

Farm King

OPERATOR AND PARTS MANUAL

Disc Mower

Model 4, 5, 6, 7

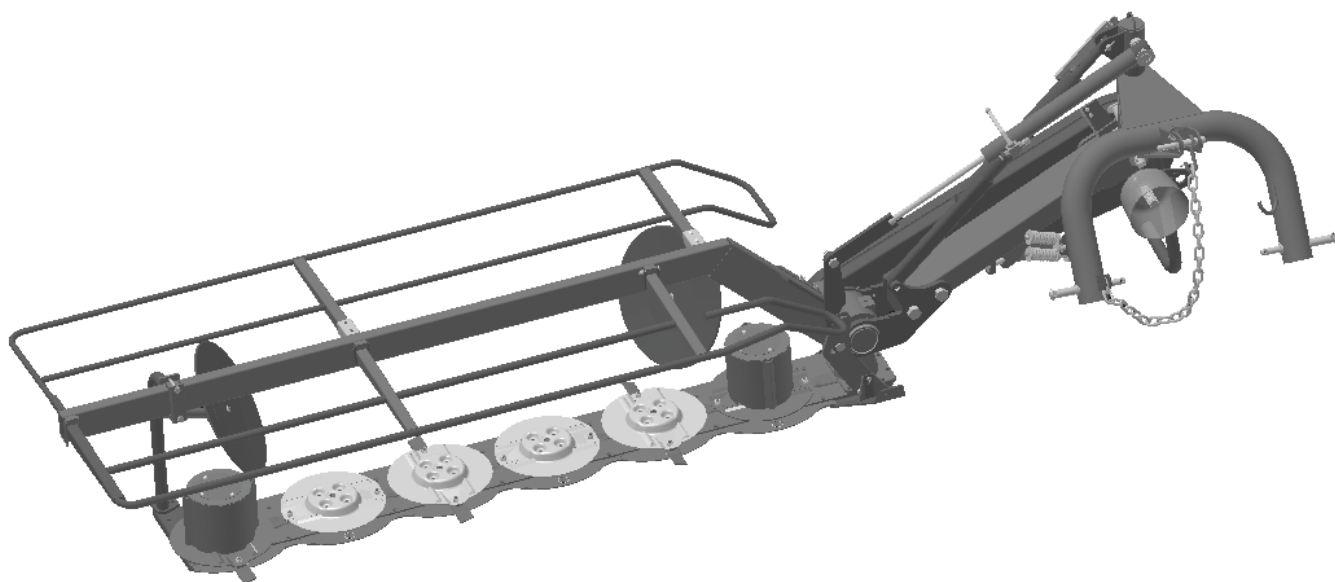


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Manufacturer’s Statement: For technical reasons, Buhler Industries Inc. reserves the right to modify machinery design and specifications provided herein without any preliminary notice. Information provided herein is of descriptive nature. Performance quality may depend on bale structure, applied techniques, weather conditions and other factors.

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WARRANTY REGISTRATION FORM

This form must be filled out by the dealer and signed by both the dealer and the customer at the time of delivery.

Customer Name:

Dealer Name:

Customer Address:

Dealer Address:

City:

Prov / State:

City:

Prov / State:

Postal / Zip Code:

Phone:

Postal / Zip Code:

Phone:

Equipment Name Model:

Serial Number:

Delivery Date:

I have thoroughly instructed the buyer on the above described equipment which review included the Operator's Manual content, equipment care, adjustments, safe operation and applicable warranty policy.

Dealer Inspection Report

- Bearing Seals
- Lubricate Machine
- Wheel Bolt Torque
- Fasteners Tight
- Tire Pressure
- Hydraulic Hoses

Safety

- All Lights And Reflectors Installed
- All Lights And Reflectors Cleaned And Working
- Safety Chain On Hitch
- All Decals Installed
- Guards And Shields Installed And Secure
- Review Operating And Safety Instructions
- General Adjustment And Set-up Procedures
- Transportation Requirements And Regulations

Date:

Dealer Rep. Signature:

The above equipment and Operator And Parts Manual have been received by me and I have been thoroughly instructed as to care, adjustments, safe operation and applicable warranty policy.

Date:

Customer / Owner's Signature:

Remove this Warranty Registration Form from the Operator And Parts Manual. Make two copies of the form. Send original Warranty Registration Form to Farm King. Give one copy to the customer and the dealer will keep one copy.

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INTRODUCTION

This Operator And Parts Manual was written to give the owner / operator instructions on the safe operation, maintenance and part identification of the Farm King equipment. **READ AND UNDERSTAND THIS OPERATOR AND PARTS MANUAL BEFORE OPERATING YOUR FARM KING EQUIPMENT.** If you have any questions, see your Farm King dealer. This manual may illustrate options and accessories not installed on your Farm King equipment.

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OWNER'S INFORMATION

Thank you for your decision to purchase a Farm King Disc Mower. To ensure maximum performance of your equipment, it is mandatory that you thoroughly study the Operator And Parts Manual and follow the recommendations. Proper operation and maintenance are essential to maximize equipment life and prevent personal injury.

Operate and maintain this equipment in a safe manner and in accordance with all applicable local, state, and federal codes, regulations and / or laws. Follow all on-product labeling and instructions.

Make sure that all personnel have read this Operator and Parts Manual and thoroughly understand safe and correct operating, installation and maintenance procedures.

Farm King is continually working to improve its products. Farm King reserves the right to make any improvements or changes as deemed practical and possible without incurring any responsibility or obligation to make any changes or additions to equipment sold previously.

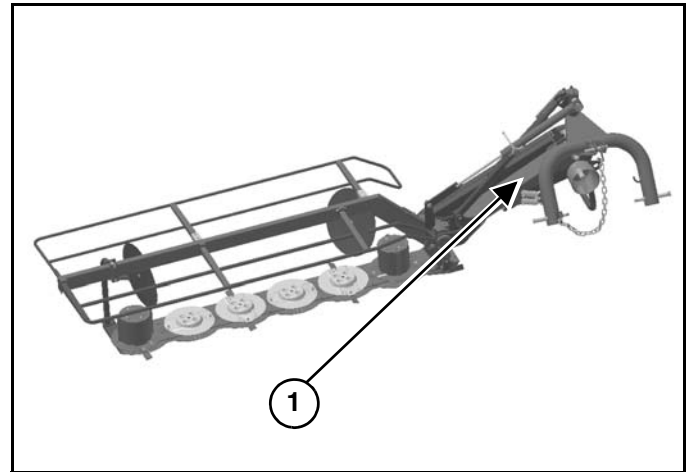
Although great care has been taken to ensure the accuracy of this publication, Farm King makes no warranty or guarantee of any kind, written or expressed, implied or otherwise with regard to the information contained within this manual. Farm King assumes no responsibility for any errors that may appear in this manual and shall not be liable under any circumstances for incidental, consequential or punitive damages in connection with, or arising from the use of this manual.

Keep this manual available for frequent reference. All new operators or owners must review the manual before using the equipment and annually thereafter. Contact your Farm King Dealer if you need assistance, information, or additional copies of the manual. Visit our website at www.farm-king.com for a complete list of dealers in your area.

The directions left, right, front and rear, as mentioned throughout this manual, are as viewed from the rear of the equipment.

Serial Number Location

Please enter the model and serial number in the space provided for easy reference.

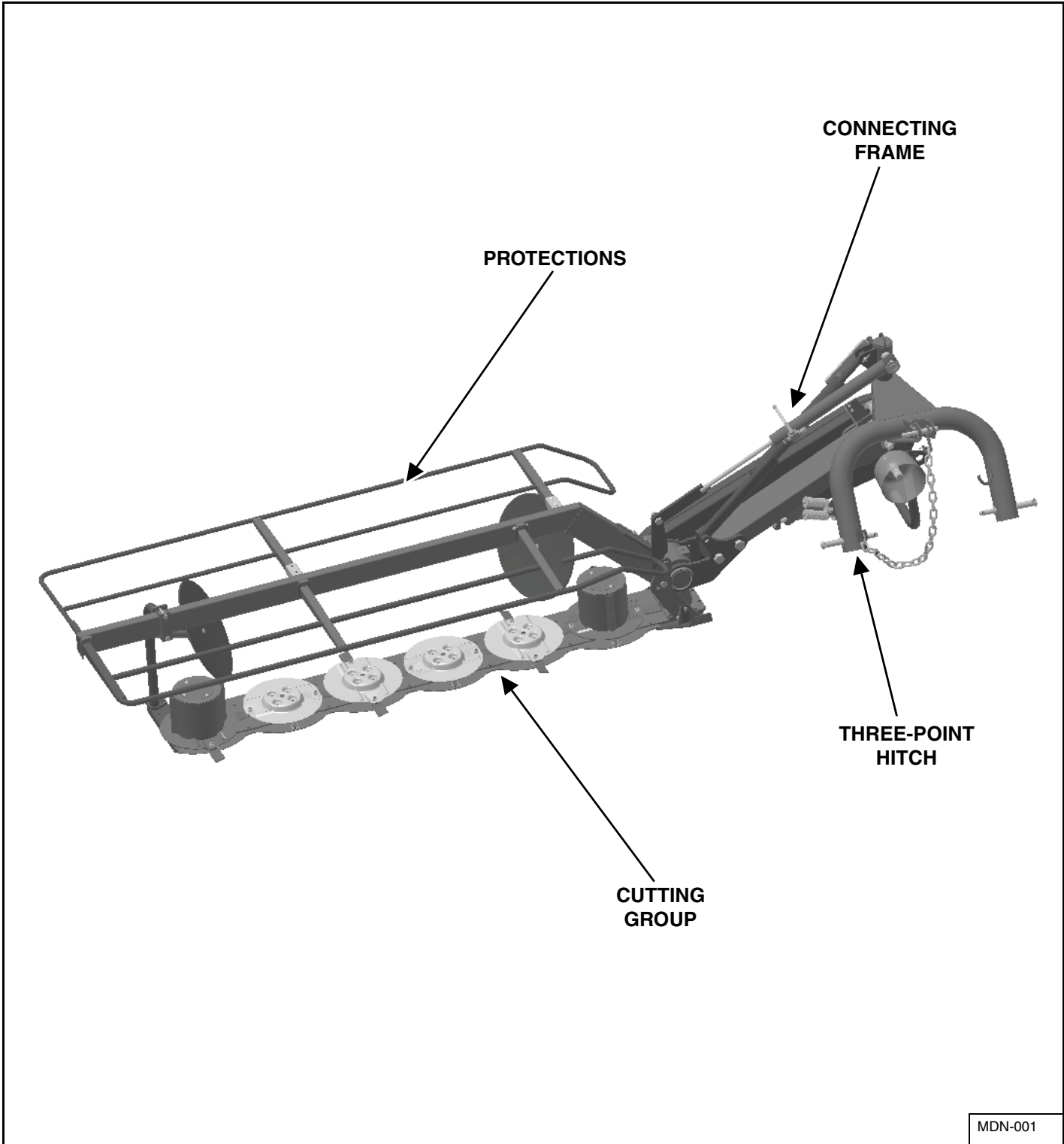
Figure 1**Model Number:** _____**Serial Number:** _____

The serial number plate (Item 1) **[Figure 1]** is located on the rear of the three point hitch.

Always use your serial number when requesting information or when ordering parts.

EQUIPMENT IDENTIFICATION

Component Location



SAFETY

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SAFETY INSTRUCTIONS

Safe Operation Is The Operator’s Responsibility

	<p>Safety Alert Symbol</p>
<p>This symbol with a warning statement means: “Warning, be alert! Your safety is involved!” Carefully read the message that follows.</p>	



The signal word **CAUTION** on the machine and in the manuals indicates a potentially hazardous situation which, if not avoided, may result in minor or moderate injury. It may also be used to alert against unsafe practices.



The signal word **DANGER** on the machine and in the manuals indicates a hazardous situation which, if not avoided, will result in death or serious injury.



The signal word **WARNING** on the machine and in the manuals indicates a potentially hazardous situation which, if not avoided, could result in death or serious injury.



This notice identifies procedures which must be followed to avoid damage to the machine.

Safe Operation Needs A Qualified Operator



Operators must have instructions before operating the machine. Untrained operators can cause injury or death.

For an operator to be qualified, he or she must not use drugs or alcoholic drinks which impair alertness or coordination while working. An operator who is taking prescription drugs must get medical advice to determine if he or she can safely operate a machine and the equipment.

A Qualified Operator Must Do The Following:

Understand the Written Instructions, Rules and Regulations

- The written instructions from Farm King include the Warranty Registration, Dealer Inspection Report, Operator And Parts Manual and machine signs (decals).
- Check the rules and regulations at your location. The rules may include an employer’s work safety requirements. Regulations may apply to local driving requirements or use of a Slow Moving Vehicle (SMV) emblem. Regulations may identify a hazard such as a utility line.

Have Training with Actual Operation

- Operator training must consist of a demonstration and verbal instruction. This training is given by the machine owner prior to operation.
- The new operator must start in an area without bystanders and use all the controls until he or she can operate the machine safely under all conditions of the work area. Always fasten seat belt before operating.

Know the Work Conditions

- Clear working area of all bystanders, especially small children and all obstacles that might be hooked or snagged, causing injury or damage.
- Know the location of any overhead or underground power lines. Call local utilities and have all underground power lines marked prior to operation.
- Wear tight fitting clothing. Always wear safety glasses when doing maintenance or service.

SAFETY INSTRUCTIONS (CONT'D)**Use Safety Rules**

- Read and follow instructions in this manual and the tractor's Operators Manual before operating.
- Under no circumstances should young children be allowed to work with this equipment.
- This equipment is dangerous to children and persons unfamiliar with its operation.
- If the elderly are assisting with work, their physical limitations need to be recognized and accommodated.
- Stay clear of overhead power lines. Electrocutation can occur without direct contact.
- Check for overhead and / or underground lines before operating equipment (if applicable).
- In addition to the design and configuration of equipment, hazard control and accident prevention are dependent upon the awareness, concern, prudence and proper training of personnel involved in the operation, transport, maintenance and storage of equipment.
- Check that the equipment is securely fastened to the tractor / towing vehicle.
- Make sure all the machine controls are in the NEUTRAL position before starting the machine.
- Operate the equipment only from the operator's position.
- Operate the equipment according to the Operator And Parts Manual.
- When learning to operate the equipment, do it at a slow rate in an area clear of bystanders, especially small children.
- DO NOT permit personnel to be in the work area when operating the equipment.
- The equipment must be used ONLY on approved tractors / transport vehicles.
- DO NOT modify the equipment in any way. Unauthorized modification may impair the function and / or safety and could affect the life of the equipment.
- DO NOT make any adjustments or repairs on the equipment while the machine is running.
- Keep shields and guards in place. Replace if damaged.

Transport Safety

- DO NOT exceed 20 mph (32 kph). Reduce speed on rough roads and surfaces.
- Comply with state and local laws governing highway safety and movement of machinery on public roads.
- The use of flashing amber lights is acceptable in most localities. However, some localities prohibit their use. Local laws should be checked for all highway lighting and marking requirements.
- Always install transport locks, pins or brackets before transporting.
- Always yield to oncoming traffic in all situations and move to the side of the road so any following traffic may pass.
- Always enter curves or drive up or down hills at a low speed and at a gradual steering angle.
- Never allow riders on either tractor or equipment.
- Keep tractor / towing vehicle in a lower gear at all times when traveling down steep grades.
- Maintain proper brake settings at all times (if equipped).
- Stay away from overhead power lines. Electrocutation can occur without direct contact.

Machine Requirements And Capabilities

- Stop the machine and engage the parking brake. Install blocks in front of and behind the rear tires of the machine. Install blocks underneath and support the equipment securely before working under raised equipment.
- Keep bystanders clear of moving parts and the work area. Keep children away.
- Use increased caution on slopes and near banks and ditches to prevent overturn.
- Make certain that the Slow Moving Vehicle (SMV) emblem is installed so that it is visible and legible. When transporting the equipment, use the flashing warning lights (if equipped) and follow all local regulations.
- Operate this equipment with a machine equipped with an approved Roll-Over Protective Structure (ROPS). Always wear seat belt when the ROPS is up. Serious injury or death could result from falling off the machine.
- Before leaving the operator's position:
 1. Always park on a flat level surface.
 2. Place all controls in neutral.
 3. Engage the parking brake.
 4. Stop engine.
 5. Wait for all moving parts to stop.
- Carry passengers only in designated seating areas. Never allow riders on the machine or equipment. Falling off can result in serious injury or death.
- Start the equipment only when properly seated in the operator's seat. Starting a machine in gear can result in serious injury or death.
- Operate the machine and equipment from the operator's position only.
- The parking brake must be engaged before leaving the operator's seat. Rollaway can occur because the transmission may not prevent machine movement.

FIRE PREVENTION



Maintenance

The machine and some equipment have components that are at high temperatures under normal operating conditions. The primary source of high temperatures is the engine and exhaust system. The electrical system, if damaged or incorrectly maintained, can be a source of arcs or sparks.

Flammable debris (leaves, straw, etc.) must be removed regularly. If flammable debris is allowed to accumulate, it can cause a fire hazard. Clean often to avoid this accumulation.

All fuels, most lubricants and some coolant mixtures are flammable. Flammable fluids that are leaking or spilled onto hot surfaces or onto electrical components can cause a fire.

Operation

The Farm King machine must be in good operating condition before use.

Check all of the items listed on the service schedule under the 8 hour column. (See "SERVICE SCHEDULE" on page 44.)

Do not use the machine where exhaust, arcs, sparks or hot components can contact flammable material, explosive dust or gases.

Starting

Use the procedure in the tractor's operator's manual for connecting the battery and for jump starting.

Electrical



Check all electrical wiring and connections for damage. Keep the battery terminals clean and tight. Repair or replace any damaged part or wires that are loose or frayed.

Hydraulic System

Check hydraulic tubes, hoses and fittings for damage and leakage. Never use open flame or bare skin to check for leaks. Hydraulic tubes and hoses must be properly routed and have adequate support and secure clamps. Tighten or replace any parts that show leakage.

Always clean fluid spills. Do not use gasoline or diesel fuel for cleaning parts. Use commercial nonflammable solvents.

Welding And Grinding

Always clean the machine and equipment, disconnect the battery, and disconnect the wiring from the machine controls before welding. Cover rubber hoses, battery and all other flammable parts. Keep a fire extinguisher near the machine when welding.

Have good ventilation when grinding or welding painted parts. Wear dust mask when grinding painted parts. Toxic dust or gas can be produced.

Dust generated from repairing nonmetallic parts such as hoods, fenders or covers can be flammable or explosive. Repair such components in a well ventilated area away from open flames or sparks.

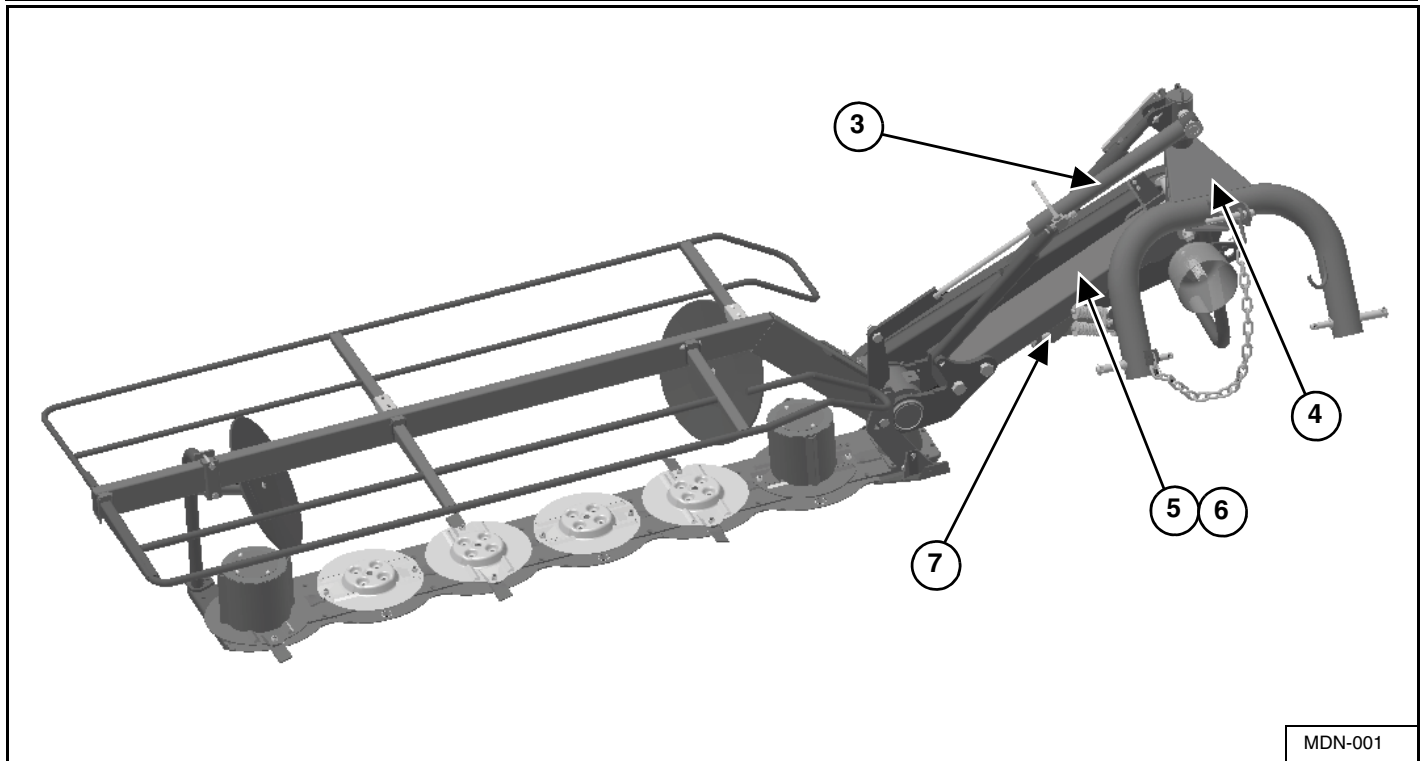
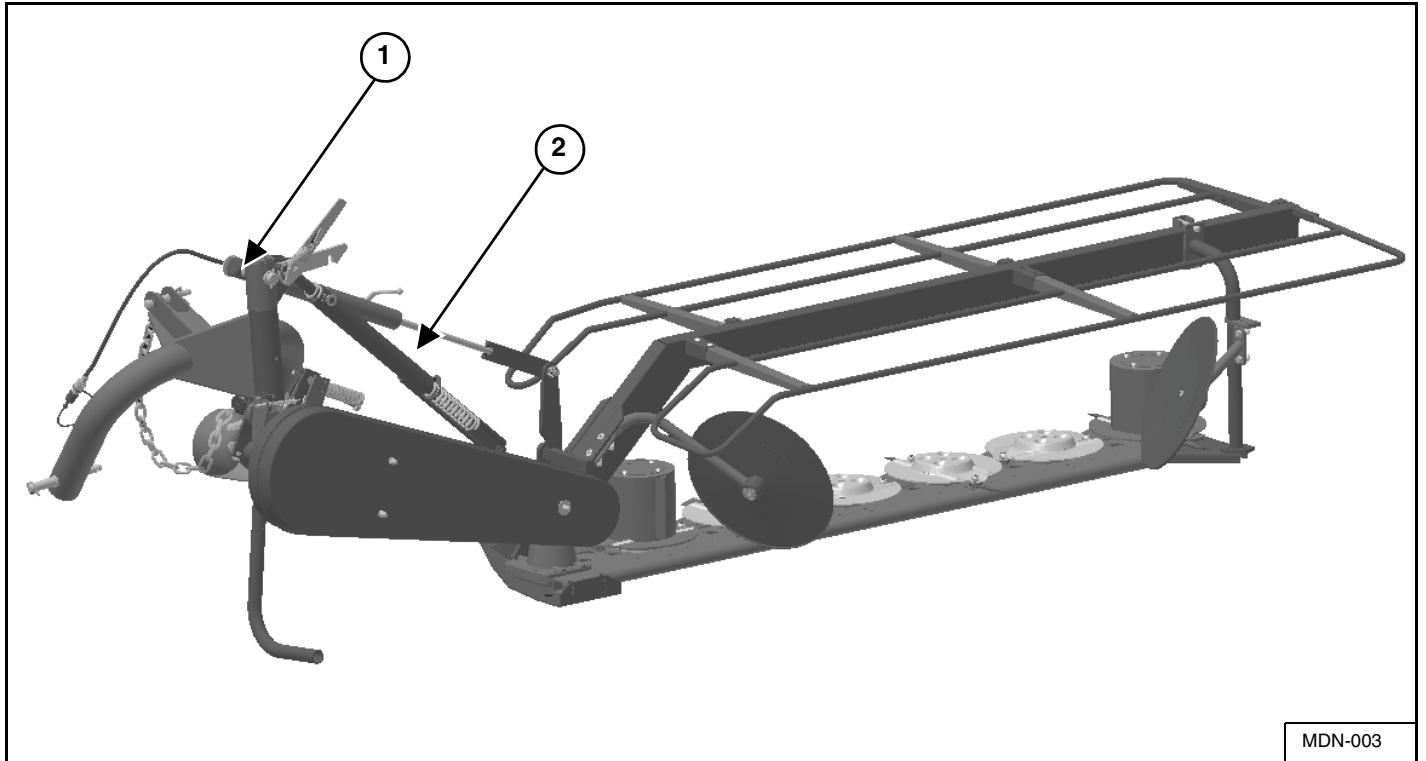
Fire Extinguishers



Know where fire extinguishers and first aid kits are located and how to use them. Inspect the fire extinguisher and service the fire extinguisher regularly. Obey the recommendations on the instructions plate.

SAFETY SIGNS (DECALS)

Follow the instructions on all the Signs (Decals) that are on the equipment. Replace any damaged signs (decals) and be sure they are in the correct locations. Equipment signs are available from your Farm King equipment dealer.

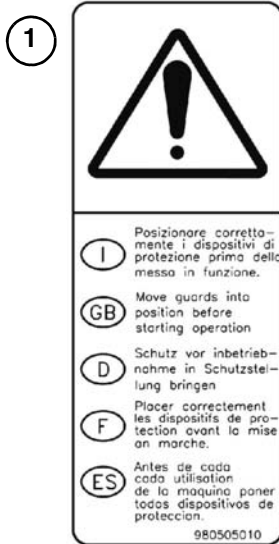


EQUIPMENT DECALS AND SIGNS

NOTE: All safety related decals are shown in the Safety Signs Section. (See "SAFETY SIGNS (DECALS)" on page 17.)

Check and replace any worn, torn, hard to read or missing decals on your equipment.

Part Number 980505010



Position all safety devices correctly prior to starting.

Part Number 980505009



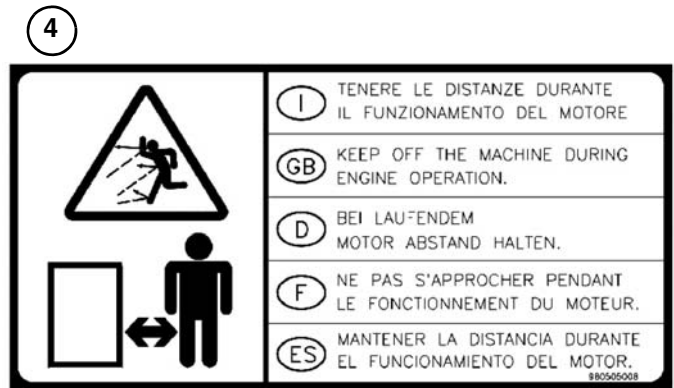
Dangerous for hands.

Part Number 980505015



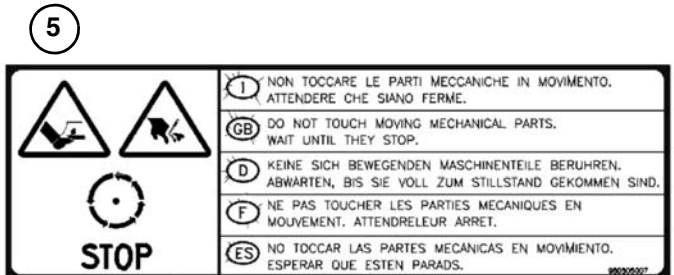
Read the instruction and Maintenance Manual and all safety regulations carefully prior to using the machine. Request such material if lacking. Make sure that all the safety devices have been correctly mounted and that all the screws, nuts and bolts are tightened to the correct torque before using the machine.

Part Number 980505008



Maintain a respectable safety distance while the motor is running.

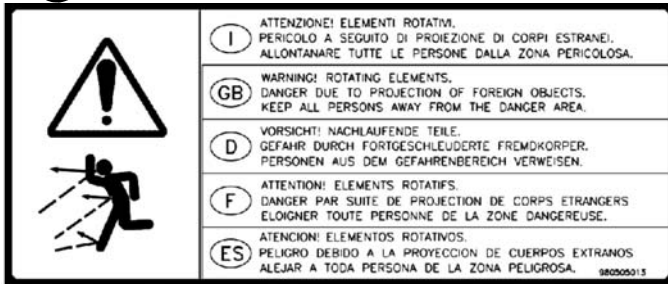
Part Number 980505007



Never touch moving mechanical parts; wait until they have come to a rest.

Part Number 980505013

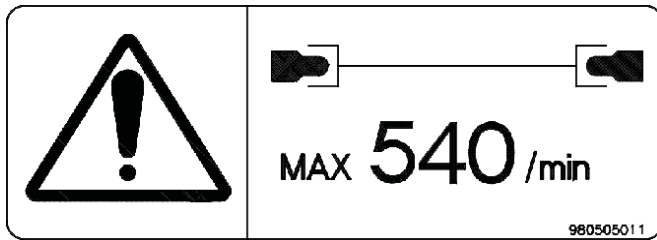
6



Beware of foreign objects flying out. Keep away from danger zone.

Part Number 980505011

7



Never exceed the permissible power takeoff rpm level.

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GENERAL INFORMATION

Pre - Operation Checklist

Before operating the Disc Mower for the first time and each time thereafter, check the following items:



MOVING PART HAZARD

To prevent serious injury or death from moving parts:

- Keep hands, feet, hair and clothing away from moving parts.
- Disconnect and lockout power source before adjusting or servicing.
- Do not stand or climb on machine when operating.
- Do not approach machine until machine is completely stopped and not running.
- Do not remove any protection panels.



AVOID INJURY OR DEATH

Wear safety glasses to prevent eye injury when any of the following conditions exist:

- When fluids are under pressure.
- Flying debris or loose material is present.
- Engine is running.
- Tools are being used.



AVOID INJURY

Wear hearing protection to prevent hearing loss when operating.

1. Lubricate the equipment per the schedule outline in the Maintenance Section. (See "SERVICE SCHEDULE" on page 44.)
2. Check the Disc Mower hitch for damaged, loose or missing parts. Repair as needed before operation.
3. Fully clean the equipment.
4. Inspect all safety reflective decals, slow moving vehicle decals and lights where applicable.



Leaking fluids under pressure can enter the skin and cause serious injury or death. Immediate medical attention is required. Wear goggles. Use cardboard to check for leaks.

5. Check condition of all hydraulic components for leaks. