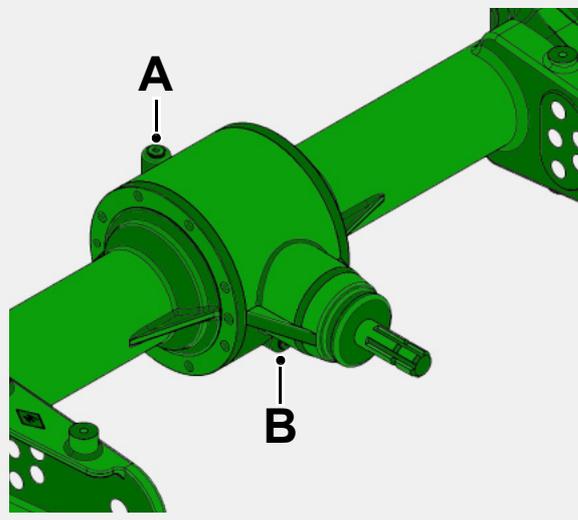


ENVIRONMENT: Safe disposal of oil

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:

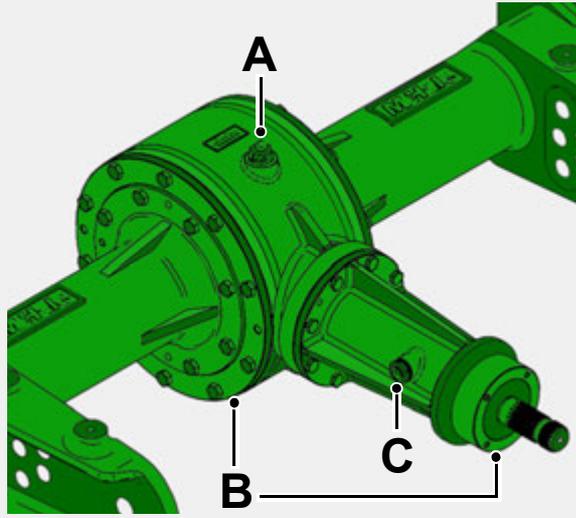
Gearbox 540 rpm



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.

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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

6.9 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.
13.5/75-430.9 145 A8 (Vredestein)	AW	1.5 bar	4 bar	CWH00072
500/50-17 140 A8 (Vredestein)	Flo +	1.5 bar	2 bar	CWH00051
500/50-22.5 158 A8 (BKT)	648	1.5 bar	3 bar	CWH00058
520/55 R22.5 148 D (Vredestein)	Flo-Trac	1.5 bar	3.2 bar	CWH00087
560/45 R22.5 152 D (Alliance)	885	1.5 bar	4 bar	CWH00092
170/60-8 71 A8 (Vredestein)	Pick-up	2 bar	2 bar	CWH00037

6.10 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.

6.11 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.

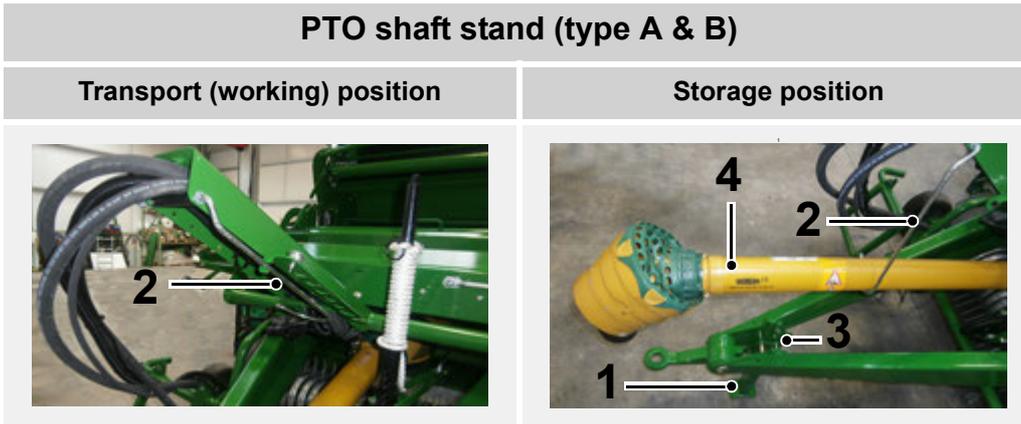
Type A - The following applies to the swing down fixed length stand (low hitch):

- 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.



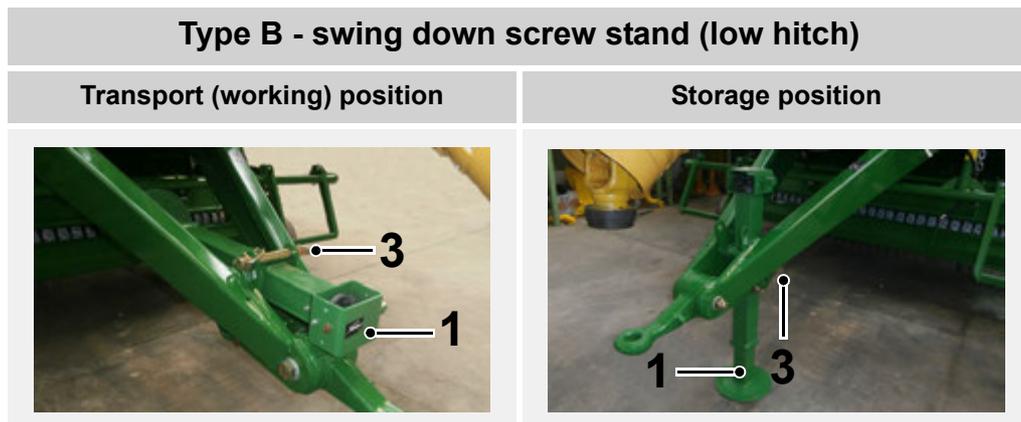
- Swing down the PTO shaft stand (2) in an upright position in order to support the PTO shaft (4).

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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.

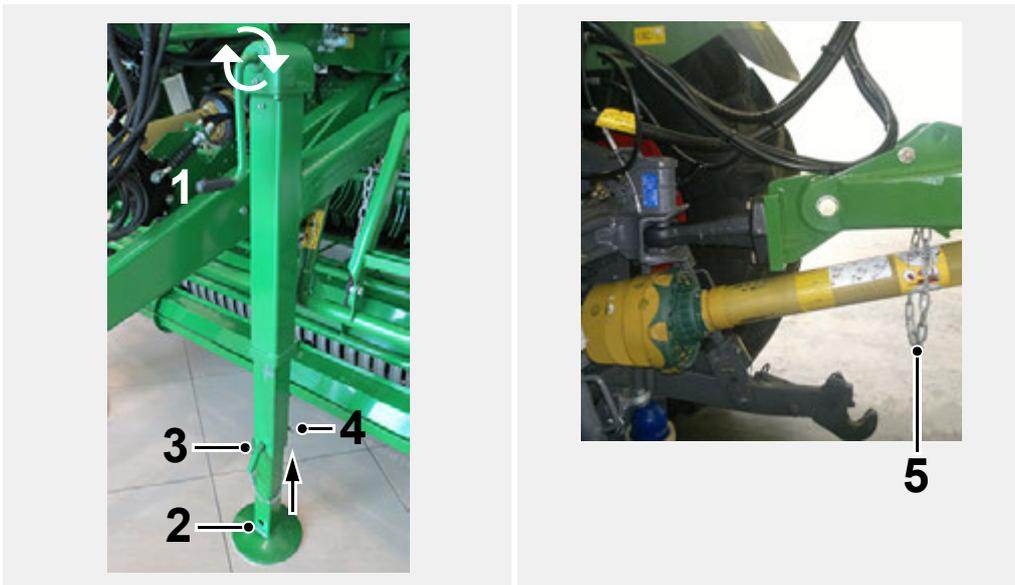


Type C - The following applies to the fixed screw down stand (high hitch):

- 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).

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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.

6.12 Drawbar adjustment

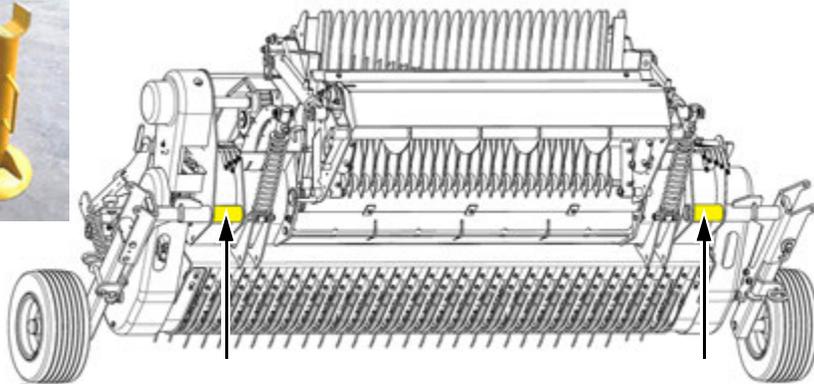
There are two types of drawbar hitch options (high/low drawbar) available on the machine. Depending on the country of use, one will come as standard.



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 hand brake must be applied, the main wheels chocked, with the front end of the machine (under the chopper unit) supported on axle stands.



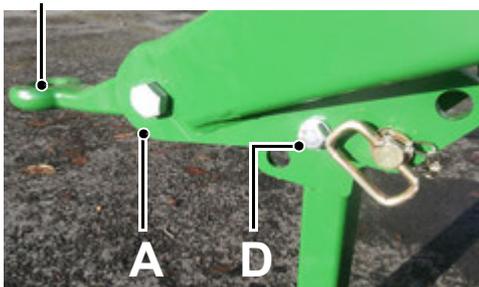
The drawbar should be adjusted so that the machine is level and horizontal to the ground when in the working position, see below. To adjust, first remove the safety bolts, then slacken the hinge bolts (C), but do not remove. The hitch eye can be adjusted to different height positions by repositioning 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.



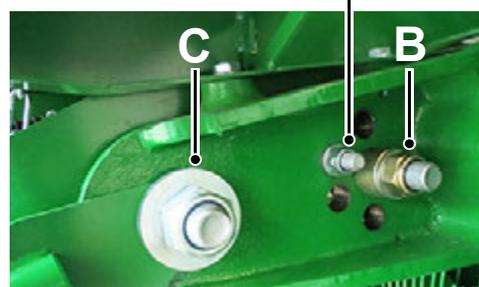
NOTE: The drawbar bolts must be inspected every two weeks

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

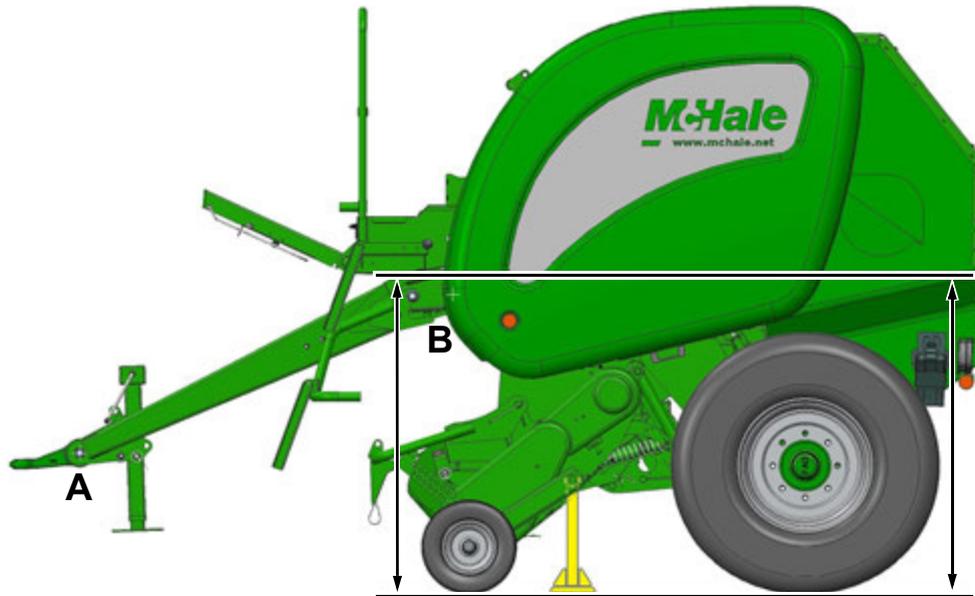
Hitch eye



Safety bolt

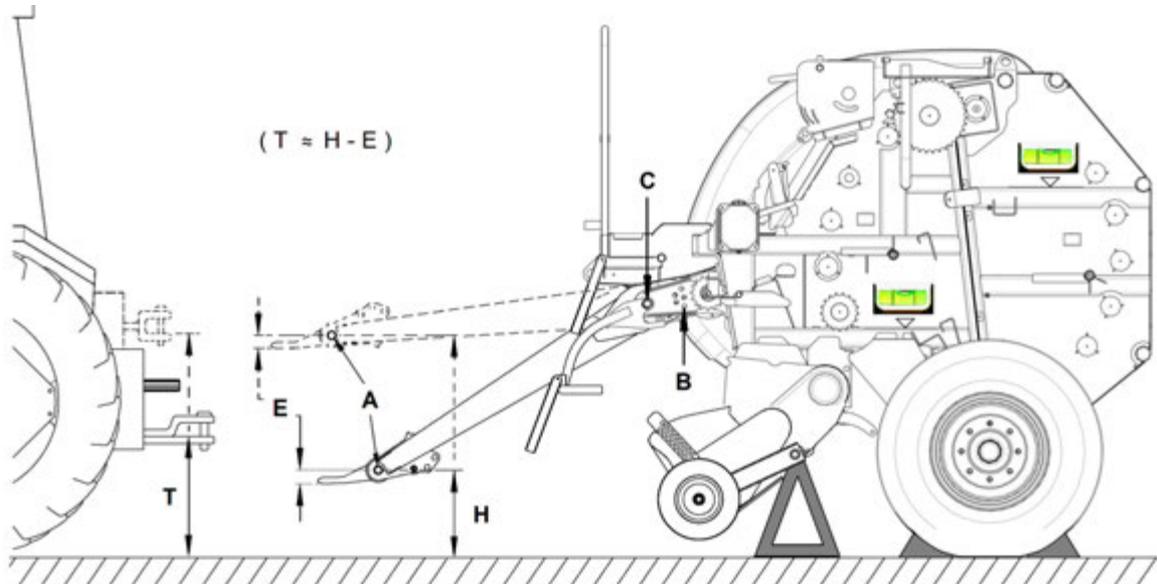


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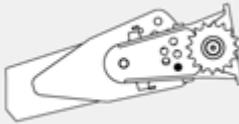
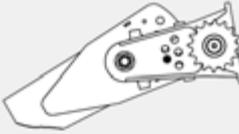
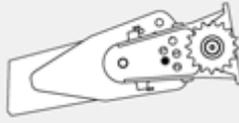
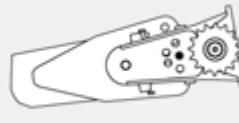
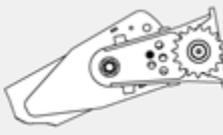
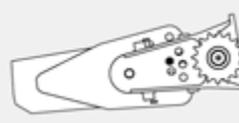
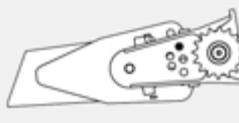
Tractors typically are either low hitch or high hitch and the drawbar on the machine should be set up accordingly. When changing from a low to a high drawbar set-up, the drawbar is inverted and the hitch eye is adjusted horizontally, in the orientation shown.

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 ($H \approx T + E$).



Drawbar configuration

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Position	Low drawbar setting	H	High drawbar setting	H
B1		410		800
B2		450		880
B3		480		990
B4		520		1030
B5		555		1070

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.

6.13 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.



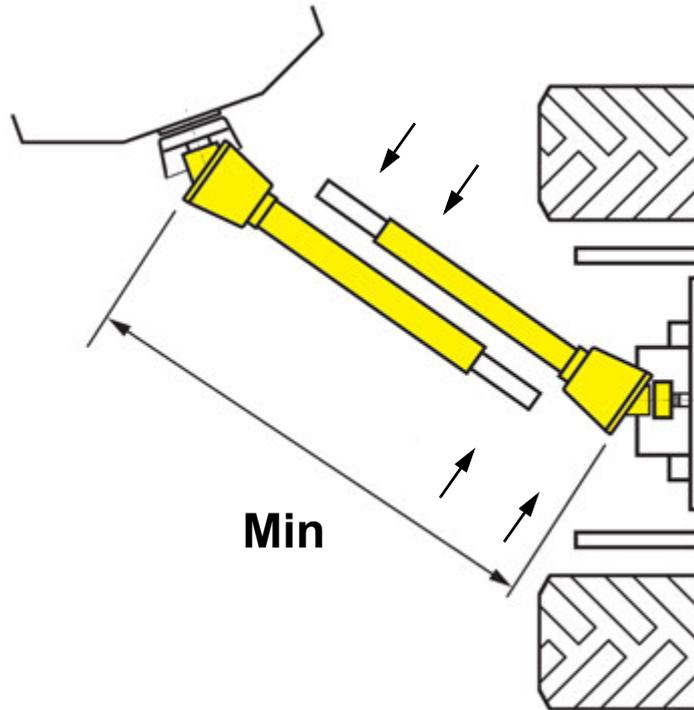
WARNING: Measure distance between PTO stub shafts first

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/adjusted to suit the tractor combination it is being fitted to.

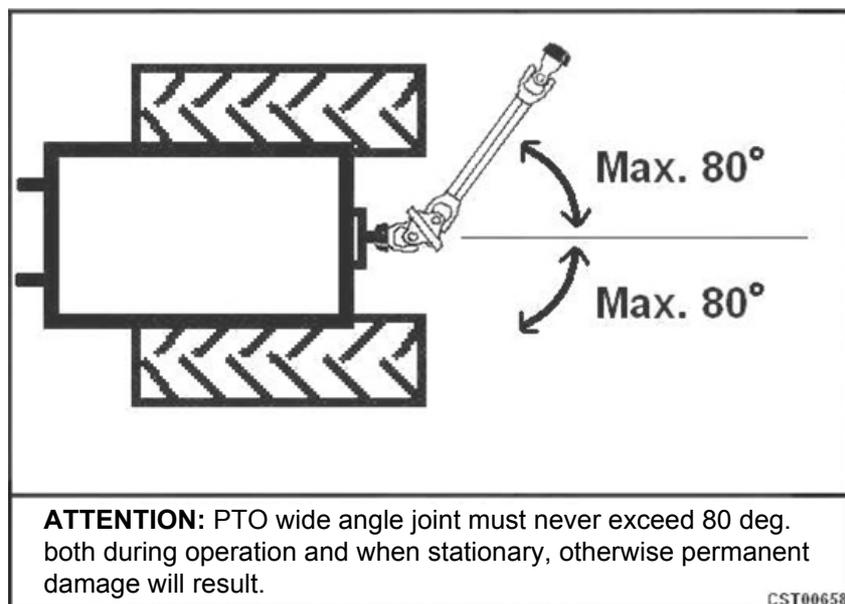
McHale F5500 Baler

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.



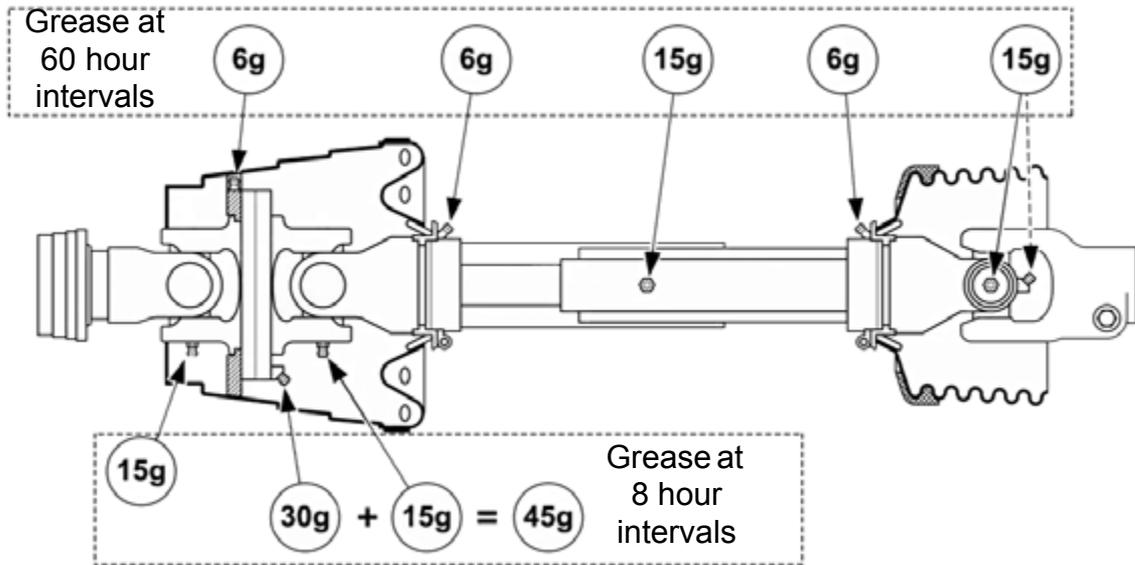
After measuring carefully, the PTO shaft halves should be cut equally so that the PTO shaft assembly is kept as long as possible, whilst just allowing enough room for its removal. This will ensure that a maximum overlap (ideally 200 mm minimum) is maintained, when extended.

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



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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.

McHale F5500 Baler

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7

Electronic control system

(Control Unit Software Version **GWS300-000 rev10** onwards)

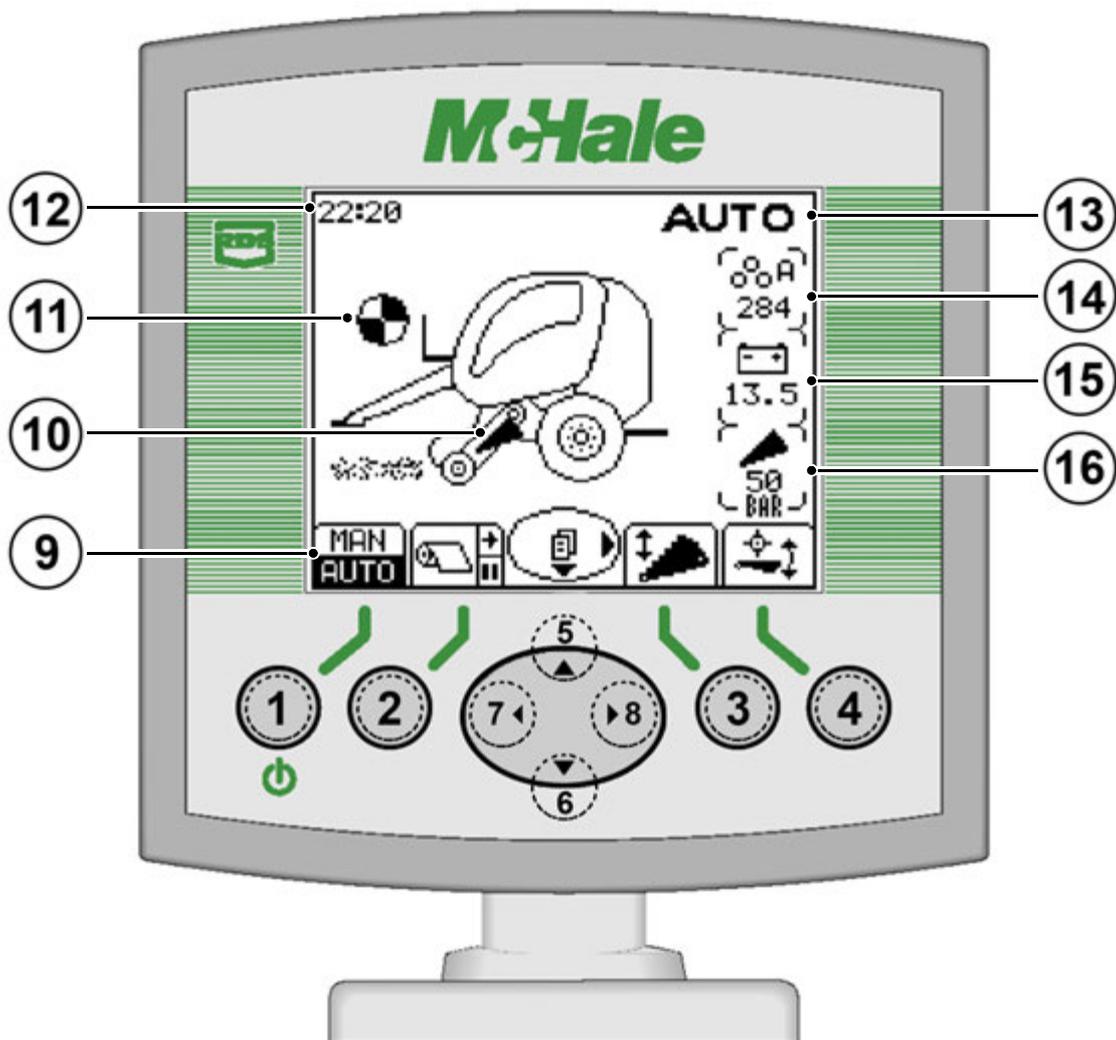
The control unit is the main interface between the operator and the machine. The most vital information for the operator is displayed along the right side of the screen.

