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Operator's Manual

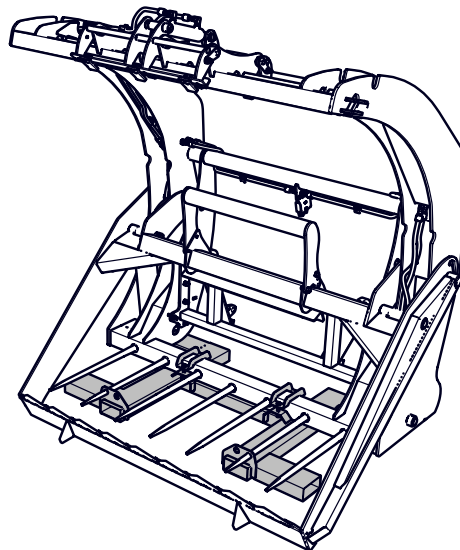
Keep this manual with the machine at all times



BK Series Bale Knife

BK48LF, BK60LF, BK72LF

CAUTION
Operational Hazard
Personal Protection Equipment
(PPE) is required when operating
or maintaining this machine.



Do not attempt to operate the equipment without thoroughly reviewing this manual for safe and proper operation.

Notes

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INTRODUCTION

Thank you for purchasing your new **HLA BK Series Bale Knife** . Your HLA Bale Knife has been designed and manufactured to give you many years of dependable service. **BK Series** unique design helps to increase productivity by ensuring safe, effective and efficient handling of your wrapped bales from storage site to feeding.

The **BK Bale Knife** series is designed specifically for feeding round bales, the HLA Bale Knife rolls a lot of functionality into a single unit saving time and effort.

The **BK Bale Knife** series comes complete with seven replaceable Kverneland tines, which allow you to spear or scoop the bale and hold it in place with the cutting arm to safely move it across your field or yard, making the HLA Bale Knife an all in one solution for bale handling.

Features include a proprietary hydraulic wrap grabbing system that automatically grips the wrap and bale netting preventing it from dropping into the feeder or mixer.

The hardened tool steel cutting knives (eight on the BK48 & 60, nine on the BK72) deliver a consistent cut, and stay sharp. If any knife is damaged, the bolt-on feature allows for easy replacement of a single knife without needing to replace the entire row.

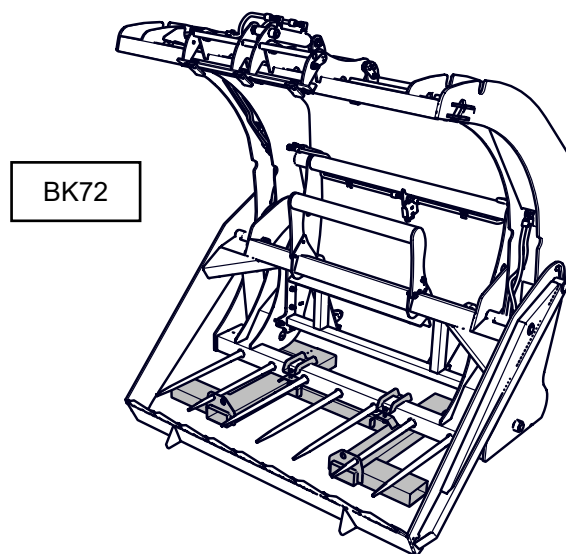
The upward slicing design allows for bales to be sliced not only into feeders and mixers, but also as little as 6" above the ground, making it ideal for operation in tight areas with low overhead space.

Safe, efficient and trouble free operation of your **HLA BK Series Bale Knife** requires that you or any other person, who will be assembling, operating, maintaining or working with this product, are required to read and completely understand the information and instructions contained in this manual.

If anyone does not fully understand every part of this manual, please obtain further assistance by contacting the dealer from which this product was purchased or by contacting Horst Welding with the information listed on the cover of this manual.

Keep this operators manual available for reference by the operator and to pass on to new owners and or operators .

This manual covers models: **BK48, BK60 and BK72**



GENERAL INFORMATION

The purpose of this manual is to assist you in safely operating and maintaining your HLA BK series Bale Knife in a safe manner. Read this manual carefully to obtain valuable information and instructions that will help you achieve safe and dependable service. The illustrations and data used in this manual were current at the time of printing, but due to possible engineering and or production changes, this product may vary slightly in detail. Horst Welding reserves the right to update and or change components as necessary without notification.

In this manual the **HLA BK Series Bale Knife** series may be referred to as Bale Knife, BK, implement or machine.

References may be made to the power unit: which is the engine-driven machine to which this product is attached.

OPERATOR ORIENTATION - The directions left, right, front and rear, as mentioned throughout this manual, are determined when sitting in the power unit driver's seat and facing in the direction of travel

INTENDED USE

The HLA BK series Bale Knife is intended for attachment and use on qualified power units, for the purpose of handling round bales, slicing bale net and plastic wrapping and feeding round bales.

PARTS LIST

The parts lists and hydraulic schematics for this product can be found online. Visit hlaattachments.com and click on the PARTS tab to be directed to our online parts catalogue.

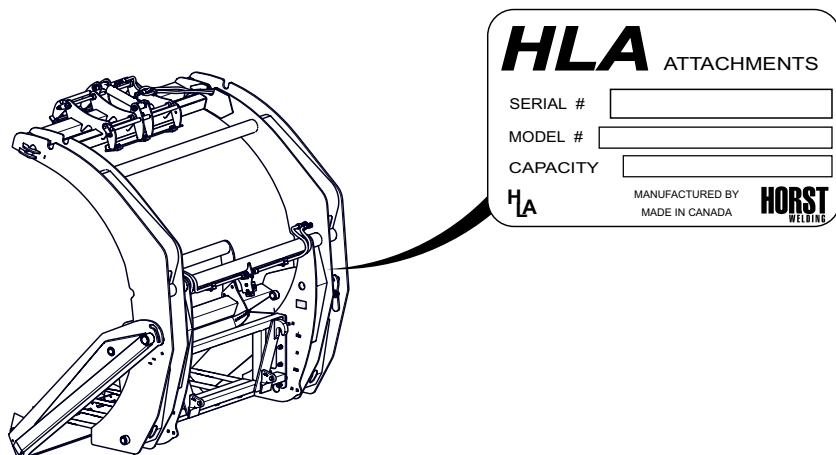
CALIFORNIA PROPOSITION 65

You may see a warning label like the following:



This warning is required by California Proposition 65 (Prop 65), which is meant to notify California residents of exposures to Prop 65-listed chemicals. For more information go to 'www.P65Warnings.ca.gov.'

SERIAL NUMBER LOCATION



The serial number for your HLA BK series Bale Knife is located on the middle back right side of the main bale shear frame.

Please record your serial number here as a handy reference. In case of warranty issues, your dealer will ask for the serial to verify your warranty.

Model Number _____

Serial Number _____

SAFETY



This Safety Alert Symbol means:
ATTENTION!
BECOME ALERT!
YOUR SAFETY IS INVOLVED!

The Safety Alert symbol identifies important safety messages on the implement and in the manual. When you see this symbol, read and understand the message, be alert to the potential hazard in the message. Follow the instructions in the safety message.

SAFETY MESSAGES

Throughout this manual, the terms **DANGER**, **WARNING**, **CAUTION** and **IMPORTANT** are used to indicate the degree of hazard to personnel if proper safety procedures and guidelines are not followed. The appropriate term for each message has been selected using the following guide-lines:

DANGER - Indicates an imminently hazardous situation that, if not avoided, will result in death or serious injury, and includes most extreme situations typically for implement components which, for functional purposes, cannot be guarded.

WARNING - Indicates a potentially hazardous situation that, if not avoided, could result in death or serious injury, and includes hazards that are exposed when guards are removed. It may also be used to alert against unsafe practices.

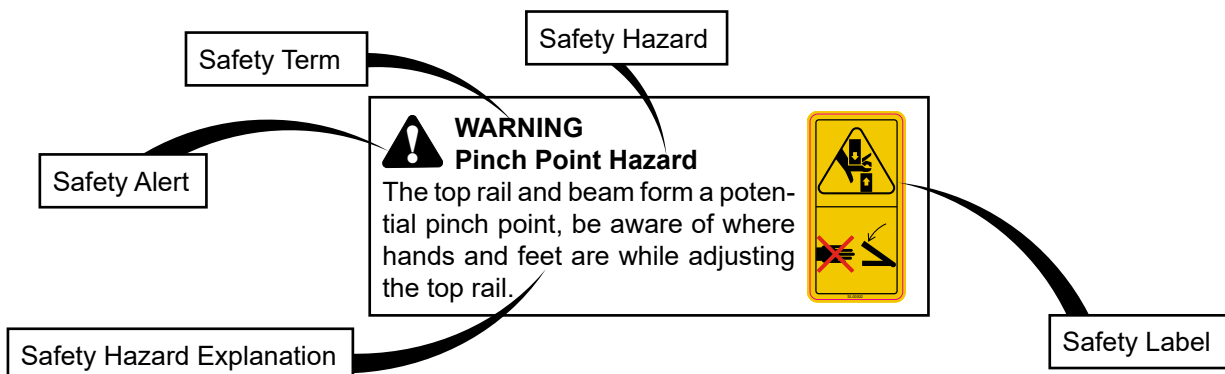
CAUTION - Indicates a potentially hazardous situation that, if not avoided, may result in minor or moderate injury. It may also be used to alert against unsafe practices.

IMPORTANT - Indicates a situation that could result in damage to the implement or other property.

In the owners manual, when a hazard is present you will see a safety message box. The box may contain:

- The safety alert symbol,
- The safety term
- The safety hazard
- The safety hazard explanation

When applicable you may also see the appropriate safety label displayed with the message, as shown below.



The safety information given in this manual does not replace any safety codes, insurance needs, government and local laws.

ACCIDENT PREVENTION

ACCIDENTS CAN BE PREVENTED WITH **YOUR HELP!**

YOU are responsible for the SAFE operation and maintenance of your implement. **YOU** must ensure that you and anyone else who is going to use, maintain or work around the implement be familiar with the work and maintenance procedures and related SAFETY information contained in this manual. This manual will take you step-by-step through your working day and alerts you to all good safety practices that should be used.

Remember, **YOU** are the key to safety. Good safety practices not only protect you but also the people around you. Make these practices an effective part of your day to day work habits. Be certain that EVERYONE using this implement is familiar with the recommended maintenance and work procedures and follow all the safety precautions. Most accidents can be prevented. Do not risk injury or death by ignoring good safety practices.



The best accident prevention is a careful operator.