The control unit should start up automatically when first connected to a 12 V power supply. To switch off, hold Button 1, for 5 seconds. One press of Button 1 will start up the control unit again.

Buttons 1 - 4 along the bottom of the screen are multifunctional. Each button's current function corresponds to the symbol shown on the screen directly above it.

Buttons 5 - 8 are used to navigate the menu settings.

The image below shows all the button reference numbers which are referred to throughout this manual.



Control box overview

7.1 Control box functions

No.	Function	
	Manual	Automatic
1	Power Button, then select Manual/Auto Mode This button must be pressed and held for 3 seconds to power off.	
2	Net feed: Press to start net feeding.	Net feed: Press to start net feeding, before the bale is full. Press and hold during bale full beeps to delay netting.
3	Knife Diverter: Press and hold while operating the pick-up spool lever to raise/lower the knives.	
4	Floor Diverter: Press and hold while operating the pick-up spool lever to raise/lower the drop floor.	
5	No function on the main screen, used in the Control Unit Menu only.	
6	Press to access the Control Unit Menu. Hold the down arrow for 1 second to enter the menu.	
7	No function on the main screen, used in the Control Unit Menu only.	
8	Press the right arrow to access the bale counter options.	
9	Man/Auto modes, toggle between them using Button 1.	
10	Knife-Up Indicator: Appears when the knives are fully raised into the chopping position. The symbol will disappear if knives drop even slightly.	
11	Netting Indicator: Rotates during netting. It turns white when the net knife is tripped.	
12	Clock: Displays current time, which can be adjusted from within the menu.	
13	Displays the current working mode: Man/Auto.	
14	Displays the active customer counter and its current bale total.	
15	Tractor battery supply voltage.	
16	Knife pressure: Displays the current knife pressure (bar) with knives up. (50 to 60 bar when knives are up)	

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.

7.2 Control box features

7.2.1 Working display

When the control box is first switched on it displays 'McHale F5500' followed by the 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 soft key buttons are used for multiple functions

The four soft key 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 soft key, across the bottom of the screen.

7.2.2 Manual/Automatic modes

There are two working screen modes:

1. Manual (Man)
2. Automatic (Auto)

The selected mode determines if netting will start automatically or not. To switch between the Manual and Automatic modes, press 'Auto/Man' (Button 1). The selected control mode is displayed in the top right corner of the screen.

In Manual mode, when the bale chamber is full, a series of warning beeps will sound and the chamber door will appear open on the screen. Button 2 needs to be pressed on the control unit to manually begin feeding net.

In Auto mode (most commonly used), when the bale chamber is full, a series of warning beeps will sound and an image of a bale will appear on the screen. Net will automatically feed after a preset amount of time. (See 'Net delay')

In AUTO, one press of Button 2 anytime before the bale is full will start netting. Pressing and holding Button 2 will delay netting start, when the bale is full.

7.2.3 Net operation

The net indicator (See 'Electronic control system') rotates when net is being applied. This stops rotating when the net knife trips to cut the net.

When the net knife trips and cuts the net, a short beep will sound to alert the operator to open the chamber door and eject the bale. If the net breaks or runs out then the net warning screen will be displayed. (See 'Check net')

When the chamber door is fully closed again, a 1 second beep will sound to indicate that baling can resume and 1 bale will be added to the bale counters.

7.2.4 Bale counters

The bale sub total is displayed on the right side of the screen. The control box contains ten different bale counters (A - J) and a day counter which can be reset. It also contains a grand total counter which cannot be reset. (See 'Bale total counters')

7.2.5 Voltage monitor

The control box monitors its operating voltage and displays it on the right side of the screen. It should be between 12.0 V and 14.5 V. If the voltage falls below 10 V a warning message is flashed on the display. (See 'Low voltage')

7.2.6 Knife operation

Standard knife operation allows all 15 knives to be raised/lowered at the same time.

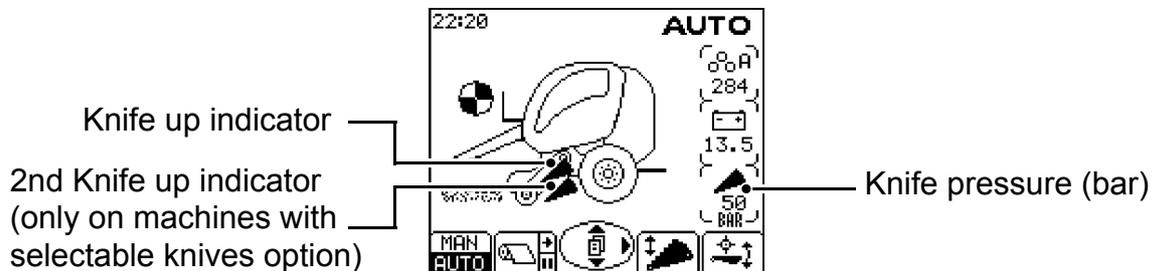
Selectable knives are available as an option on the machine. The operator can select between 0, 7, 8 or 15 knives, by turning the tap on the right-hand side of the chopper unit. The knives must be fully down (retracted), before selecting the desired set of 7, 8 or 15 knives.

The knives are operated by holding the 'Knife Diverter' (Button 3) on the control box and operating the tractor spool lever for the pick-up reel.

To raise the knives, press and hold the Knife Diverter Button, then operate the spool lever in the pick-up reel upwards direction. The knife pressure will increase to and stop at the normal working pressure of 50 - 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 sets of knives, see the image below)

Release the tractor spool lever to neutral first followed by the Knife Diverter Button.

To lower the knives, press and hold the Knife Diverter Button, then operate the spool lever in the pick-up reel down direction. When the knives have lowered fully, place the spool in the float position then release the Knife Diverter Button.



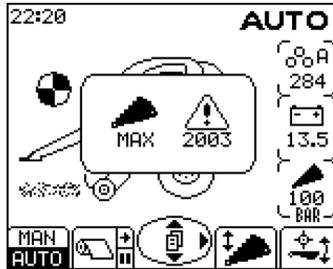
Separate indicator for each set of knives (selectable knives only)

Sometimes, if the knives have not been used for a while or if there is a lot of crop build up in the knife slots, it may be necessary to apply extra hydraulic pressure to raise them fully. To do this, first pressurise knives to the target pressure, as normal, then release the Knife Diverter Button and press again. Engaging the spool lever again will override the pressure limit and allow maximum tractor hydraulic pressure to be applied to the 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. The warning below 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.



Knife pressure too high warning

7.2.7 Unblock floor operation

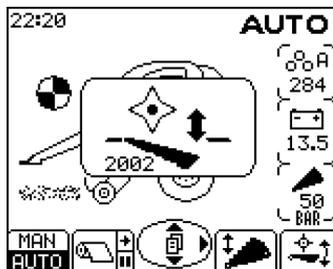
The unblock floor is operated by holding the 'Floor Diverter' (Button 4), on the control box, and operating the tractor spool lever for the pick-up reel.

When a blockage occurs, switch off the tractor PTO and lower the floor by pressing and holding the Floor Diverter Button while operating the spool lever in the pick-up reel down direction. As soon as the floor moves away from the working position the warning shown below will be displayed.

When the floor reaches the fully down position, the knives will also drop automatically for easier clearing of blockages. (The knives will come up again once the floor is raised.) Switch on the PTO to feed the blockage through to the chamber.

If a blockage occurs near bale completion, difficulty will be encountered in restarting the PTO. The solution to overcome this, is to select Manual mode, then open the chamber door a small amount so that the bale density gauge goes into the yellow zone. (See 'Bale density gauge'). Then restart the PTO and once the PTO is back up to speed, close the chamber door fully and reselect Auto mode.

To raise the floor, press and hold the Floor Diverter Button then operate the spool lever in the pick-up reel up direction until the warning switches off.



Floor is not in the working position warning

7.2.8 Net wrap system

In an Auto cycle, the control box emits a series of beeps when the bale chamber is full. An image of a bale will appear on the screen. When the bale has reached the predetermined density, this alerts the operator that netting is about to start. Net will automatically feed after a preset amount of time.



WARNING: When netting starts, stop forward movement!

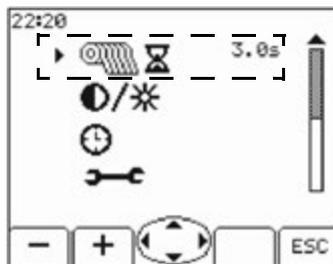
The operator must stop the forward movement of the tractor at once!

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 chamber door can then be opened to eject the bale from the bale chamber. Once the bale is ejected, the chamber door can then be closed and baling can resume as normal. In Auto, one press of Button 2 anytime before the bale is full will start netting. Pressing and holding Button 2 will delay netting start, when the bale is full.

In Manual mode, when the bale chamber is full, a series of warning beeps will sound and the chamber door will appear open on the screen. Button 2 needs to be pressed on the control unit to manually begin feeding net. When the net knife trips and cuts the net, a short beep will sound to alert the operator to open the chamber door and eject the bale. If the net breaks or runs out then the net warning screen will be displayed. When the chamber door is fully closed again, a 1 second beep will sound to indicate that baling can resume and 1 bale will be added to the bale counters.

Net Delay

This is the delay between the bale full beeps sounding and net actually starting to feed when in Auto mode. Use Buttons 1 + 2 to increase or decrease the time setting. The standard time setting is 3 seconds but this can be changed from 0 - 5 seconds depending on operator preference. When baling light crops at faster speeds, some operators prefer to have more time to stop before netting begins.

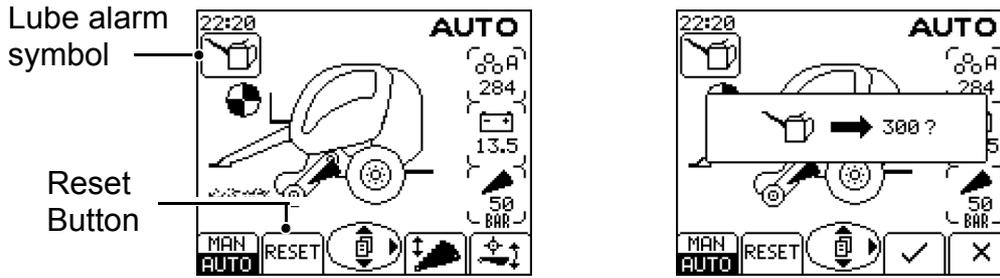


Net delay setting

7.2.9 Lube counter

Every 300 bales, the lube alarm activates to remind the operator to replace the grease cartridge and check the chain oil level. An 'oil can' symbol will appear on the top left of the screen, and a beep will sound every 3 seconds.

The function of Button 2 will change to 'RESET' to allow the lube alarm counter to be reset. Pressing this will ask the operator to confirm they want to reset the lube counter. Pressing the tick, (Button 3) will confirm and the counter is reset to 300. The current lube count can be viewed in the control unit menu. (See 'Lube count')

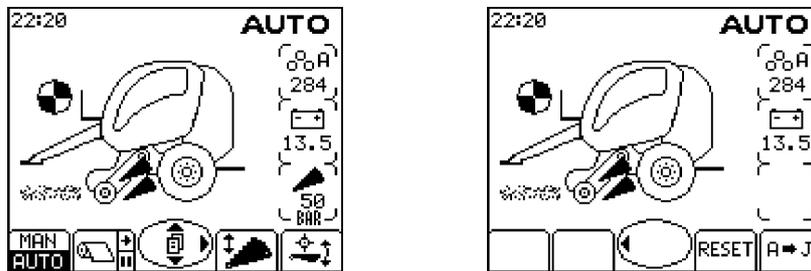


Lube counter

7.2.10 Bale total counters

The control unit has 10 individual job bale counters, labelled A - J.

A different counter is normally used for each customer/job. The active counter and its current bale total are always displayed on the top right of the screen (except the menu screens).



Bale total counters

To change the active counter, press the right menu arrow (Button 8) to access the 2nd main screen and activate the bale total count buttons.

Pressing 'A - J' (Button 4) will toggle between all the different counter options. Holding the 'RESET' Button will reset the current total to zero.

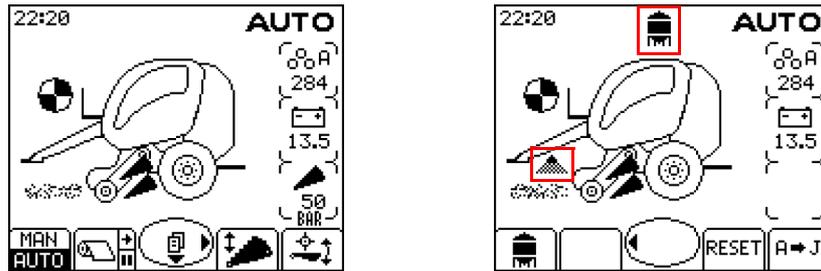
There is also a 'Day' counter function which counts every bale regardless of the selected bale total A - J. This can also be viewed and reset at the end of every day from within the control unit menu. (See 'Day total')

The machine grand total can be viewed in the control unit menu. This can never be changed or reset. (See 'Grand total')

7.2.11 Additive

To enable/disable the additive applicator, press the right menu arrow (Button 8) to access the 2nd main screen and then press button 1. The additive icon is shown above the baler when enabled. Press button 1 again to disable.

When enabled, the additive applicator output is automatically controlled. The spray bar icon is shown beside the pick-up reel when the additive applicator is on. It automatically turns off to minimise additive wastage when no crop is feeding in during netting or while the chamber is open.



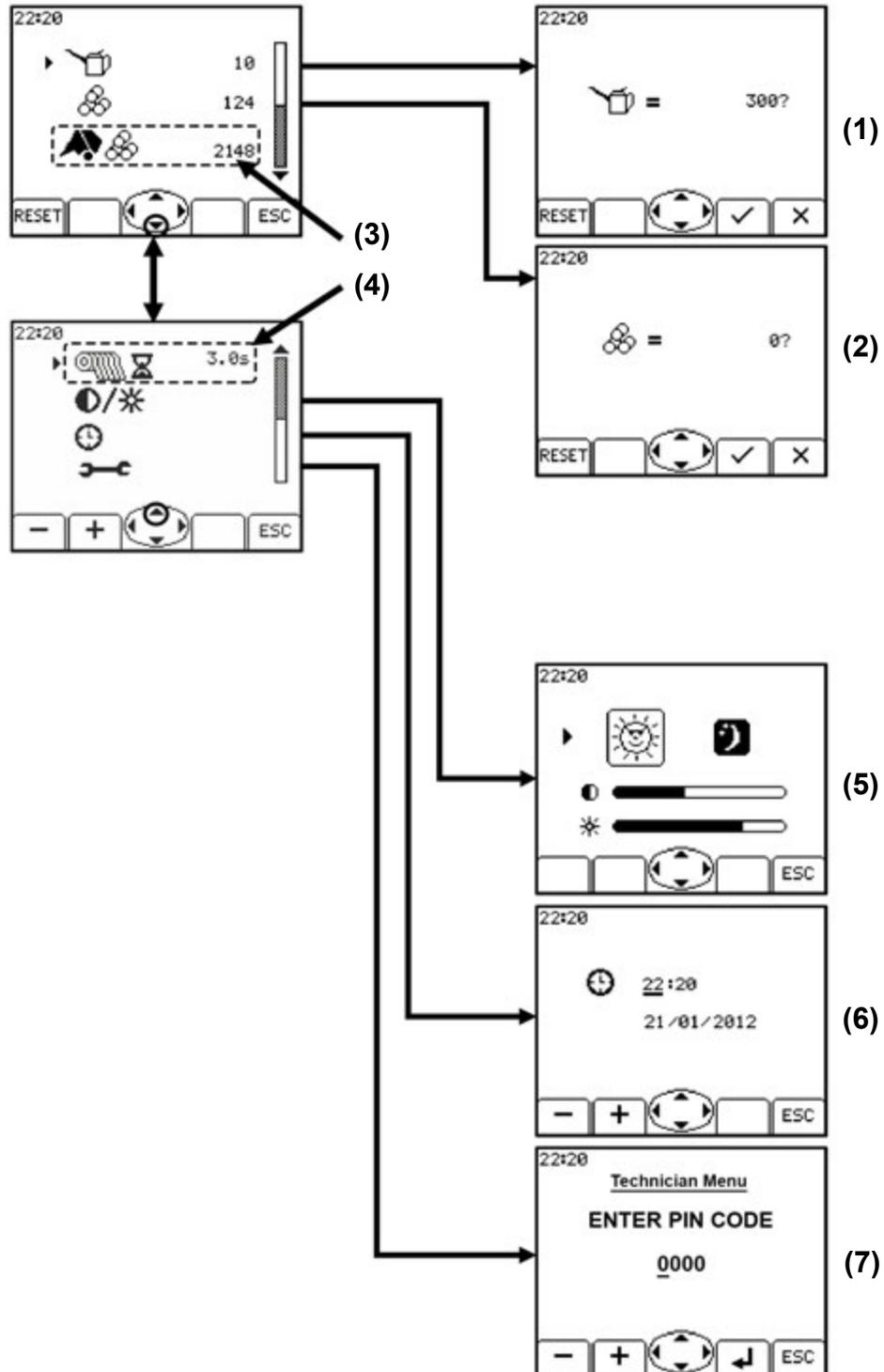
Activate/ de-activate the additive applicator

7.3 Menu structure

Hold the down arrow (Button 6) for 1 second to access the Control unit menu.

7.3.1 Control unit menu

Below is a navigation map for the menu layout which has seven settings, over two main screens. All settings, except for 3 & 4, have a sub screen. Detailed descriptions of each setting's function are on the following pages.

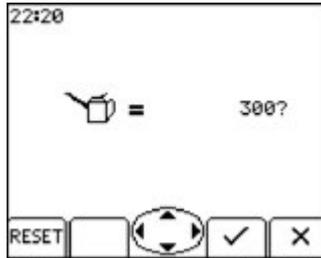


McHale F5500 Baler

1. Lube count

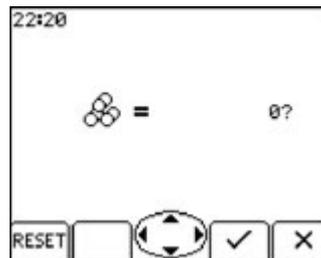
This shows the remaining bale count before the lube alarm will activate again. The counter is usually reset from the main screen after every 300 bales are made. (See 'Lube counter')

If necessary, the counter can be reset before the alarm has activated from within this menu by pressing 'RESET' (Button 1) while the selection arrow points to 'Lube Count'.



2. Day total

This total counts every bale that has been made regardless of the sub-total A - J that is currently active. It is useful to count the total number of bales made each day. To zero the counter, press 'RESET' (button 1), followed by the 'tick' (button 3) to confirm.



3. Grand total

This is the complete bale total that has been made. It cannot be reset.

4. Net delay

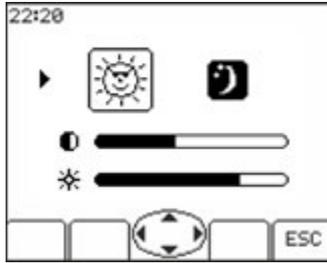
This is the delay between the bale full beeps sounding and net actually starting to feed when in Auto mode.

Use Buttons 1 + 2 to increase or decrease the time setting.

The standard time setting is 3 seconds but this can be changed from 0 - 5 seconds depending on operator preference. When baling light crops at faster speeds, some operators prefer to have more time to stop before netting begins.

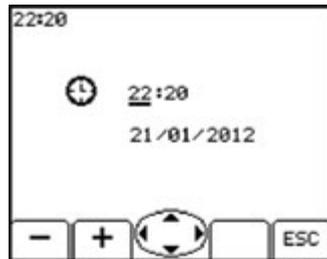
5. Contrast

Extremes of temperature may affect the contrast of the display, which is adjustable from the contrast menu. Select day or night, then the contrast and brightness settings can then be adjusted for that option.



6. 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.



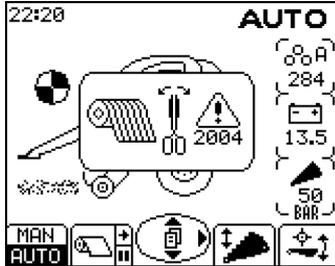
7. Technician menu

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



7.4 Warning messages

Net knife is tripped



This warning means that the net knife is already in the tripped position and net cannot be fed. The net knife needs to be manually reset and netting can be re-started by pushing Button 2.

Check net



This warning will usually be displayed if the roll of net breaks or runs out. If the net knife is not seen to trip after 20 seconds of netting start then the warning is activated.

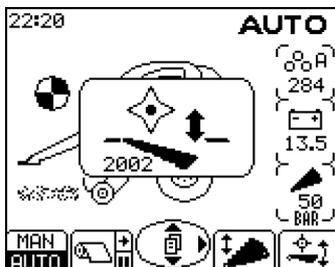
Low voltage



This warning means that the power supply voltage is below 10.5 V.

Check the tractor battery and all power lead connections. A fused power cable directly to the battery is the preferred option.

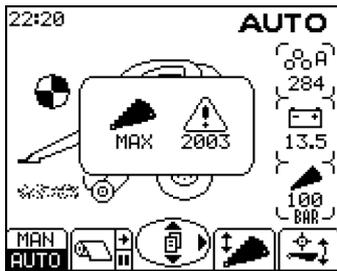
Drop floor too low



This warning means that the drop floor is not in the fully raised position. Press Button 4 and operate the pick-up spool to raise the floor.

Check for any loose crop build up preventing the floor from raising fully.

Knife pressure too high



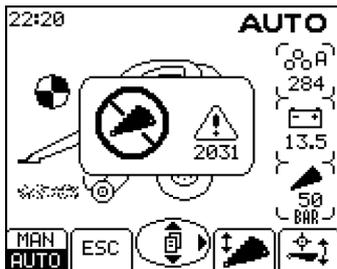
This tells the operator that the hydraulic pressure holding up the chopping knives is too high for baling which could lead to knife or machine damage. This warning will be seen if manually raising the knives with max. pressure. (See 'Knife operation')

Knives are too low



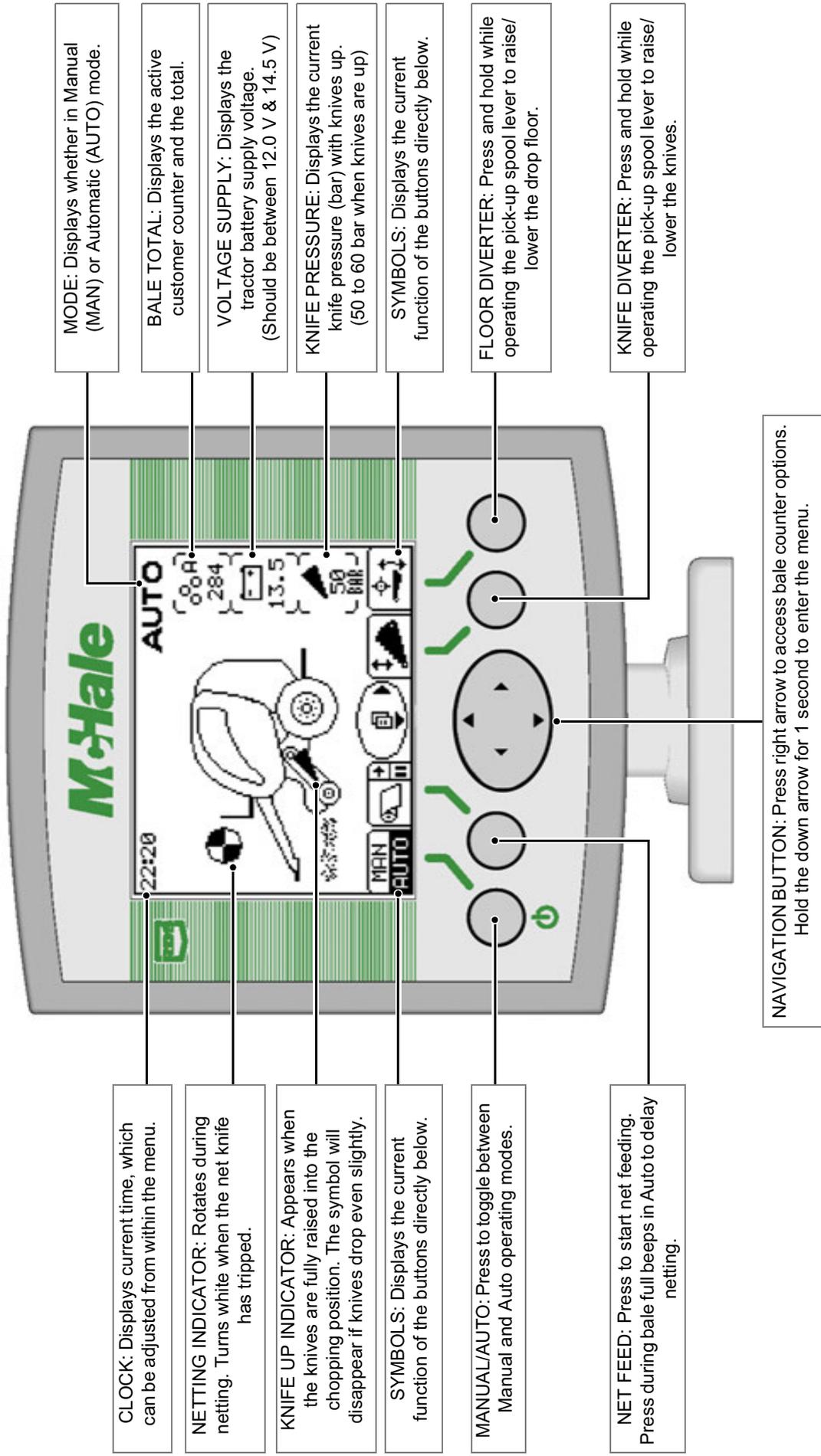
This will be displayed if the knives lower even slightly while baling to warn the operator of less than optimum crop chopping.

The knives may be blunt or a hydraulic problem may be causing the knife pressure to drop too low allowing the knives to retract.



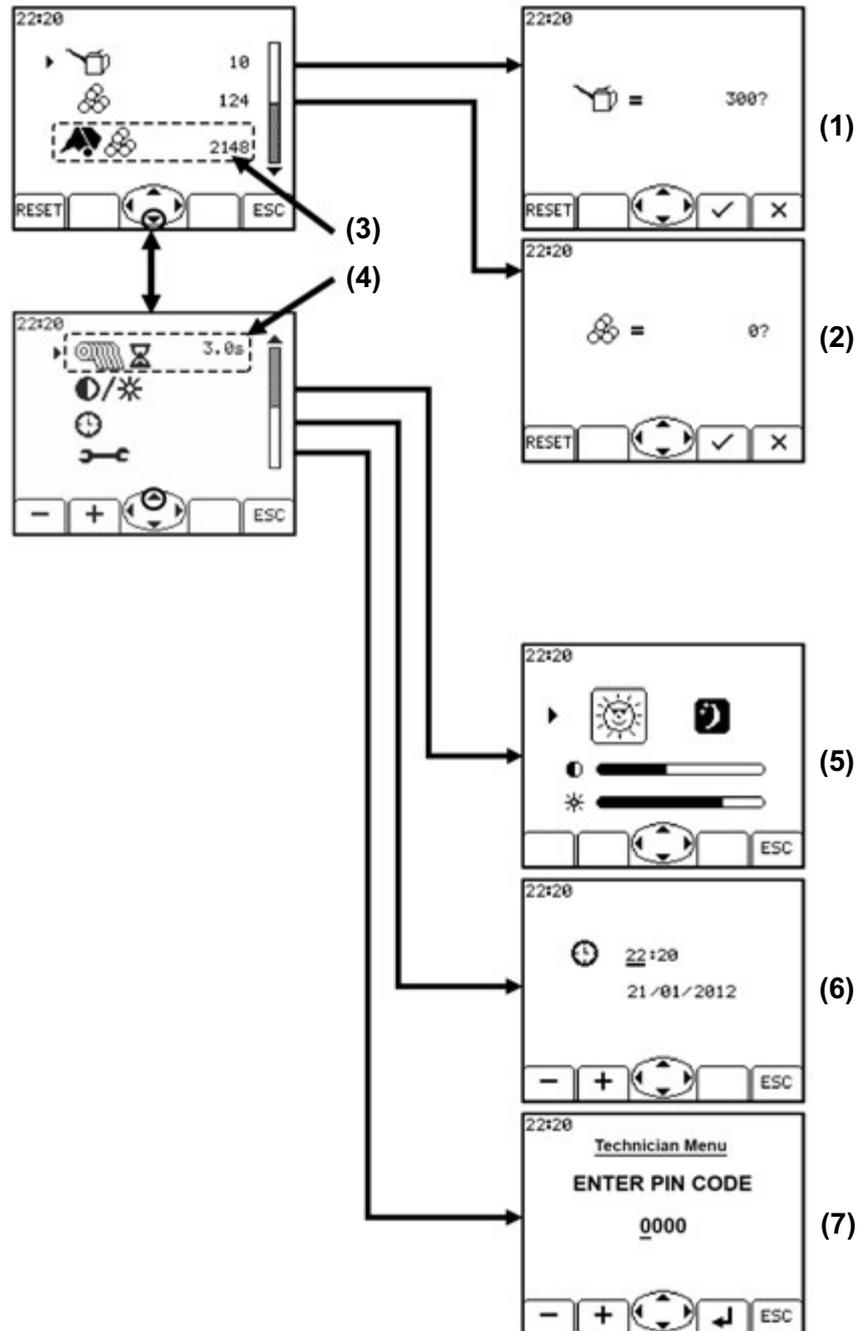
This warning is shown on selectable knife machines when the second set of knives lower even slightly while baling to warn the operator of less than optimum crop chopping.

F5500 CONTROL UNIT OVERVIEW



Control unit menu

Below is a navigation map for the menu layout which has seven settings, over two main screens. All settings, except for 3 & 4, have a sub screen. Hold the down arrow for 1 second to enter the menu.



8

Road traffic safety & operation

8.1 Before travelling on any public roadway



WARNING: 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

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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 removed and secured in the road transport position (see the following image) and the drawbar/PTO stands secured in a working position. (See 'Drawbar & PTO shaft stand usage')



Pick-up wheels in the transport position

9

Field operation & machine adjustments

9.1 Break-in period

McHale recommend a break-in period of approximately the first 50 bales or until the paint within the machine has lost its shine. 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.



NOTE: Making bales greater than the maximum diameter is not recommended on a frequent basis

It is important to realise that roller and drive loads increase as the bale size approaches its maximum diameter. As such, frequently making bales greater than the maximum diameter, by pressing and holding net feed on the control box, is not recommended as this can lead to premature failure of components. 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.

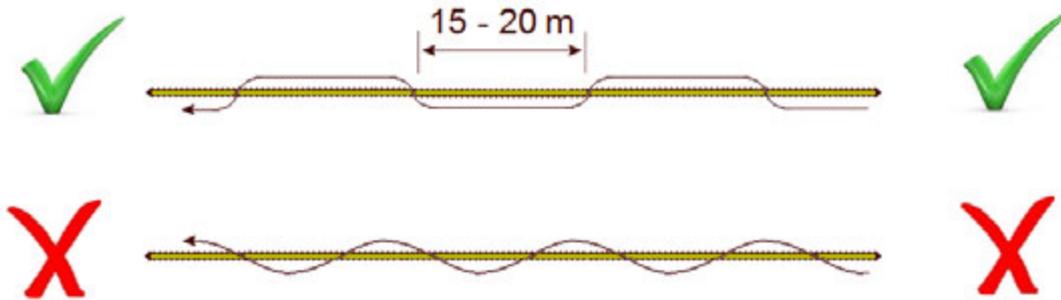
In the case where narrower swaths are unavoidable, it is recommended that the swath be periodically directed 15 - 20 m to the right-hand side and also the same distance to the left-hand side of the pick-up as the baler is driven over the swath.

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.

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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.



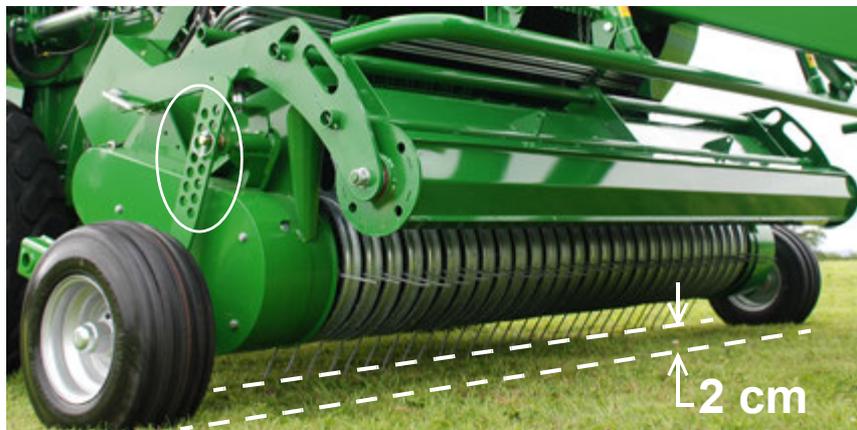
NOTE: Ensure the spool control lever is in the float position

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 guard adjustment

The function of the crop guard plate is to hold down the baling material in order to achieve an even flow. The height of the crop guard can be adjusted to suit the material type and volume, by means of adjusting the chain length.



Crop guard adjustment chain & plate



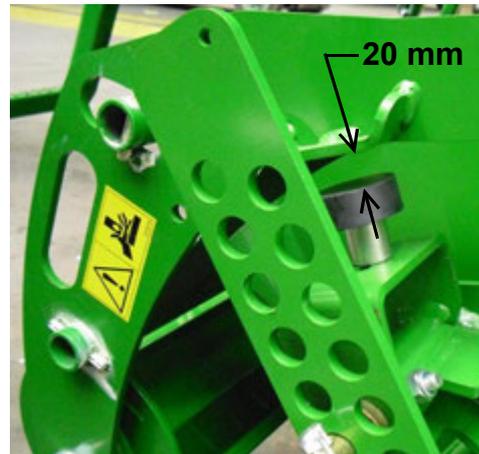
Crop guard

9.5 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

9.6 Unblocking system

The machine is equipped with an unblocking 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. Push and hold the drop floor diverter on the control box, while using the tractor pick-up spool lever in the down direction, to lower the channel floor. (See the following image). 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. (Note: The knives will also be retracted when the floor is lowered and they will be reengaged when the floor is raised.)

If a blockage occurs near bale completion, difficulty will be encountered in restarting the PTO. The solution to overcome this, is to select Manual mode, then open the chamber door a small amount so that the bale density gauge goes into the yellow zone. (See 'Bale density gauge'). Then restart the PTO and once the PTO is back up to speed, close the chamber door fully and reselect Auto mode.

After having cleared the blockage, reset the channel floor closed, by pushing the drop floor diverter on the control box, while using the tractor pick-up spool lever in the up direction, to raise the channel floor back up into the working position. 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

9.7 Chopping system

The machine is equipped with a 15 knife chopping system for fine cutting. If a coarser chop is required, some of the knives can be removed (See 'Chopper unit knife removal & installation'). The Knife Diverter Button on the control box must be held down, whilst using the pick-up spool to raise (activate) or to lower (deactivate) the knives.

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.

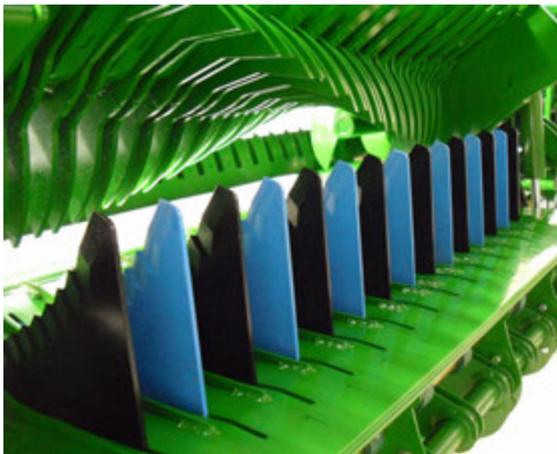


NOTE: Keep the knife slots clear of material

To keep the knife slots clear of material, it is recommended to switch the knives on and off several times daily. To do this, press and hold 'Knife Diverter', while using the tractor pick-up spool lever in the up/down direction. This will raise/lower the knives. (See 'Knife operation')

9.8 Selectable knives

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



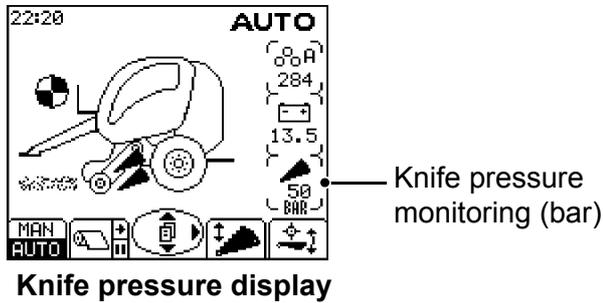
Selectable knives



Selectable knives tap

9.9 Knife pressure monitoring

The knife pressure on the **McHale F5500** is monitored from the control box.



The knife pressure will increase to and stop at the normal working pressure of 50 - 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.)

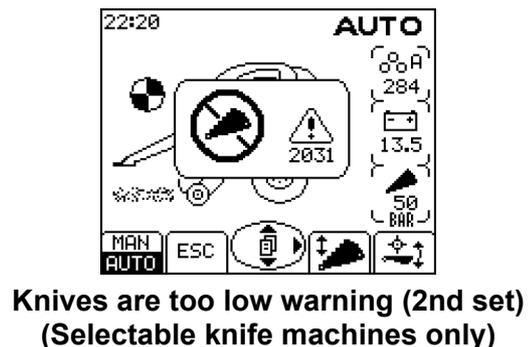


WARNING: Do not bale if the knife pressure is too high!
Do not bale if the knife pressure is too high as machine damage will occur!



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.

This will be displayed if the knives lower even slightly while baling to warn the operator of less than optimum crop chopping. The knives may be blunt or a hydraulic problem may be causing the knife pressure to drop too low allowing the knives to retract.



9.10 Net tension adjustment

The tension on the net is achieved by means of a variable pulley. The net can be tensioned from 0 to 7% stretch, depending on the quality of net used and the percentage dry matter of the material being baled. The machines are pre-set at 2% stretch. **McHale** recommend using a lower percentage stretch when baling dry matter material like hay and straw and a higher percentage stretch for material like grass. These percentages will vary depending on bale density and type of crop being baled. The following steps show how to adjust the variable pulley.



CAUTION: Bale size should not exceed 1.27 m in diameter

Always ensure that the bale size does not exceed 1.27 m in diameter. Bales with a bale size in excess of 1.27 m in diameter may result in damage to the net.

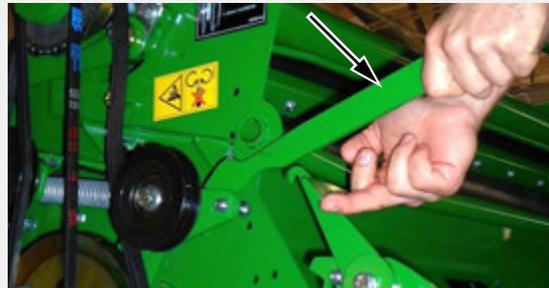


WARNING: Ensure the tractor is shut down before adjusting

Never adjust the net tension while the baler PTO shaft is engaged or while the tractor is running. Shut down the tractor, remove the ignition key, apply the parking brake and prevent any machine movement with wheel chocks.



1. The variable pulley is the inner one located closest to the net unit side. Insert the net-unit handle provided, into the slot on the spring-loaded belt tensioner and pull the handle forwards, until the hook can be swung up to latch the tensioner bolt temporarily, as shown. The belt should now be slack, allowing the variable pulley to be adjusted, as required.



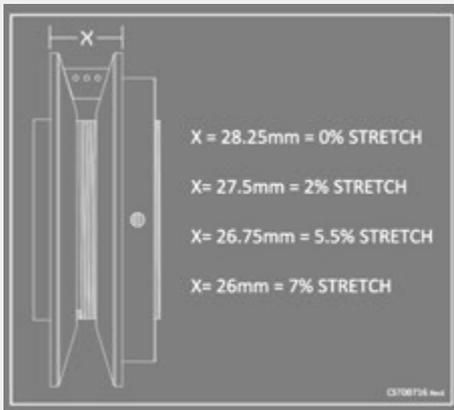
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2. The variable pulley is in two halves, with one side threaded into the other. The outer pulley half is secured in place using an M10 grub screw fastened onto the flat sides of the inner pulley.

Using a 5 mm allen key, loosen back the grub screw 5 turns.

With the grub screw loosened, the pulley can be threaded inwards or outwards depending on the net tension setting required.



3. By referencing to the diagram, the desired net tension can be achieved by measuring the distance 'x' as indicated in the diagram.

With the required tension setting achieved, tighten the grub screw.

Warning! Ensure that the grub screw is tightened onto the flat surfaces on the inner pulley and not on the threads.



4. Insert the net-unit handle provided, into the slot on the spring-loaded belt tensioner and pull the handle forwards, until the hook can be unlatched. Ease the handle back, allowing the tensioner to re-tension the belt. Remove the handle and place it back into its holster on the net unit. Swing the hook back down into its original position.

To tension the outer V-belt loosen the tension pulley wheel, using a 19 mm spanner and slide the tension pulley towards the tractor.

The machine is now ready to bale at the new net tension setting.



CAUTION: Take care when removing and fitting belts

Always exercise care when removing and fitting belts onto pulley wheels. Use extreme caution when dealing with spring-loaded tensioners and hooks.



NOTE: Frequency of belt replacement

The variable pulley V-belt needs to be replaced every year or after 10,000 bales.

9.11 Net brake adjustment

The net brake is designed to prevent net run-on and is applied immediately after the net knife trips. If problems exist with net run-on, or if net is being drawn into the chamber while baling, then it is likely that the brake needs adjusting.



WARNING: Ensure safety before working on brake adjustment

Before attempting to carry out brake adjustment, ensure that the tractor engine has been switched off, the key removed and the brakes applied.



WARNING: Wear proper safety equipment & follow all instructions

Always wear protective clothing and gloves, beware of sharp edges! Caution must always be taken when making adjustments in this area as the netter knife is extremely sharp!

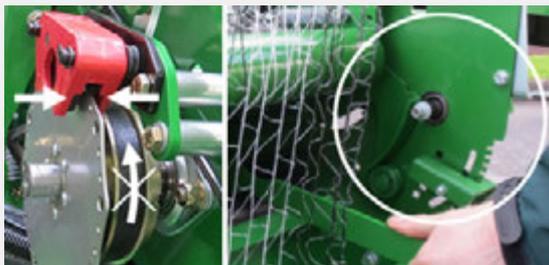
After every 1,500 to 2,000 bales, a quick check should be carried out as follows:

Firstly tension must be removed from the inner belt.



A. Net knife reset: The brake should be off in this position. Disc moves freely.

With the net knife in the re-set position as shown, it should be possible to rotate the brake disc freely, without the brake causing any noticeable drag.



B. Net knife tripped: The brake should be on in this position. Disc is locked.

With the net knife in the tripped position as shown, it should not be possible to rotate the brake disc, without exerting a lot of force.

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If the above conditions are not met, then adjust using the following procedure:

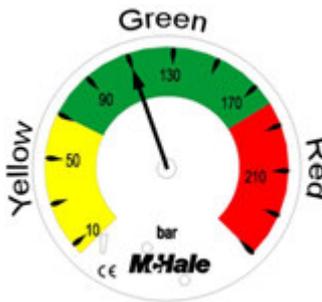


C. Adjustment: Insert a flat blade screwdriver in the screw slot and use a 10 mm spanner to loosen off the M6 nut, as shown. Then using the screwdriver turn the screw clockwise to tighten (apply the brake sooner) and anti-clockwise to loosen (back the brake off). Adjust the brake using only a ¼ turn at a time, as it is quite sensitive.

The brake should be set so that it is as close to the disc, as possible, without causing any drag. Tighten the M6 nut, holding the screwdriver in screw slot to stop it turning.

After performing an adjustment, carry out above checks at A and B to ensure brake is fully off, at step A and fully on, at step B. If not, repeat adjustment C until conditions at A and B are satisfied. A small movement of the brake arm should apply the brake fully. Finally, re-tension the inner belt.

9.12 Bale density gauge



The bale density gauge, is used to indicate the pressure applied to the back door rams (on the small side of the rams). When the back door is closed, and no material in the baling chamber, this is known as 'chamber pre-charge pressure'. This pressure will then increase at the end of the bale forming cycle, due to the oil in the cylinders being forced into the accumulator. As material begins to fill up the baling chamber, it pushes the door rams open ever so slightly. This can cause the gauge to go into the red and this is normal operation. However, pressure should never go above 210 bar, if it does consult your **McHale** dealer.

9.13 Setting chamber pre-charge pressure

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. The adjustment range to operate in is within the green zone. When baling drier materials such as straw or hay **McHale** recommend adjusting the door sensor handle to the hay-straw setting. Chamber pre-charge pressure is set at the door charge valve, shown below, and is located in front of the platform on the LHS of the machine.

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Door charge valve



CAUTION: Never adjust chamber pre-charge pressure above 170 bar

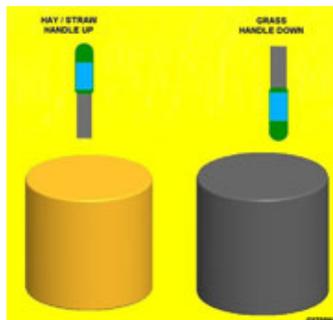
The chamber pre-charge pressure should never be adjusted above 170 bar pressure in any case, damage to machine components may result!

1. Remove all unfinished and finished bales from the baling chamber.
2. Loosen the lock nut on the adjustment screw (A).
3. Inspect the existing pre-charge pressure by holding the spool to close the back door for 3 seconds.
4. If pressure must be increased (gauge in the yellow zone) turn the adjustment screw (A) clockwise and if the pressure is to be decreased turn the adjustment screw anti-clockwise.
5. Continue to inspect the gauge and once the indicator needle is at the desired setting, tighten the lock nut on the adjustment screw ensuring not to let the adjustment screw itself rotate and close all protective covers.

The grass-silage/hay-straw door sensor handle is located inside the right-hand side door panel, close to the door hinge. The bale chamber features a quick adjustment sensor position plate. This allows for a quick change to lower density bales as required for hay and straw, without any need to adjust the chamber pre-charge pressure. In effect, it limits the level to which the chamber pressure will climb above the pre-charge pressure during baling of hay and straw.



Hay & straw position
(handle up)



Handle up/down decal



Grass & silage position
(handle down)

9.14 Bale size adjustment

McHale recommend that the bale size should be between 1.25 m and 1.29 m. The bale size may vary depending on density setting, crop volume intake, chop length, stopping distance, netter settings, amount of net applied and bale size sensor adjustment.

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CAUTION: Bale size should never exceed 1.29 m

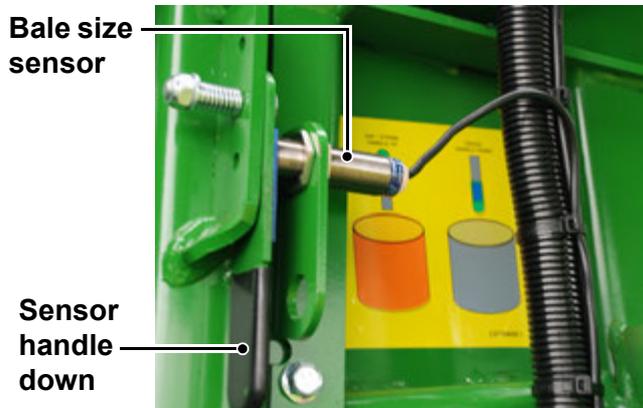
Bales with a bale size in excess of 1.29 m in diameter may result in damage to the net on the bale.

Should the bale size be greater than 1.29 m, then the bale size sensor will need to be adjusted away from the sensor handle. (See the following image)



NOTE: Minimal adjustment has significant effect

Minimal adjustment of this sensor can have a significant affect on the size of the bale. This sensor may need to be adjusted a few times in order to achieve the correct bale size.



Sensor light



CAUTION: Only adjust the sensor with chamber door closed & handle down

Only adjust this sensor with the chamber door closed and the door sensor handle in the down position, as shown.

After adjusting the sensor, the light on the back of the sensor must be on. If there is no light on the sensor after adjustment, then the sensor is out of range and must be adjusted towards the sensor handle, until the light on the back of the sensor lights up.

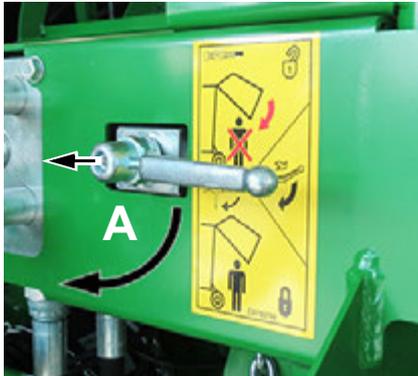
9.15 Chamber door lock

The chamber door lock is to be used, at all times, when the operator wants to enter the chamber. The lock is located in front of the platform on the left 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.



Chamber door lock

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

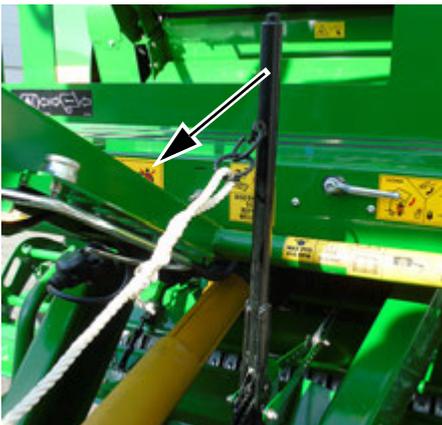


9.16 Brake overview (if fitted)

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.

9.16.1 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 its 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.

9.16.2 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.

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- 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.

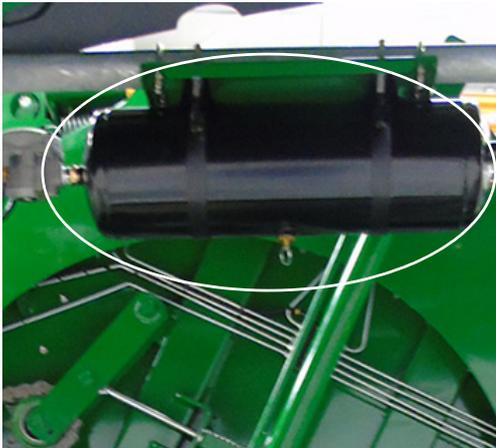
Once the hoses have been disconnected from the tractor, the braking system of the machine is active. The parking brake should also be used to ensure stability of the machine, once disconnected from the tractor.

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.

9.16.3 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.

9.16.4 Brake adjustment

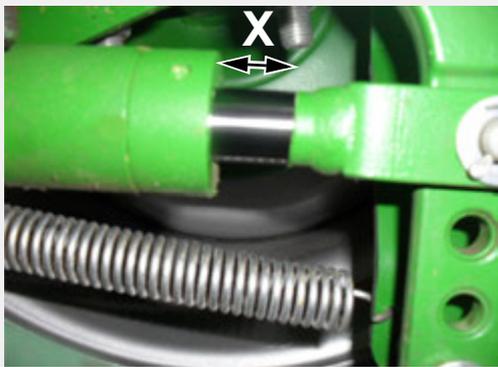
Machines fitted with brakes, either air or hydraulic, must be initially checked after the first 50 hours of use and every 100 hours or yearly thereafter (whichever comes first).



WARNING: Ensure safety before working on brake adjustment

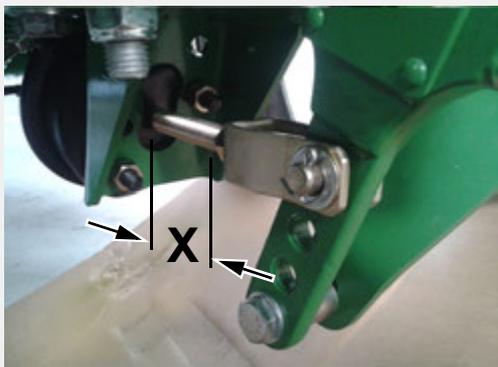
Before attempting to carry out brake adjustment, ensure that the tractor engine has been switched off and the key removed. Testing should be conducted with the hand brake 'off' on both the machine and the tractor and a second trained person will be required to activate brakes from the tractor. Also ensure 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.

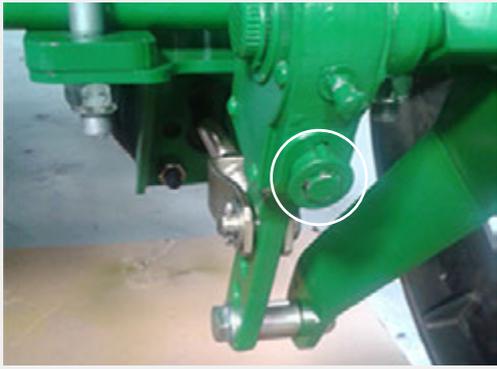


On air-brake systems (bottom picture), some fixed reference point must be used to measure the actuator movement.



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.

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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.



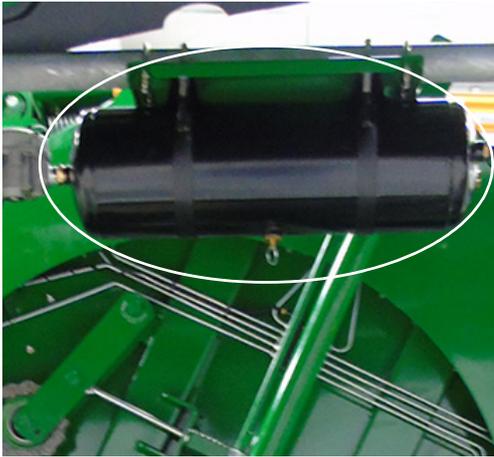
6. It should only be possible to pull the lever about half way down the ratchet to activate the brakes. If the lever can be pulled down towards the bottom of the ratchet, then adjust the cables at the wheels to ensure the lever only pulls half way.

9.16.5 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.



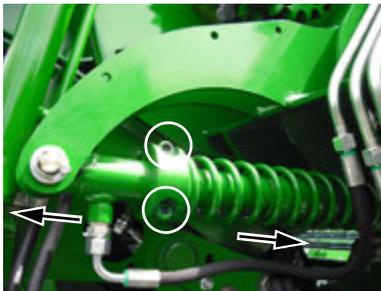
9.17 Adjusting pick-up float springs

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:

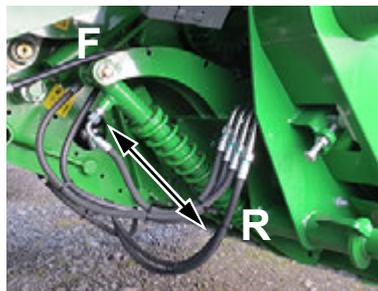
1. Using the tractor spool handle, hydraulically raise the pick-up, in order to release float spring pressure. Close the tap on the hydraulic line to prevent the pick-up from moving.
2. Ensure that the tractor engine has been shut down, the key removed and the brakes applied before carrying out the following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

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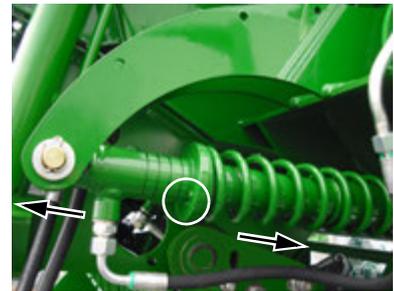
3. The method of adjustment can be either Type A or Type B, which are shown below.
 - (a) **Type A:** Loosen the collar by slacking off the bolts, then tap the collar in the direction (R) if increased float is required, or in direction (F) if less float is required. Remember to fully tighten the bolts 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).



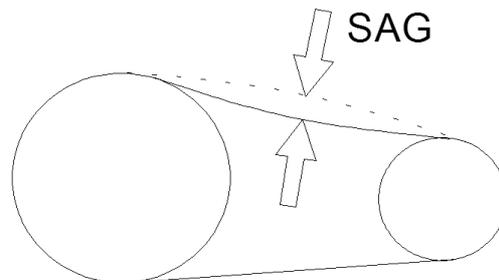
NOTE: Ensure spool control lever is in the 'float' position

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.

9.18 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.

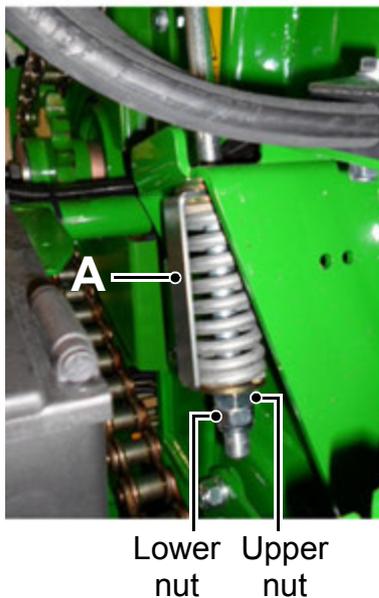
The sag is measured at the midpoint of the chain between the sprockets. Always ensure one side of the chain is tight so that the correct reading is obtained. Even though some drives differ in detail the basic adjustments stay the same.



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.

9.18.1 Main drive chain adjustment

To adjust all three drive chains, the following tools are required; two 24 mm spanners.

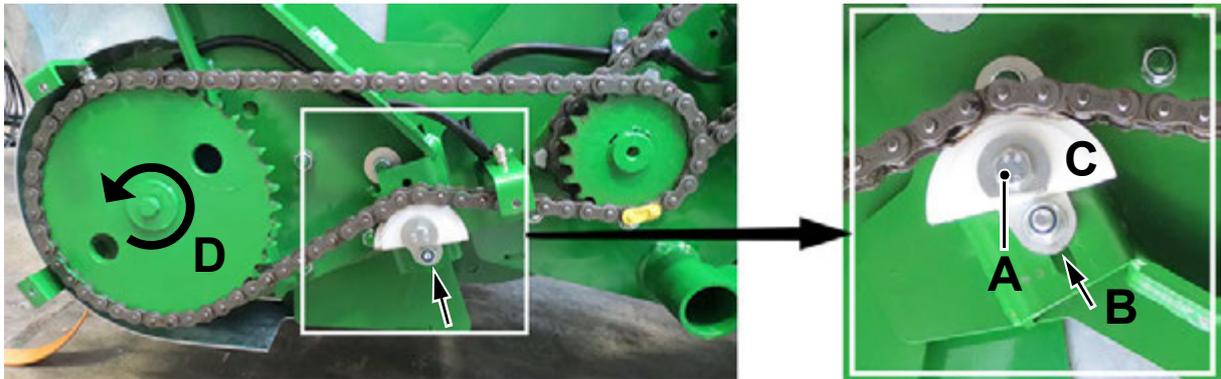


Hold the upper nut and loosen the lower nut. Adjust the upper nut until compression of spring has reached the same length as spring guide (A). Spring guide (A) is an indicator only and always inspect chain tightness after adjustment, as greater spring compression may be required, due to chain wear, chain damage etc. Lock the two nuts together to secure in place. Perform the procedure for all three tensioners outlined.

9.18.2 Pick-up reel tine chain adjustment

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

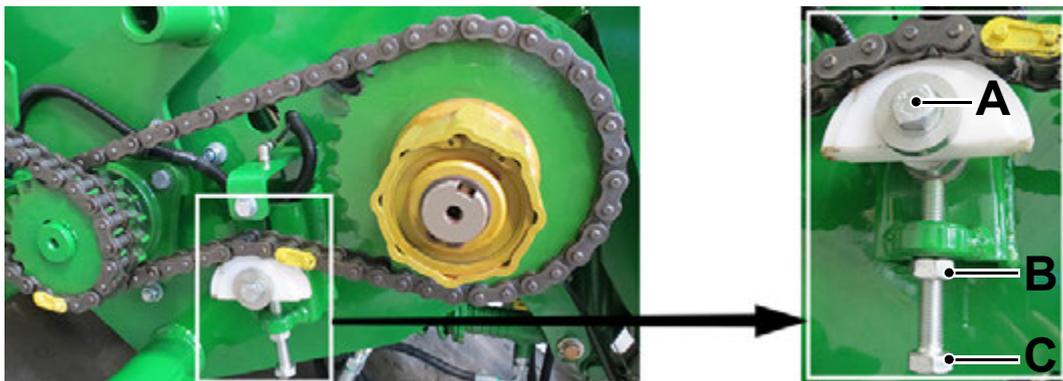
1. Loosen (A) and turn tine sprocket (D) anti-clockwise, as shown below.
2. Apply upward pressure (along slot B) to nylon chain slide (C), while continuing to hold sprocket (D) in position.
3. Tighten (A) and ensure that sagging is kept to a minimum.



9.18.3 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.

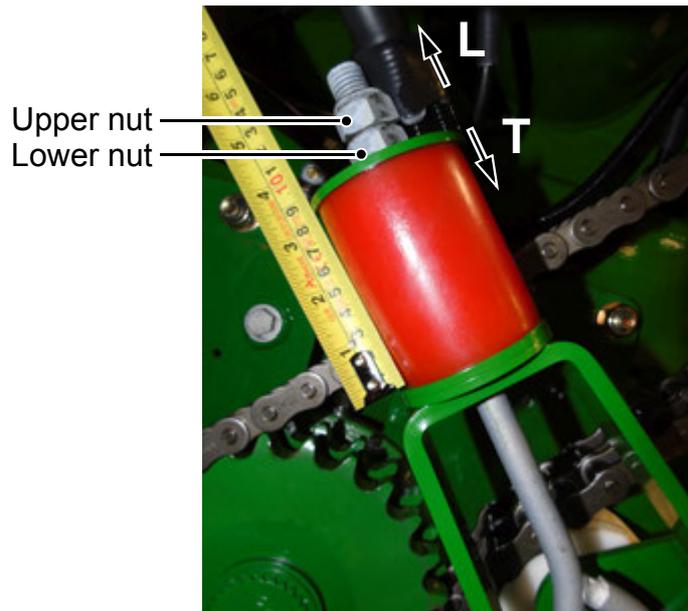
1. Using 17 mm tools, loosen (A) anti-clockwise by approx.1 turn.
2. Using a 19 mm spanner, loosen locknut (B).
3. Tighten setscrew (C) until there is little or no sagging of the chain and retighten bolt (A).
4. Retighten locknut (B).



9.18.4 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.



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
- 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'*)

McHale F5500 Baler

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.)
- Replace grease cartridge (300 bales approx.)
- Grease chamber door hinge points
- Check all chain adjustments, and adjust as necessary (*See 'Chain adjustments'*)
- Clear away crop or debris built up around brake-hubs several times per day.
- 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 or bearing housings running very hot, especially with paint discolouration or burning smell. Carry out these checks daily, immediately after using the machine, with the tractor shut down and the handbrake applied.

Every week

- Grease pick-up reel bearings
- Check for correct air pressure in the tyres
- Grease 5 x standard duty grease points on PTO shaft (*See 'PTO shaft adjustment & maintenance'*)
- Check the belt tension on the netter unit (*See 'Net tension adjustment'*)

Every month

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

Every year

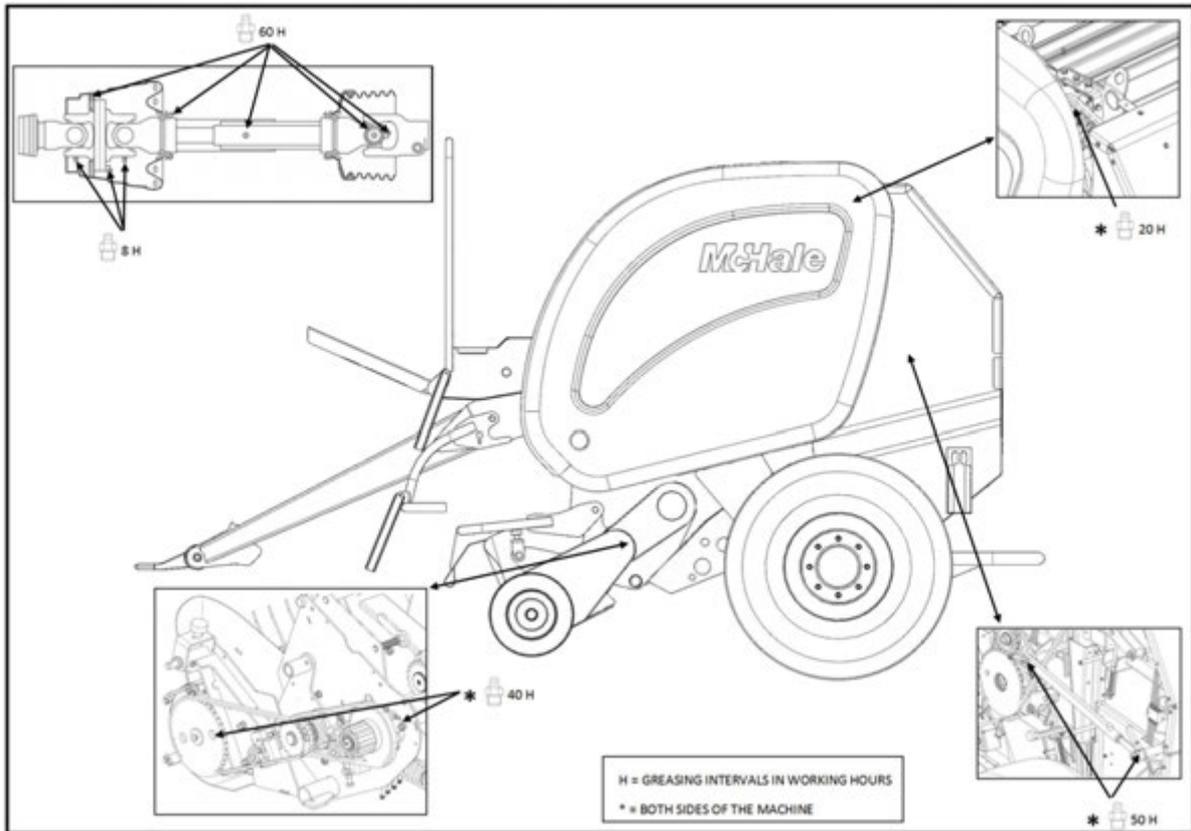
- Clean and lubricate all moving parts of the netter unit
- Drain and change gearbox oil (*See 'Gearbox oil'*)

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.

McHale F5500 Baler

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')



Greasing diagram

Additional greasing needs to be carried out as shown. This decal is mounted inside the door panel on the left-hand side of the machine. (CST00743)



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.

10.2 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 net wrapping 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 fit new grease cartridge, run PTO at approx. 200 rpm and operate the chamber door up & down for around 15 cycles to ensure that all chains have a heavy coating of oil applied, and new grease is pumped into the bearings.
- Pump grease into all other grease points to ensure all bearings and joints are well lubricated on the complete machine.
- 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. *(See 'Tightening torque values')*
- 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')*
- 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 net wrapping system')*
- Fill chain oil reservoir with chain oil and fit new grease cartridge, run PTO at approx. 200 rpm and operate the chamber door up & down for around 15 cycles to ensure that all chains have a heavy coating of oil applied, and new grease is pumped into the bearings.
- Pump grease into all other grease points to ensure all bearings and joints are well lubricated on the complete machine.
- Move the knives from the spare knife holder and refit them into the chopper unit if desired.

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 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

12.1.2 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')

12.1.3 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

12.1.4 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

12.1.5 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

12.1.6 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

12.1.7 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

12.1.8 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
Baler won't take crop in even though the bale chamber is not full (straw)	The bale has stopped rotating	Fit straw bar (Available from McHale dealer)

12.1.9 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	Crop build up at the chamber door lower closing point	Clean away loose crop Use extreme caution!
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')

12.1.10 Net not feeding during an automatic cycle

Symptom	Reason	Solution
Net not feeding during an automatic cycle	Control box is in manual mode	Switch the control box to Auto mode
Net not feeding during an automatic cycle	Net knife has tripped	Manually reset the net knife (<i>See 'Net layer adjustment setting'</i>)
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

12.1.11 Net slipping on the rubber roller

Symptom	Reason	Solution
Net slipping on rubber roller	Net brake bar too tight	Decrease the tension by moving the gas strut pivots
Net slipping on rubber roller	Steel rollers tension not tight enough	Increase tension by adjusting the springs behind the steel rollers

12.1.12 Machine won't cut the net

Symptom	Reason	Solution
Machine won't cut the net	Bill hook worn	Replace bill hook
Machine won't cut the net	Bill hook has too much free play	Realign
Machine won't cut the net	Knife jammed or not enough spring pressure	Check for free movement and increase spring pressure, if needed

12.1.13 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

12.1.14 Net not cut correctly

Symptom	Reason	Solution
Net not cut correctly	Net tension is too loose as it passes into netter	Adjust net tension system
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	Adjust knife spring pressure and replace if necessary.

12.1.15 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

12.1.16 Greaser not working

Symptom	Reason	Solution
Machine not using grease	Air locked	Bleed the cartridge by unscrewing it 2-3 turns (See 'Automatic lubrication system')
Machine not using grease	Blockage in the system	Contact McHale dealer

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: Fixed chamber round baler for making round bales of agricultural fodder.

Model: (F5) _____ **Serial Number:** _____

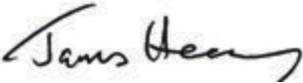
Name of manufacturer: **McHale** Hungária Kft.
Address: 5000 Szolnok, Tószegi út 47, Hungary

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



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.

McHale F5500 Baler

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.

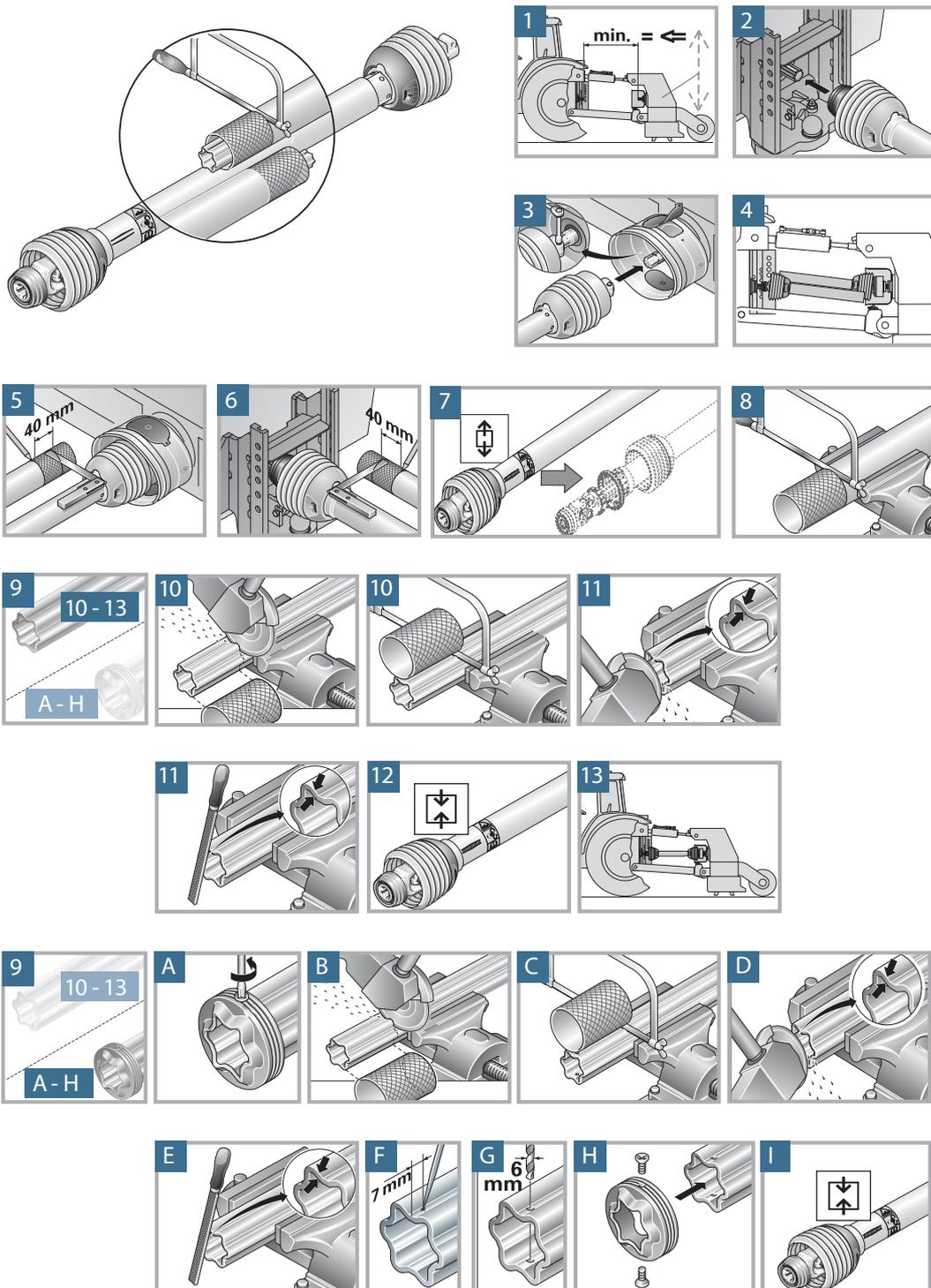
Further conditions - limits of application and responsibility:

- 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)	$(^{\circ}\text{F} - 32) \times 5/9$	$(\text{K} - 273.15)$
Degree Fahrenheit (°F)	$(^{\circ}\text{C} \times 9/5) + 32$	$(1.8 \times \text{K}) - 459.67$
Kelvin (K)	$(^{\circ}\text{C} + 273.15)$	$(^{\circ}\text{F} + 459.67) \div 1.8$