Horst Welding and your dealer ask that **YOU be that careful, responsible equipment operator.**

YOU ARE THE KEY TO SAFETY:



- Familiarize yourself, and anyone else who will operate, maintain, or work around this product, with the safety and operation information contained in this manual.

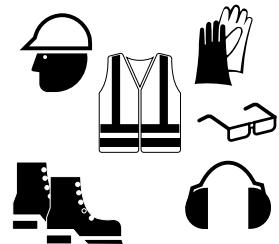
- Read and understand the safety labeling which appears on the implement.
- Have a first-aid kit available for use should the need arise and know how to use it. 
- Pay attention to the job at hand. Do not let your mind lose concentration on what you are doing. No accident prevention program can be successful without the wholehearted cooperation of the person who is directly responsible for the operation of the implement.
- Have a fire extinguisher available for use should the need arise and know how to use it. 
- Reduce the risk of injury or death by following all safety precautions and by using good safety practices.
- Accidents can to be prevented: that prevention will come from equipment operators who accept their complete responsibility and anticipate the results of their actions.

- Never exceed the limits of the implement. Safety of the operator and safe operation are the main concerns in designing a safe product, however ignoring implement specifications by the operator can result in a accident which could have been prevented.



- Do not allow riders on the implement, loaded or empty.
- Do not operate this implement under the influence of drugs or alcohol.
- Be responsible for the SAFE operation and MAINTENANCE of YOUR implement.
- Wear appropriate personal protective equipment (PPE). This list includes but is not limited to:

- Hard hat
- Heavy gloves
- Hearing Protection
- Protective foot wear
- Protective eye wear
- Safety Vest



SAFETY GUIDELINES

Safety of the operator and bystanders is one of the chief concerns in developing and designing equipment. However, every year many accidents occur which could have been avoided by a few seconds of thought and a more cautious approach to handling equipment.

You, the operator, can avoid many accidents by observing the following precautions in this section. To avoid personal injury or death, study the following precautions and insist those working with you, or for you to follow them.

In addition to the design and configuration of this implement, including safety labels and safety devices, hazard control and accident prevention are dependent upon the awareness, concern, and proper training of personnel involved in the operation, transport, maintenance, and storage of the implement. Refer also to safety messages and operation instruction in each of the appropriate sections of the tractor and implement manuals. Pay close attention to the safety labeling affixed to the implement.

1. In order to provide a better view, certain illustrations in this manual may show an assembly with a safety device removed. However, equipment should never be used in this condition. Keep all safety devices in place, if removal becomes necessary for repairs, replace the device prior to use.
2. Replace any safety label or instruction sign that is unreadable or is missing. Location of safety signs is indicated in this manual.
3. Never use alcoholic beverages or drugs which can hinder alertness or coordination while using this implement. Consult your doctor about using this implement while taking prescription medications.
4. Under no circumstances should young children be allowed to work with this implement.
5. This implement is dangerous to persons unfamiliar with its operation. Do not allow persons to use or assemble this unit until they have read this manual and have developed a thorough understanding of the safety precautions and of how it works. Review the safety instructions with all users annually.
6. If the elderly are assisting with work, their physical limitations need to be recognized and accommodated. Assistants should be a responsible, properly trained and physically able person familiar with machinery and trained in this implement's operations.
7. Never exceed the limits of the implement. If its ability to do a job, or to do so safely, is in question - DON'T TRY IT.
8. Do not modify the implement in any way. Unauthorized modification may result in serious injury or death and may impair the function and life of the implement.

SAFETY TRAINING

A person who has not been trained or has not read and understood all use and safety instructions is not qualified to use the implement. An untrained operator exposes himself and bystanders to possible serious injury or death.

- Train all new personnel with the instructions alongside the implement. Be certain only a properly trained and physically able person will use the machinery.
- Working with unfamiliar equipment can lead to careless injuries. If this implement is used by any person other than yourself, or is loaned or rented, it is the implement owner's responsibility to make certain that the operator, prior to using:
 - Reads and understands the operator's manuals.
 - Is instructed in safe and proper use of the implement
 - If the elderly are assisting with the work, their physical limitations need to be recognized and accommodated.
- Operators or maintenance personnel who are not fully able to read and understand this manual should not operate or work on the implement:
- Make certain that all operators and maintenance personnel have complete understanding of the full and exact contents of this manual and safety labeling.
- ALL information contained in this manual and labeling on the implement must be conveyed CLEARLY and FULLY, in order to be able to operate safely and knowledgeably.
- Review the implement and instructions regularly with existing workers.

PREPARATION

1. Inspect machine for shipping damage. If damage does exist, do not use. Notify your dealer immediately to have damaged parts replaced or repaired.
2. Inspect all fasteners that they are not lose or missing. Ensure fasteners are torqued according to the torque chart at the back of this manual
3. If traveling at night, ensure provincial, state and local laws lighting requirements have been met.
4. Ensure that all applicable safety decals are installed and legible.
5. Personal protection equipment (PPE) including hard hat, safety glasses, safety shoes, and gloves are recommended during assembly, installation, operation, adjustment, maintaining, repairing, removal, cleaning, or moving the unit. Do not allow long hair, loose fitting clothing or jewelry to be around equipment.
6. **PROLONGED EXPOSURE TO LOUD NOISE MAY CAUSE PERMANENT HEARING LOSS!**
Gas diesel powered equipment can often be noisy enough to cause permanent, partial hearing loss. We recommend that you wear hearing protection on a full-time basis. Noise over 85dB on a long-term basis can cause severe hearing loss. Noise over 90db adjacent to the Operator over a long-term basis may cause permanent, total hearing loss.
7. When not attached to the power unit, ensure the unit is secured to prevent movement.

OPERATION SAFETY

1. NEVER allow helpers or bystanders under or near the machine.
2. Inspect all fastening devices, do not use if worn or damaged.
3. Make sure that everyone is clear before moving the machine. NEVER position yourself between the towing unit and the machine.
4. Do not permit riders while transporting this machine.
5. Where possible, avoid operating near ditches, embankments and holes.
6. Lifting heavy loads overhead while traveling may decrease your power units stability. Loss of control could lead to serious personal injury.
7. Check the power units owner manual to determine if a counter weight is required.
8. Tractors should have a reliable ROPS (roll over protection system) installed and always buckle the seat belt.
9. Always be aware of overhead hazards such as power lines, shed roof overhangs and tree branches.

MAINTENANCE SAFETY

1. Good maintenance is your responsibility, follow the maintenance schedule. Poor maintenance is an invitation to trouble.
2. Follow good shop practices.
 - Keep service area clean and dry.
 - Be sure electrical outlets and tools are properly grounded.
 - Use adequate light for the job at hand.
3. Never work under or around the machine unless it is blocked and chocked securely.
4. Use personal protection equipment (PPE) such as eye, hand and hearing protectors.
5. Never adjust, service, clean or lubricate the machine until all power is shut off when attached to the power unit.
6. Ensure hardware is torqued according to the torque chart at the back of this manual.

STORAGE SAFETY

1. Store the unit in an area away from human activity.
2. Do not allow children to play on or around the stored machine.
3. Store the unit in a dry, level area. Cover if stored outside.
4. Guard any sharp corners.
5. Ensure components and safety features are not damaged and in good condition before storing the machine. Make repairs now to be ready for the following session.
6. Secure the machine to prevent unwanted movement.

HYDRAULIC SAFETY

1. Make sure that all the components in the hydraulic system are kept in good condition and are clean.
2. Before applying pressure to the system, inspect for leaks at all components, and that lines, hoses , connections and couplings are not damaged and leak free.
3. Do not attempt any makeshift repairs to the hydraulic lines, fittings or hoses by using tapes, clamps or cements. The hydraulic system operates under extremely high pressure. Such repairs will fail suddenly and create a hazardous and unsafe condition.
4. Wear proper hand and eye protection when searching for a high pressure hydraulic leak. Use a piece of wood or cardboard as a backstop instead of hands to isolate and identify a leak.
5. If injured by a concentrated high-pressure stream of hydraulic fluid, seek medical attention immediately. Serious infection or toxic reaction can develop from hydraulic fluid piercing the skin surface.
6. Relieve pressure on hydraulic system before maintaining or working on system.
7. All hydraulic work must be done by qualified personnel

SAFE WORK

Not all work spaces are the same, but the principles presented here can be applied to any work space.

Survey the work site, remove debris and make note of nearby or overhead obstructions, knowing your work area will make the job easier and safer.

Where possible, avoid operating near ditches, embankments and holes.

Be aware of:

Bystanders or any one not directly involved with the work are only allowed outside of the work area, minimized hazards.

Workers helping the operator must wear the appropriate PPE and must always make eye contact with the operator before entering the work area. Unauthorized Workers or bystanders are not allowed in the work area. Hazards are present.

Operator, do not operate the machine outside of the operator area.

SAFETY LABELS

Safety labeling is an important part of the overall safe use of the implement. Safety labeling alerts and warns against potential injury or death, and is important to follow these points to help keep your implement safe for you and others who may be using it.

- Keep safety signs clean and legible at all times.
- Replace safety signs that are missing or have become illegible.
- Replaced parts that displayed a safety sign should also display the current sign.
- Safety signs each have a part number displayed with it. Use this part number when ordering replacement parts.
- Safety signs are available from your authorized distributor or the factory order desk.

SAFETY LABEL DESCRIPTIONS



Caution: read and understand ALL safety and operating instructions in the manual, read and understand ALL safety labels located on the machine. The most important safety device on this equipment is an informed SAFE operator.



Caution: Hydraulic fluid is under pressure, be aware that hydraulic leaks could develop with out warning. Do not check for leaks with your hand or fingers while the system is pressurized, serious injury could result. Possible burns or poisoning from pressurized fluid injection.



Caution: do not detach or store the bale knife without placing it to the shipping / storage stand. The BK is unstable in this position and could tip without warning and serious injury could result. Possible crushing or broken bone hazard.



Caution: Moving parts present a potential pinch hazard and could result in a serious injury. Use caution and be aware of parts as they are being moved or adjusted. Possible pinching or crushing hazard.



Caution: Moving cutting arm assembly presents a potential pinch hazard and could result in a serious injury. Use caution and be aware of the arm as it moves up and down. Possible pinching or amputation.



Caution: do not place your hand or any part of your body on or near the front mount while coupling to the power unit. Parts moving together present a pinch point and may cause serious injury Possible laceration, crushing, amputation hazard.



Caution: be aware of sharp cutting arm blades and tines. Cutting arm must always be stored in the up position. Use caution and keep distance when walking around the blades and tines. Possible tripping hazard could result in death or serious injury from laceration or impact.



Caution: Personal Protection Equipment (PPE) is required when operating or maintaining this machine. Failure to wear PPE will result in personal injury.

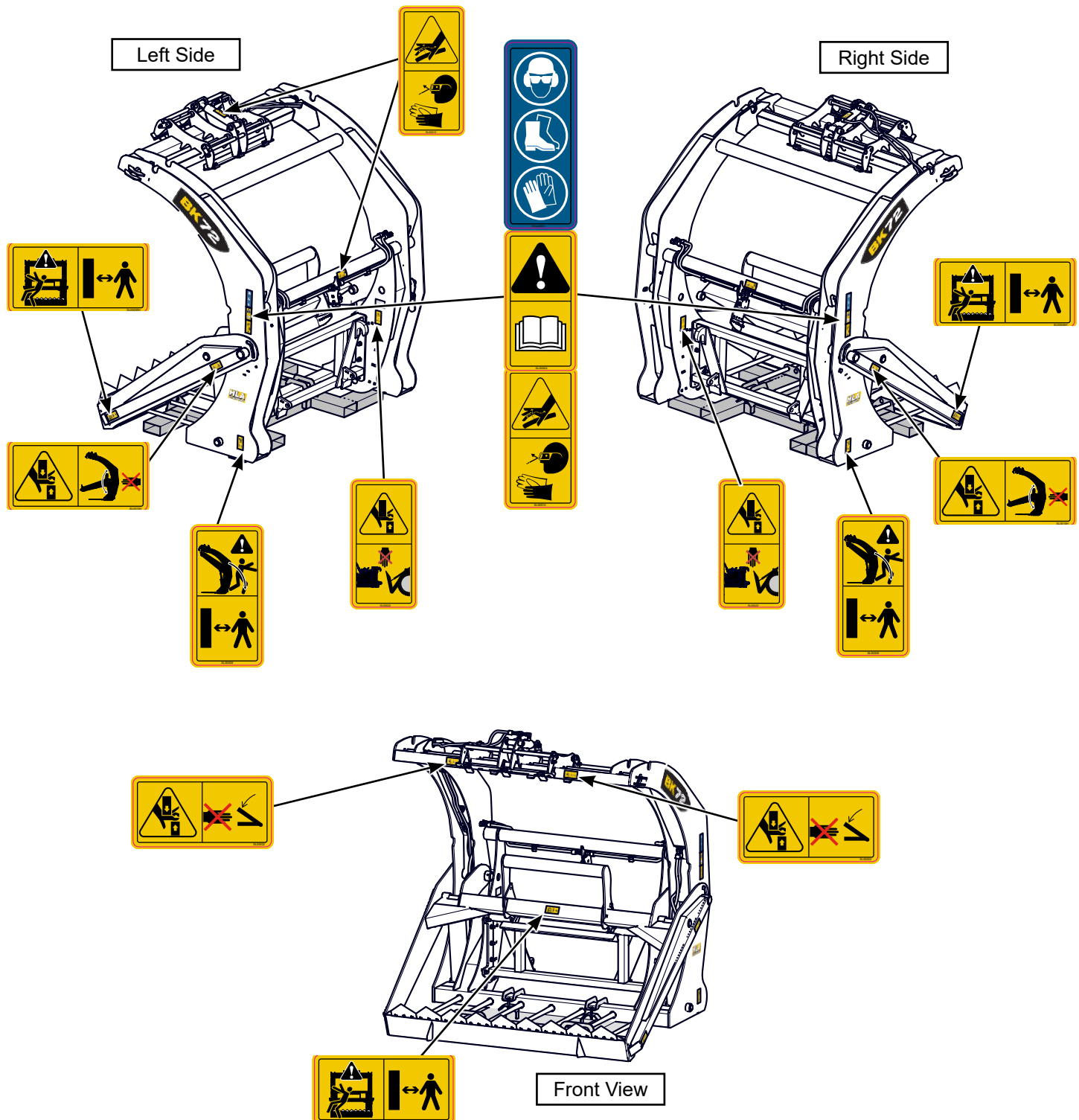
IF LABELS NEED TO BE REPLACED:

- Be sure that the installation area is clean and dry.
- Be sure temperature is above 50°F (10°C).
- Determine exact position before you remove the backing paper.
- Remove the smallest portion of the split backing paper.
- Align the sign over the specified area and carefully press the small portion with the exposed sticky backing in place.
- Slowly peel back the remaining paper and carefully smooth the remaining portion of the sign in place.
- Small air pockets can be pierced with a pin and smoothed out using the piece of sign backing paper.

SAFETY LABEL LAYOUT

Safety signs and locations on the equipment are shown in the illustrations below. The BK72 is illustrated however label locations are similar for all models, unless otherwise indicated.

Good safety practice requires that you familiarize yourself with the label and the safety message it is delivering. Be aware of the equipment or particular equipment feature that requires your SAFETY AWARENESS.



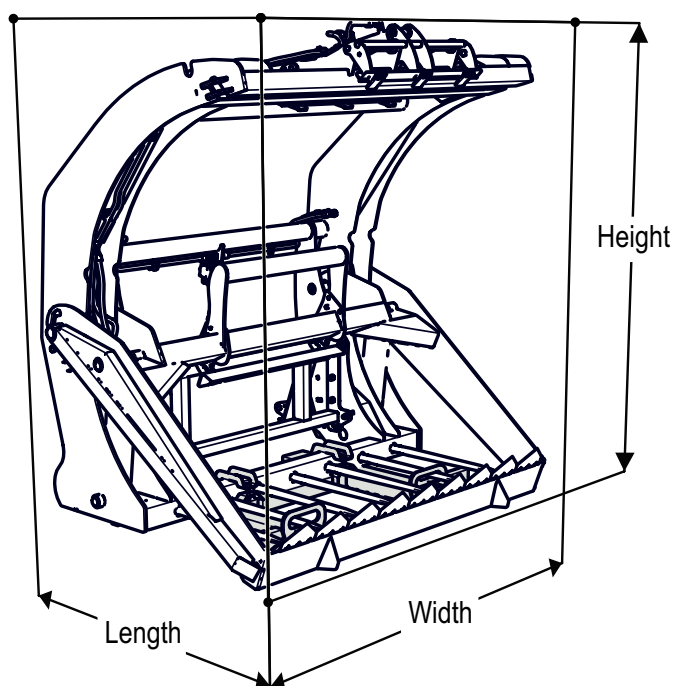
If safety labels have been damaged or removed, new labels must be applied. New safety signs are available from your dealer or contact Horst.

SPECIFICATIONS AND DIMENSIONS

SPECIFICATIONS

Bale Knife Model		BK48	BK60	BK72
Recommended Power unit size	Less than 35 Horsepower	Not Recommended		
	35 – 55 Horsepower	✓		
	55 – 75 Horsepower	✓	✓	
	75 or Greater Horsepower	✓	✓	✓
Weight		663 kg 1460 lb	713 kg 1570 lb	919 kg 2025 lb
Mounting		Quick attach frame		
Round Bail Capacity (diameter)		122 cm 48"	122 cm - 153 cm 48" - 60"	122 cm - 183 cm 48" - 72"
Minimum Hydraulic Flow		75 l/min 20 gpm		
Hydraulic Cylinders x 2		182.9 cm 4.5" x 12.0"	213.4 cm 4.5" x 14.0"	243.8 cm 4.5" x 16.0"
Adjustable Bale Depth Gauge		n /a	30.5 cm (12") Adjustment range	61 cm (24") Adjustment range
Kverneland Tines		Standard x 7		
Bail Wrap Grabber		Standard		
Individually Replaceable Hardened Cutting Knives		8	8	9

DIMENSIONS



Dimension	BK Series Bale Knife		
	BK48	BK60	BK72
Length	150 cm 59"	152 cm 59.75"	155 cm 61"
Height	162 cm 63.75"	200 cm 78.75"	229 cm 90"
Width	180 cm 70.75"	180 cm 70.75"	204 cm 80"



WARNING

Pinch Point Hazard

Caution: do not detach or store the bale knife horizontal position without attaching it to the shipping / storage stand, serious injury could result.



INSPECTION

Before putting the BK series bale knife into service the first time, inspect the machine for shipping damage. If damage does exist, do not use. Notify your dealer immediately to have damaged parts replaced or repaired.

COMPONENTS AND FEATURES

The BK series bale knife are designed to cut through bale netting or plastic wrap in a efficient, reliable, safe way. Its features make it the best choice for handling and feeding round bales.

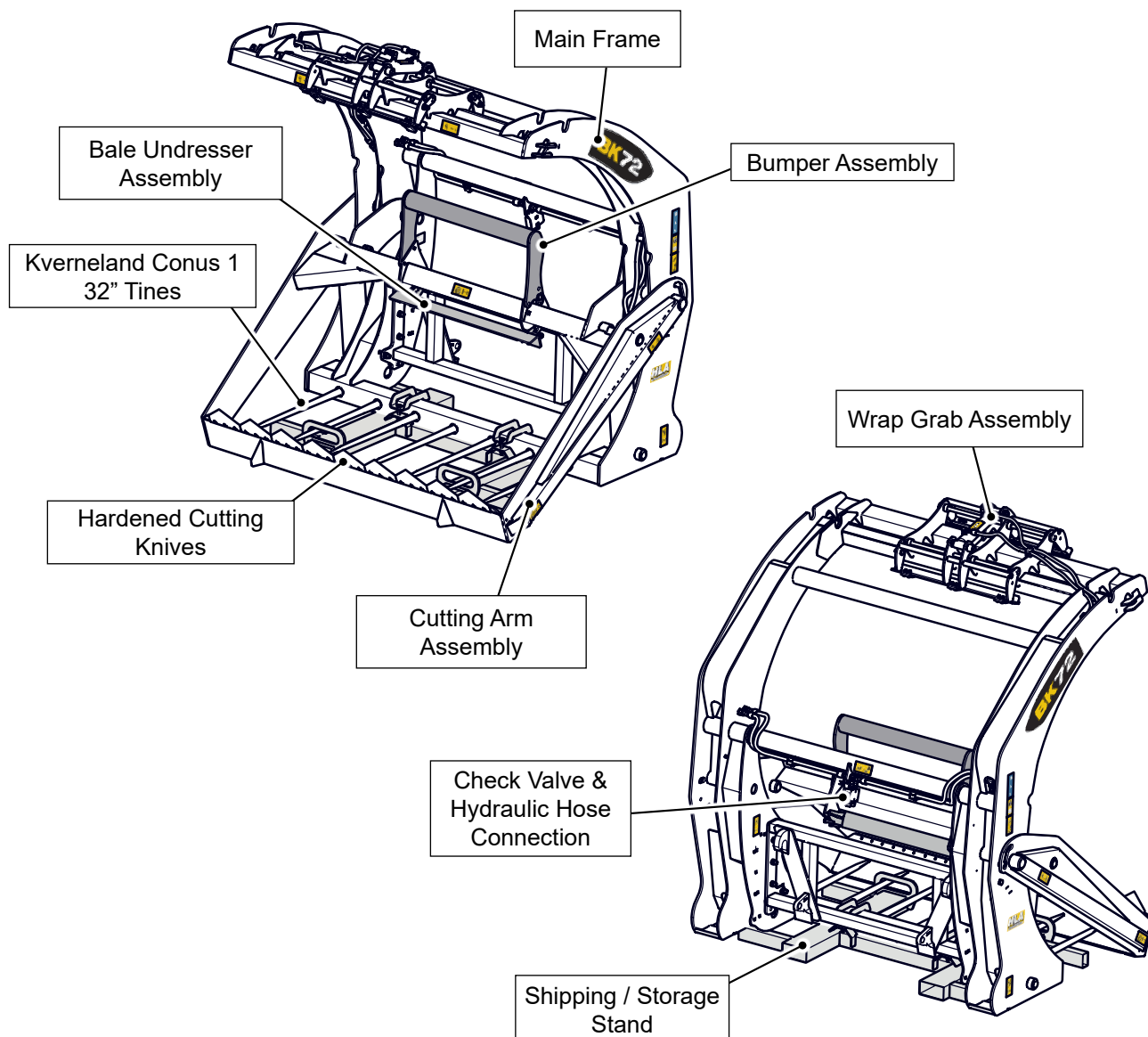
The owner or operator has the responsibility of being familiar with all the features of the BK bale knife and know how to operate them. Each owner or operator must train all other operators before they start working with the machine.

Read this section carefully to learn how to use the bale knife safely and how to set it to provide maximum field efficiency. By following instructions in conjunction with a good maintenance program, your BK bale knife will provide many years of trouble-free service.

Do not operate this machine if you are not familiar with its features.

The BK72 is illustrated below, showing its basic components and features. Components and features are similar for the entire BK series unless noted. Review the various components and their position, the names of the components will be used to describe where they are and how they work through out the manual.

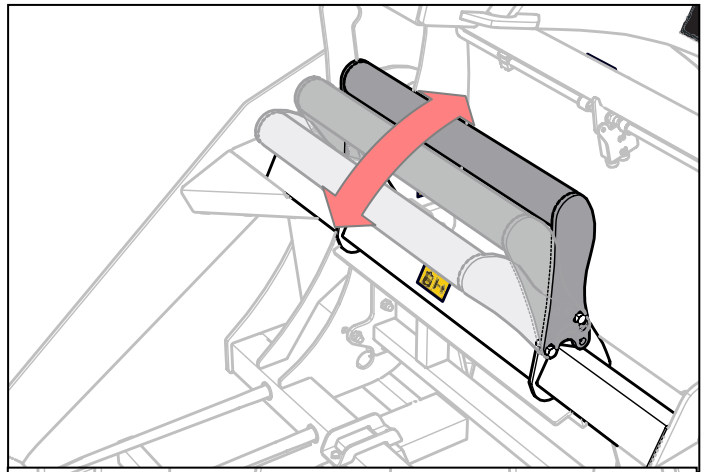
BK SERIES BALE KNIFE COMPONENTS



PRODUCT FEATURES

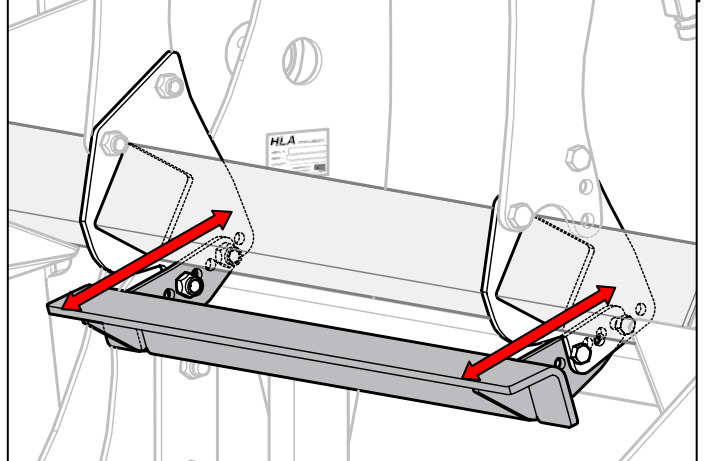
BUMPER ASSEMBLY

The bumper assembly is used as a guide to help centre the bale on the cutting arm teeth and main frame. Models BK60 and 72 feature an adjustable bumper that makes it possible to accommodate different sized bales.



WRAP UNDRESSER

The undresser assembly is used help remove the bale wrap after the wrap has been cut and the bale contents empties. The undresser is easily adjustable to suit the bale and wrap type.



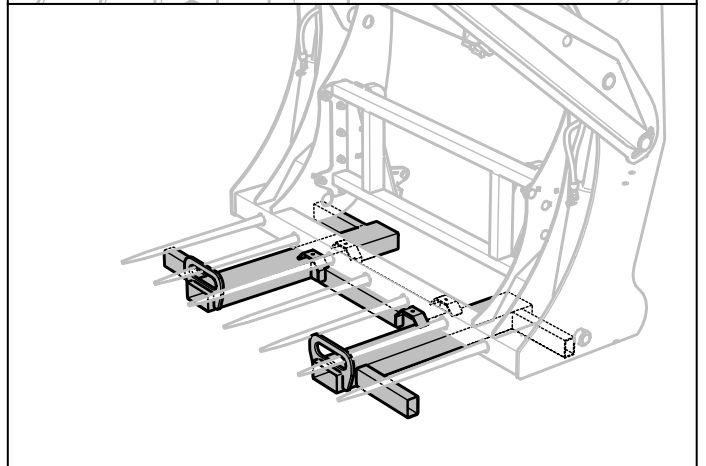
CAUTION **Operational Hazard**

Be aware of sharp cutting arm blades and tines. Cutting arm must always be stored in the up position. Use caution and keep distance when walking around the blades and tines.




STORAGE STAND

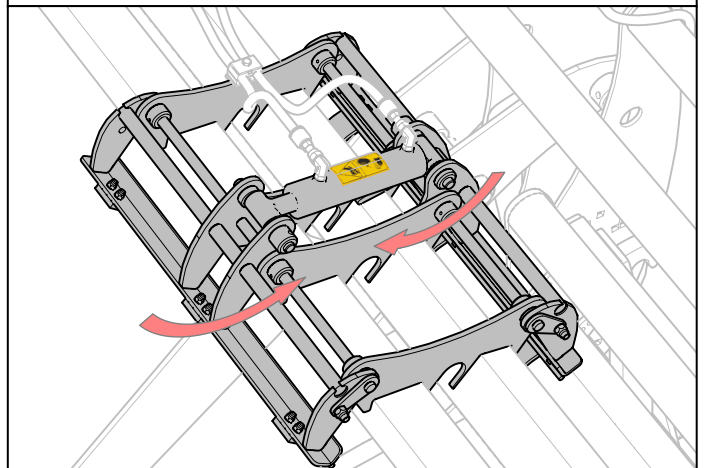
All Bale Knife models are shipped with a convenient storage stand. Use the storage stand to place your bale knife in when not in use. The stand helps to stabilize the bale knife for safe storage and can be easily moved using a lift fork on you power unit.



WRAP GRABBER

The automatic wrap grabber keeps the wrap and netting separate from the feed. The grabber is hydraulically activated as the cutting arm cuts thru the bale, grabbing the wrap and net so that the bale contents fall away freely.

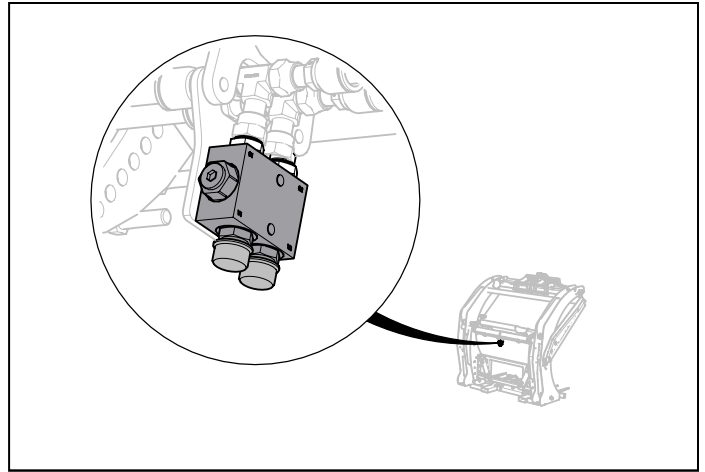
 **CAUTION**
Operational Hazard
Personal Protection Equipment (PPE) is required while adjusting or maintaining this machine.



CHECK VALVE

All Bale Knife models are equipped with a check valve in the hydraulic circuit. When the cutting arm is up in the storage position, the check valve blocks hydraulic flow and prevents the unwanted movement of the cutting arm once the hydraulics are shut off.

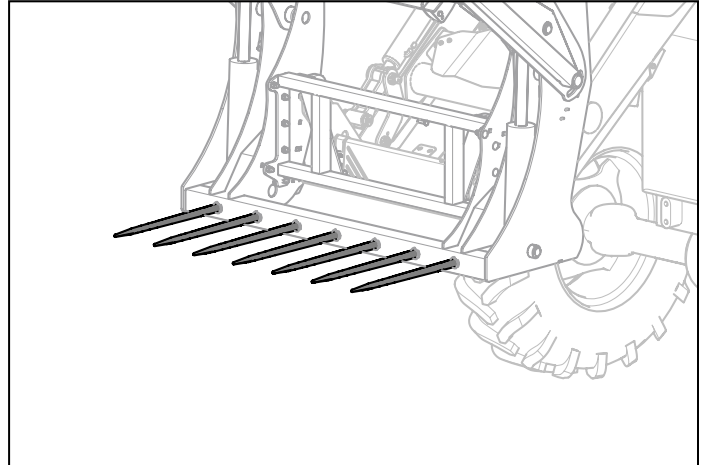
Flow is restored once hydraulic pressure is applied.



KVERNELAND TINES

Each BK is equipped with seven Kverneland straight conus 1 32" tines.

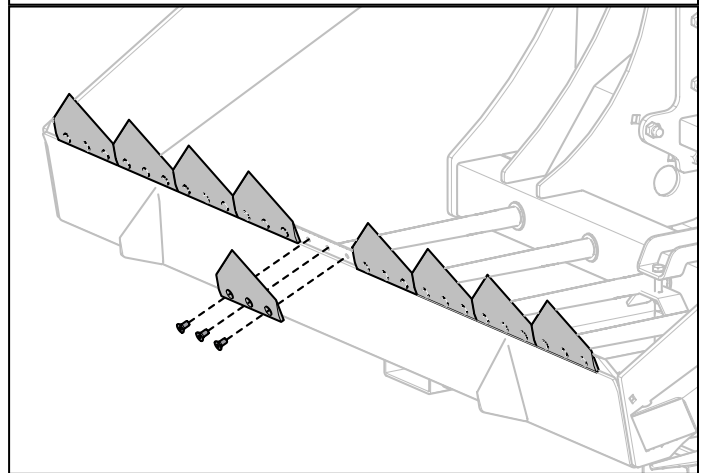
Kverneland tines are heat treated, resulting in a tough tine with superior bale penetration. Ideal for bale handling chores to the feed site.



HARDENED CUTTING KNIVES

The Bale Knife cutting arm assembly features hardened knife blades to easily cut through bale wrap.

The bolt-on knives allow for easy replacement of a single knife without needing to replace the entire row.



INITIAL SETUP

To prevent potential injury during installation and to ensure safe working conditions, avoid working around the power unit while it is running. Shut off the power unit and ensure the brakes are applied or the wheels have been secured with wheel chocks to prevent unwanted movement during the installation process.

The following describes the typical connection procedure with supplied materials. Before proceeding, lubricate all grease fittings on the unit. Refer to the maintenance section in this manual. Before putting the bale knife into service the first time, inspect the machine for shipping damage. If damage does exist, do not use. Notify your dealer immediately to have damaged parts replaced or repaired.

This is a one time set up procedure, and will not have to be repeated.

The initial setup of the BK series involves a few basic steps.

- Install hydraulic hoses
- Prepare and attach the bale knife to the power unit.
- Test and inspect.

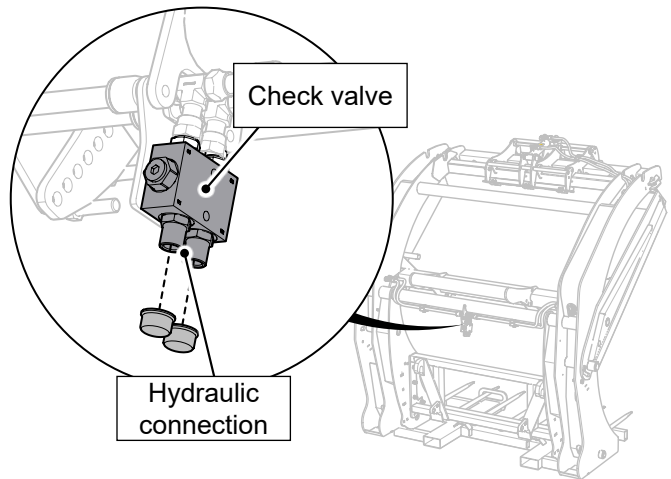
HYDRAULICS

Hydraulic connections from the power unit to the BK are made at the BK. Hydraulic hoses and connectors from the BK to the power unit is the responsibility of the owner.

The following describes the typical connection procedure, however customizing the connections is possible (mid mount loader valve, etc) and is up to the customer. See your power unit manual on how to operate your auxiliary hydraulics.

Caution: only qualified personnel should make modifications and connections to the power units hydraulic system.

- The hydraulic hoses must be:
 - Good quality, 3000 psi max
 - Sufficient length to reach the auxiliary ports
 - 3/8 i.d. minimum.
 - BK end of the hose must have 1/2" NPT fittings
 - Power unit end, connectors to fit your auxiliary ports.
- At the power unit, route the hydraulic hoses from the power units auxiliary remote hydraulic connections to the BK connection at the check valve.
- Do not lock the auxiliary hydraulics in the "ON" .
- Ensure the hydraulic hose is secured and protected from snags, crimping or pinching.
- Mark the connections appropriately on the hoses.



CAUTION Operational Hazard

At first use the hydraulic cylinders and hoses on this product may contain air or an air-fluid mixture. Failure to remove all the air from the hydraulic cylinders can cause dangerous uneven, jerky cylinder movement during use or unwanted cylinder movement when not being operated.



CAUTION Operational Hazard

Do not lock the auxiliary hydraulics in the "ON" position, dangerous and unexpected movement will occur.



WARNING High Pressure Hazard

Be aware that hydraulic leaks could develop with out warning. Do not check for leaks with your hand or fingers while the system is pressurized



MOUNT THE BALE KNIFE

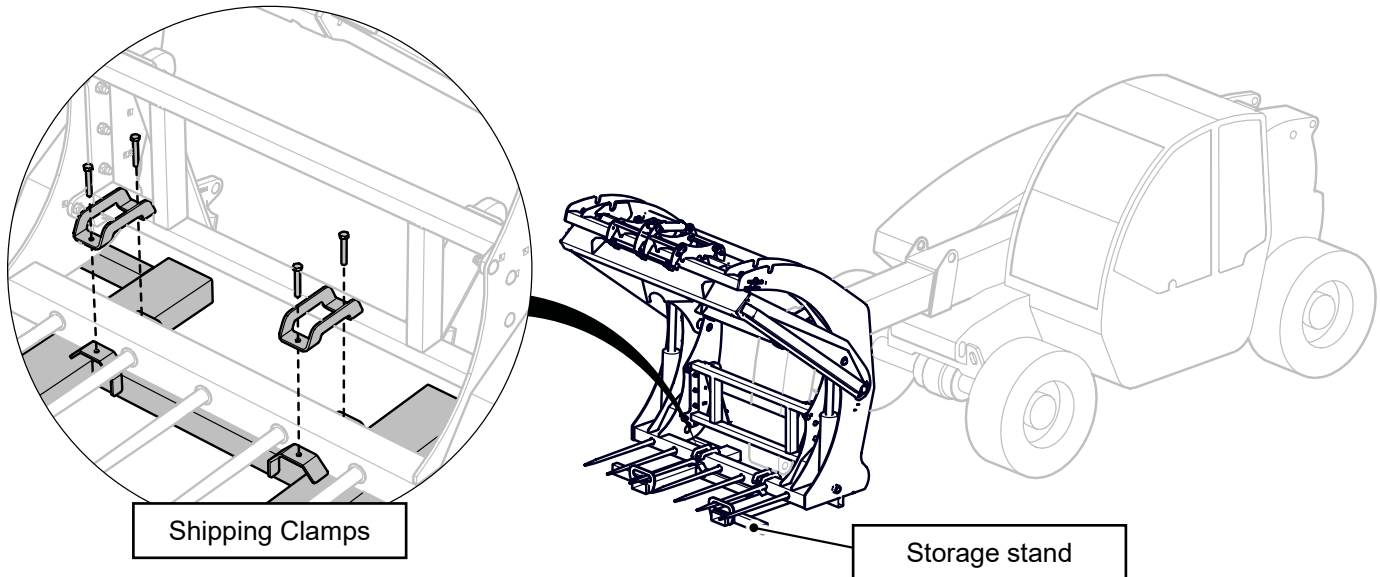
Ensure your attachment system is secure on the power unit. The BK should be in position according to the power units mounting instructions.

- Position the hydraulic connectors away from the quick attach points to prevent damage from pinching.
- Prepare your particular attachment system, follow the attachment instructions for your power unit.
- Close and secure any locks or pins to lock the BK to the quick attach.
- Attach the hydraulic hoses to the power units auxiliary ports.

When traveling from point to point, always travel with the BK in the lowered position for better stability.

REMOVE SHIPPING CLAMPS

When the BK is shipped, it is bolted to the shipping / storage stand. Remove the two clamps as shown.



CAUTION Operational Hazard

Always ensure the quick attach locks or pins are engaged. An unsecured bale knife could slip out of the quick attach.



WARNING Pinch Hazard

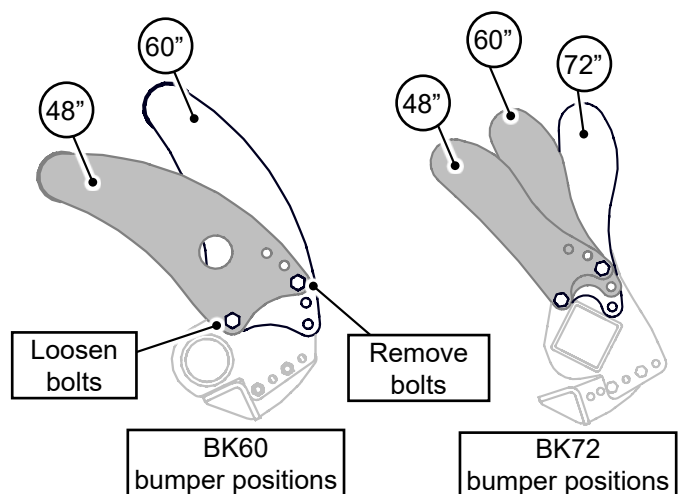
Keep hands away from mounting points while attaching to the power unit. Potential pinch hazards exist between the bale knife and power unit



ADJUST THE BUMPER (BK60 & 72 ONLY)

Ensure the power unit engine is off, and cutting arm is in the up position.

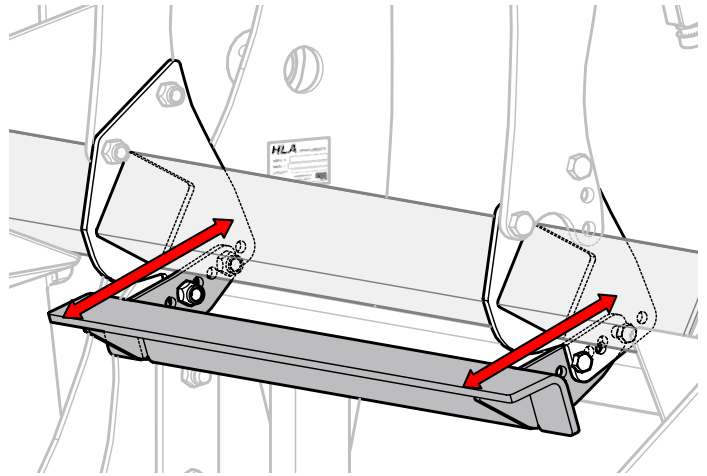
- Determine the size of the round bale you are using
- At the bumper remove the rear most bolts and loosen the front bolts.
- Adjust the bumper to the position required for you bale size
- Tighten and torque the bolts (see torque chart).



ADJUST THE UNDRESSER

Ensure the power unit engine is off, and cutting arm is in the up position.

- Carefully remove all the nuts and bolts.
- Adjust the assembly to the position required for your bale size, move it out for smaller bales, in for larger.
- Replace, tighten and torque the bolts (see torque chart).
- If you find the bale wrap isn't separating from the bale as it should, make further adjustments as required.



TEST

Once the Bale Knife is securely attached, hydraulics connected, and initial adjustments made, start up the power unit and back away to clear the storage stand. Ensure there are no bystanders in the working area around the BK or power unit to avoid potential injury.

Test the function of the BK hydraulics: check clearances for the hydraulic hoses, lift the loader arms up and down, curl the bucket cylinders and look for any interference.

The hydraulic components on this product may contain air or an air-fluid mixture. Cycle all the hydraulic components several times until all air has been completely removed from all components.



WARNING **Pinch Hazard**

Moving cutting arm assembly presents a potential pinch hazard and could result in a serious injury. Possible pinching or amputation



WARNING **High Pressure Hazard**

Be aware that hydraulic leaks could develop with out warning. Do not check for leaks with your hand or fingers while the system is pressurized



CAUTION **Operational Hazard**

At first use the hydraulic cylinders, motors and hoses on this product may contain air or an air-fluid mixture. Failure to remove all the air from the hydraulic motors can cause dangerous uneven, jerky movement during use.

FIELD OPERATION

This section describes how to safely and effectively operate the Bale Knife in the field of operation. By following recommended procedures, a safe working environment is provided for the operator, bystanders and the area around the work site. Not all situations and conditions can be addressed, proceed with care & caution and use safety as your guide.

The owner or operator has the responsibility of being familiar with the operation of the BK and must train all other operators before they start working with the machine.

Work in a safe manner and follow all instructions exactly, safety is everyone's business. Untrained operators are not qualified to use the machine.

OPERATION SAFETY CHECKLIST

- ✓ NEVER allow helpers or bystanders under or near the machine while mounting the power unit.
- ✓ Make sure that the machine is securely mounted before using.
- ✓ Do not allow you or anyone to place hands or any body part on or near the BK while the machine is in operation.
- ✓ Be aware that during transport lifting heavy loads overhead reduces power unit stability.
- ✓ Check your power units owner manual to see if a counter weight is required. and is rated for your model BK.
- ✓ Ensure your power unit has a ROPS installed.
- ✓ Do not permit riders while using or transporting machine.
- ✓ Do not allow bystanders near front or sides of the machine. Falling objects are a potential hazard.
- ✓ Drive slow and carry low.

PREPARE

- Clear the area of bystanders, especially small children.
- Training: each operator must be trained and familiar with the set up and operation of the product and its components.
- Review:
 - Components and Features
 - Operation Safety Checklist
 - Power unit safe operating instructions
- It is recommended that each person wear appropriate Personal Protective Equipment (PPE). This list includes but is not limited to:
 - Safety shoes with slip resistant soles.
 - Safety glasses.
 - Hearing protection.
 - Heavy or leather gloves
- Survey the work site, a flat area will make loading & unloading easier and safer, remove debris and make note of nearby or overhead obstructions.
- Before use, inspect the BK (see service & maintenance section) and check the following:
 - Inspect your power unit, it must be in good operating condition (see power unit owner manual)
 - Check all nuts, bolts and screws and ensure they are all properly secured
 - Check hydraulic connections, and run the machine and power unit through all hydraulic functions.

MATERIAL

The BK series are designed to process the feeding of forage round bales required for everyday farming. The bale knife may also be used on bales in netwrap as well as plastic wrap.



CAUTION

Operational Hazard

Personal Protection Equipment (PPE) is required while assembling or maintaining this machine.



CAUTION

Prepare

Read and understand ALL safety and operating instructions in the manual, read and understand ALL safety labels located on the machine.

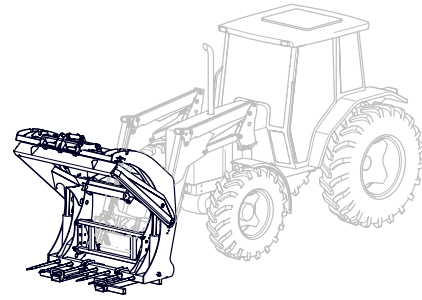


Mount the Blade Knife

QUICK ATTACH

Ensure your attachment system is secure on the power unit. The BK should be in position according to the power units mounting instructions.

- Position the hydraulic connectors away from the quick attach points to prevent damage from pinching.
- Prepare your particular attach system, follow the attachment instructions for your power unit.
- Close and secure any locks or pins to lock the BK bale knife to the quick attach.
- Carefully back away to clear the storage stand.



CAUTION Operational Hazard

Always ensure the quick attach locks or pins are engaged. A unsecured bale knife could slip out of the quick attach.



WARNING Pinch Hazard

Keep hands away from mounting points while attaching to the power unit. Potential pinch hazard exist between the bale knife and power unit



HYDRAULICS

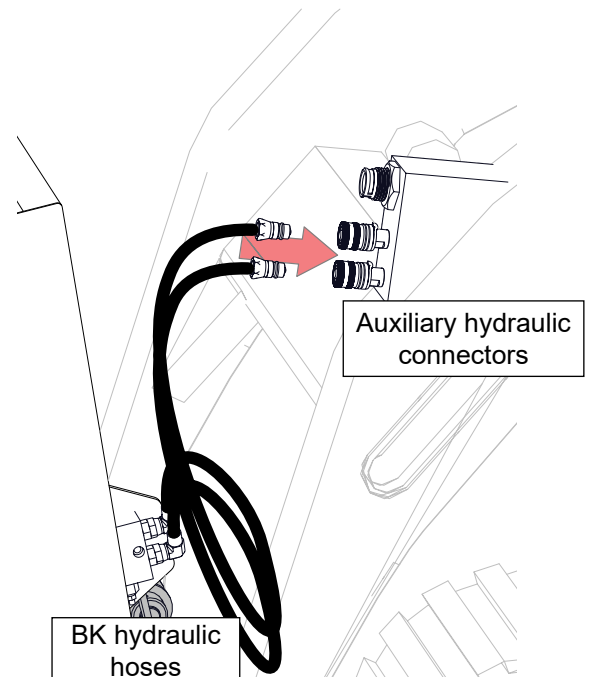
Review the auxiliary connection and operating instructions for your power unit.

- Connect the BK hydraulic hoses to the power units auxiliary hydraulic connectors.
- Ensure the connection is secure and the hoses are free to move without snagging.



WARNING High Pressure Hazard

Be aware that hydraulic leaks could develop with out warning. Do not check for leaks with your hand or fingers while the system is pressurized



Operating

SAFETY

- Tractors handling round bales must have a ROPS system installed.
- Review loader instructions for your power unit. and ensure your quick attach system is secure.
- Travel with caution at a safe speed, and carry one bale at a time, avoid sudden stops.
- Make certain the bale is secure, and the tines fully inserted on the bale, carry it low to avoid tipping hazards.

BALE HANDLING

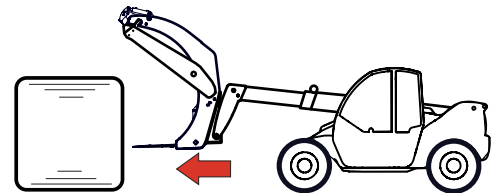
When transporting a bale from a distance, follow this procedure.

- Move the cutting arm to the storage position in the main frame.
 - When loading a round bale, move ahead slowly with the tines aligned to the centre of the flat end of the bale, insert the tines fully.
- Note:** Attempting to turn the power unit while loading the bale can create undue stress and may cause damage to the BK and loader.
- Roll the BK back and at the same time lift the loader arms, as you back away.
 - Keep the bale low and continue on to the feeding site.
 - Carefully set the bale on the ground and position it at 90° to the feed area.

FEEDING THE BALE

This process describes how to load the bale into a mixer, however the process will be similar for any feed area.

- Open the cutting arm to the bottom, keeping the hydraulics activated until the wrap grab is fully open.
- Roll the BK forward and position the BK over top of the bale, lower till the bumper makes contact with the bale.
- Close the cutting arm just enough to secure the bale between the arm and main frame.
- Roll the BK and bale back and drive to where you want to feed the bale. Keep the bale as low to the ground as possible during transport.
- Carefully raise the BK to clear the side of the mixer and position the bale at the edge of mixer
- To slice wrap and bale, activate the cutting arm and bring it to the top of the main frame. Roll the BK forward slightly and a gentle shake may be required to dislodge the contents from the wrap.
- When most of the material has fallen from the BK, retract the knife approximately 10" and give the BK another shake to free the remaining material from the BK. Usually a small amount of material is held by the clamps.
- To drop the plastic, roll the BK forward and then retract the cutting arm to the bottom, keeping the hydraulics activated to open the clamp and release the plastic or net wrap

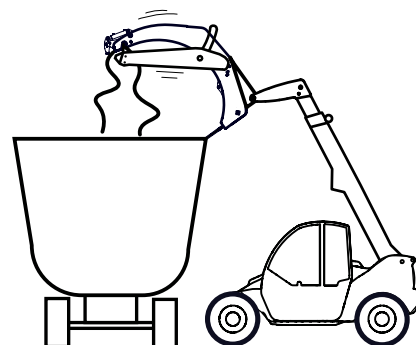
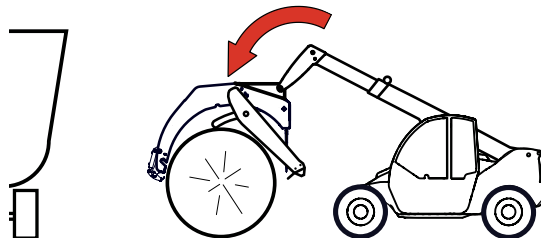


CAUTION **Operational Hazard**

Ensure your power unit is rated for the load, install a ballast if required. Overloading your power unit decreases its responsiveness and stability and could lead to serious personal injury.

CAUTION **Operational Hazard**

Lifting heavy loads overhead while traveling may decrease your power units stability. Travel slow and always carry low. Loss of control could lead to serious personal injury.



STORAGE

STORAGE SAFETY CHECKLIST

- | | |
|---|---|
| ✓ Store the implement away from work area's and livestock. | ✓ Store the BK in the storage stand stability and prevent hazards from unexpected movement. |
| ✓ Do not permit children to play on or around the stored machinery. | ✓ Ensure all pins, latches and locks are secure. |
| ✓ Ensure the cutting arm is in the storage position. | ✓ Guard any sharp corners. |

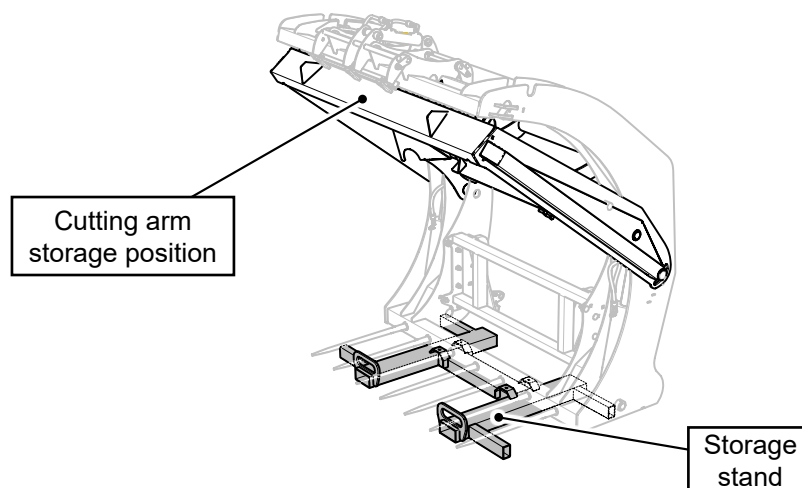
After the season's use or when the machine will not be used for a period of time, completely inspect all parts of the Bale Knife. Replace or repair any worn or damaged components to prevent any unnecessary down time at the beginning of the next season. Your implement is an important investment. Spending some time to protect it from rust and corrosion will result a safer, longer service life and better performance.

PLACING IN STORAGE:

1. While still attached to the power unit, move the cutting arm to its storage position in the top of the main frame. The main frame will prevent accidental contact with the sharp knives in the cutting arm.

Note: Do not relieve pressure or bleed the hydraulic system while in storage. The cutting arm requires pressure to stay in place.

2. Ensure the BK is safely placed in the storage stand. If the BK is accidentally bumped or nudged the stand will give the BK added stability when in storage.
3. The BK should be stored with the cutting arm face side against a wall to prevent potential head injury from walking under the cutting arm.
4. Thoroughly wash the machine with a pressure washer or water hose to remove all dirt, mud or debris.
5. Remove all remaining material and debris from the machine.
6. Inspect for damaged or worn parts. Repair or replace before next season.
7. Replace any missing or unreadable safety decals.
8. Repaint any chipped or scraped areas to prevent rust and corrosion.
9. It is best to store the machine inside in a dry clean area. If that is not possible, cover with a waterproof tarpaulin and tie down securely.



SERVICE & MAINTENANCE

Good maintenance is your responsibility. Poor maintenance is an invitation to trouble.

To keep your BK bale knife in good working condition, and increase machine life, periodic lubrication is essential. Servicing the grease points also helps to flush out moisture and dirt.

By following a careful service and maintenance program for your BK, you will enjoy many years of trouble-free operation.

Replacement of parts should be done by qualified personnel only. Ensure scheduled inspections and maintenance are performed. Keep a record of all maintenance.

MAINTENANCE SAFETY CHECKLIST

- ✓ Follow good shop practices.
- ✓ Keep service area clean and dry.
- ✓ Use adequate light for the job at hand.
- ✓ Never work under equipment unless it is blocked securely
- ✓ Parts replacement should be performed by qualified personnel to ensure safe and complete installation.
- ✓ A fire extinguisher and first aid kit should be kept readily accessible.
- ✓ Always use personal protection devices such as eye, hand, foot and hearing protectors.
- ✓ Use heavy gloves when handling heavy or sharp components.
- ✓ Ensure power unit is shut off, remove and pocket the ignition key and parking brakes applied.

GENERAL MAINTENANCE

On a regular basis check all nuts, bolts and screws and ensure they are all properly secured.

On a regular basis check the condition of all hydraulic lines, hoses and fittings. Replace any that are damaged. Re-route those that are rubbing, pinched or crimped. Tighten any fitting that is leaking. Ensure fittings are clean and free of dirt.

HYDRAULIC OIL

Hydraulic oil is an important part of your BK. Monitoring your hydraulic oil will prevent hydraulic failures and result in long lasting equipment with good performance. Hydraulic oil level in the power unit should be checked daily, and the quality of the oil should be inspected every 50 hrs. If the oil is dirty or smells burnt, it should be replaced. Be sure to relieve the system of pressure before performing any service to the system. (see your power unit owner manual)

Note: Do not relieve pressure or bleed the hydraulic system with out securing the cutting arm. The cutting arm requires pressure to stay in place. Bleeding the hydraulic system will cause the cutting arm to drop.

When working on the BK always secure the cutting arm to prevent unintended movement and possible injury.



WARNING

High Pressure Hazard

Be aware that hydraulic leaks could develop with out warning. . Do not check for leaks with your hand or fingers while the system is pressurized



CAUTION

Operational Hazard

Personal Protection Equipment (PPE) is required while assembling or maintaining this machine.



WARNING

Hydraulic Oil Hazard

Personal injury can result from hydraulic oil pressure and hot oil. Hydraulic oil pressure can remain in the hydraulic system after the engine has been stopped. Serious injury can be caused if this pressure is not released before any service is done on the hydraulic system. Make sure all of the attachments have been lowered and the oil is cool before removing any components or lines. All hydraulic parts replacement should be performed by qualified personnel.

LUBRICATION:

GREASE:

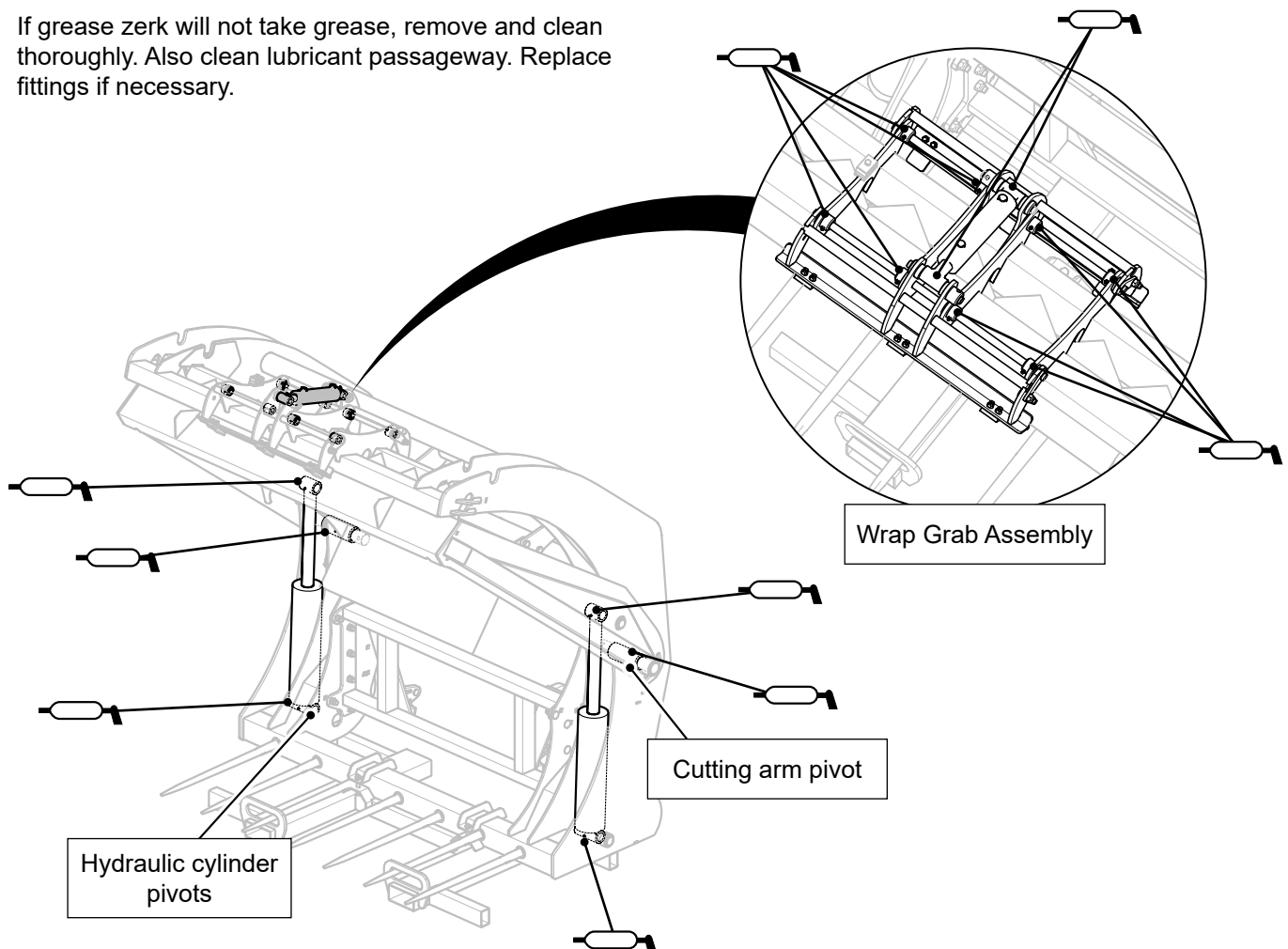
Inspect pivot points and components before each use. Unusual play or noise could be an indication of worn parts. Parts replacement should be performed by qualified personnel.

To prevent premature wear the grease zerks on the BK should be greased every 20 hrs or more often with heavy use.



This symbol indicates a grease zerk location shown in the illustrations below.

- Lubricate with an good Lithium EP2 grease or equivalent.
- Use a hand-held grease gun for all greasing, one shot of grease is adequate.
- Wipe grease zerk with a clean cloth before greasing, to avoid injecting dirt and grit.
- Replace any broken zerk fittings immediately.
- If grease zerk will not take grease, remove and clean thoroughly. Also clean lubricant passageway. Replace fittings if necessary.



CAUTION

Operational Hazard
Personal Protection Equipment (PPE) is required when operating or maintaining this machine.



CAUTION

Operational Hazard

Be aware of sharp cutting arm blades and tines. Cutting arm must always be stored in the up position. Use caution and keep distance when walking around the blades and tines.



CUTTING KNIVES:

The Bale Knife cutting arm assembly features hardened knife blades that easily cut through bale wrap. If they become dull they will need to be sharpened, or if damage to the cutting blade occurs, they will need to be replaced.

SHARPENING

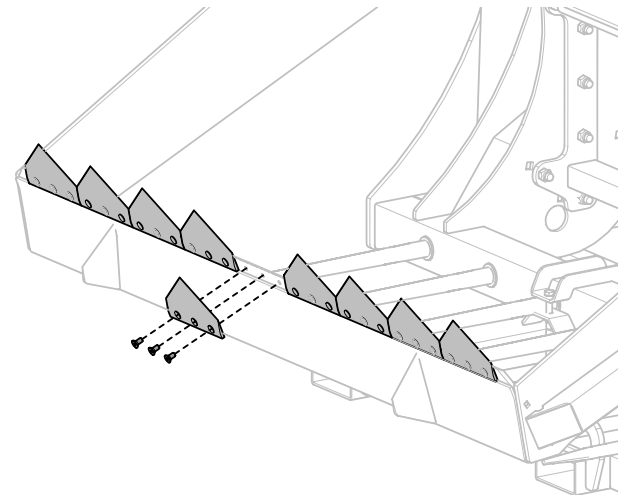
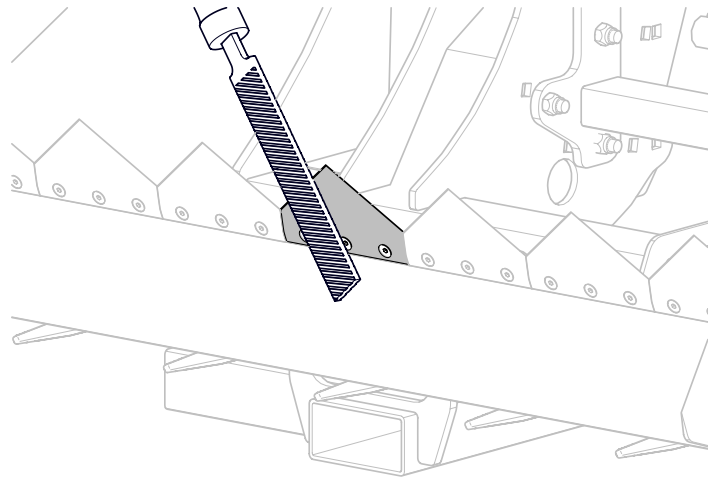
Gloves should always be used when sharpening the blades and extreme care be taken while working around the blades.

- Inspect the blades for damage and repair if possible.
- Blades may be sharpened in place on the cutting arm, or removed for sharpening if so desired.
- A good quality 2nd cut file is the best to resharpen the blades.
- A grinder should never be used to sharpen the blades, the heat from grinding destroys the blades temper and decreases its service life.

REPLACING

The bolt-on knives allow for easy replacement of a single damaged knife. Gloves should always be used and extreme care be taken while working around and replacing the blades.

- With the power unit attached, lower the cutting arm to working height.
- Remove the three 3/8 flat head socket screws with a 7/32" allen wrench.
- Carefully remove the damaged knife blade, and replace with a new one.
- Torque the screws to 24 ft lbs.



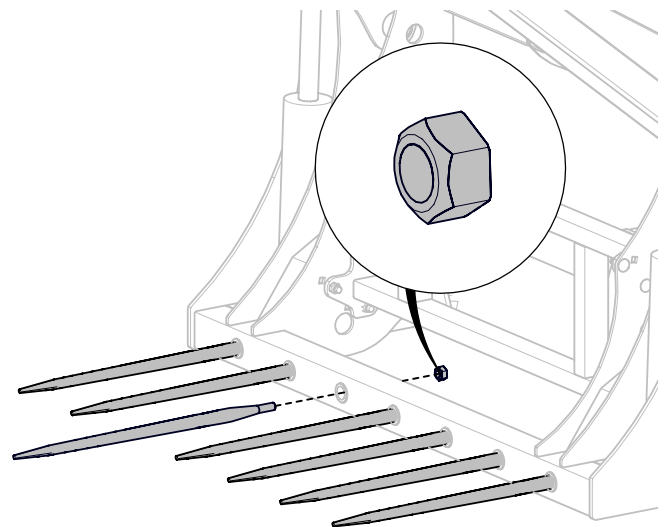
KVERNELAND TINES:

The Bale Knife features Kverneland tines which are heat treated, resulting in a hardened, tough tine. If breakage occurs, they will need to be replaced.

REPLACING

The bolt-on tines allow for easy replacement of a broken tine, check to make sure the frame is not cracked or broken. Gloves should always be used and care be taken while working around and replacing the tines. Ensure the cutting arm is up in the storage position.

- With the power unit attached, raise the BK to working height.
- Remove the M20 taper nut on the tine to be replaced.
- Carefully remove the damaged tine, the shaft is on a taper, gentle tapping may be required to loosen it from the frame.
- Insert the new tine, replace the M20 nut, ensure the nut taper is towards the frame.
- Torque the taper nut to 290 – 325 ft lb ft lbs.



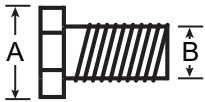
BOLT TORQUE TABLE

These tables are offered as the suggested maximum torque values for dry (not lubricated) threaded products and are only a general guide.

Check tightness of bolts periodically, replace hardware with the same strength bolt.

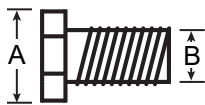
Torque specification for bolts are identified by their head markings as shown.

METRIC TORQUE SPECIFICATIONS



Wrench Size: "A"	Thread Size: "B" Fine	Class 8.8		Class 10.9		Thread Size: "B" Coarse	Class 8.8		Class 10.9	
		N-m	lbs-ft	N-m	lbs-ft		N-m	lbs-ft	N-m	lbs-ft
10 mm	6 x 0.75	---	---	---	---	6 x 1.0	11.3	8.3	16.5	12.2
13 mm	8 x 1.0	27	20	38	28	8 x 1.25	27.3	20.1	40.1	29.6
16 mm	10 x 1.25	52	38	73	54	10 x 1.5	54	40	49	36
18 mm	12 x 1.25	95	70	135	100	12.1.75	93	69	137	101
21 mm	14 x 1.5	150	111	210	155	14 x 2.0	148	109	218	161
24 mm	16 x 1.5	225	166	315	232	16 x 2.0	230	170	338	249
27 mm	18 x 1.5	325	240	460	339	18 x 2.5	329	243	469	346
30 mm	20 x 1.5	460	339	640	472	20 x 2.5	464	342	661	487
34 mm	22 x 1.5	610	450	860	634	22 x 2.5	634	468	904	667
36 mm	24 x 2.0	780	575	1100	811	24 x 3.0	798	588	1136	838
41 mm	27 x 3.0	---	---	---	---	27 x 3.0	1176	867	1674	1234
46 mm	30 x 2.0	---	---	---	---	30 x 3.0	1597	1178	2274	1677

SAE TORQUE SPECIFICATIONS



Wrench Size: "A"	Thread Size: "B" Fine	SAE 2		SAE 5		SAE 8		Thread Size: "B" Coarse	SAE 2		SAE 5		SAE 8	
		lbs-ft	N-m	lbs-ft	N-m	lbs-ft	N-m		lbs-ft	N-m	lbs-ft	N-m	lbs-ft	N-m
7/16"	1/4-28	6	8.1	10	13.6	14	19.0	1/4-20	5	6.8	8	10.8	12	16.3
1/2"	5/16-24	13	17.6	19	25.7	27	36.6	5/16-18	11	14.9	17	23.0	25	33.9
9/16"	3/8-24	23	31.2	35	47.4	49	66.4	3/8-16	20	27.1	31	42.0	44	59.6
5/8"	7/16-20	36	48.8	55	74.5	75	101.6	7/16-14	32	43.4	49	66.4	70	94.9
3/4"	1/2-20	55	74.5	85	115.2	120	162.6	1/2-13	49	66.4	75	101.6	107	145.0
13/16"	9/16-18	79	107.0	122	165.3	172	233.1	9/16-12	70	94.9	109	147.7	154	208.7
15/16"	5/8-18	110	149.1	170	230.4	240	325.2	5/8-11	97	131.4	150	203.3	212	287.3
1-1/8"	3/4-16	192	260.2	297	402.4	420	569.1	3/4-10	173	234.4	266	360.4	376	509.5
1-5/16"	7/8-14	184	249.3	474	642.3	668	905.1	7/8-9	166	224.9	429	581.3	606	821.1
1-1/2"	1.0-12	274	371.3	705	955.3	995	1348.2	1.0-8	250	338.8	644	872.6	909	1231.7

TROUBLE SHOOTING

On the following page, we have listed many of the causes and solutions to issues that you may encounter.

If you encounter a issue that is difficult to solve, even after having read through this trouble shooting section, please call your local distributor or dealer. Before you call, please have this Operator's Manual and serial number ready.

PROBLEM	POSSIBLE CAUSE	SOLUTION
Hydraulic cylinder malfunctioning	Low hydraulic fluid level	Check and replenish hydraulic fluid.
	Improper hose hookup	Check and correct hydraulic hose connections.
	Broken hydraulic line	Check for leaks and replace line.
	Quick disconnect coupler(s) are not connected. Check flow	Check coupler connections. Replace coupler(s) if necessary.
	Hydraulic hose blockage	Check for evidence of damage to hoses that would block flow of oil between cylinders and control valve.
	Hydraulic fluid leaking past seals	Replace seals.
Aeration of hydraulic fluid (generally indicated by foamy appearance of fluid).	Low hydraulic fluid level	Check and refill hydraulic system to proper level.
	Hydraulic fluid foaming due to improper hydraulic oil usage	Refer to Power Unit's manual and replace hydraulic oil using recommended hydraulic oil.
Hydraulic oil heating	Dirty oil	Drain and refill oil, replace filter.
	Partially plugged inlet filter	Clean filter element.
	Oil too light in hot weather	Use recommended oil.
	Damaged oil lines	Replace oil lines.
External hydraulic fluid leakage	Broken oil lines	Replace hose and check for leaks.
	Loose hydraulic connection	Tighten loose connections.
	Cold hydraulic fluid	Allow hydraulic fluid to warm up to operating temperature.
Hydraulic pump capacity inadequate	Engine R.P.M. too slow	Increase engine R.P.M.
	Low hydraulic fluid supply	Refer to power unit's manual for service recommendations.
	Hydraulic hose restriction	Check for evidence of restriction in hydraulic hoses.
Grab hooks do not activate as required	Connecting linkage bent	Replace compromised parts.
	Lack of lubrication	Apply lubricant on pivot points.
	Excessive wear on pivot points	Replace worn parts.

ACCESSORIES

For accessories or replacement parts, call your dealer for pricing and availability or go to hlaattachments.com and click on 'Parts'.

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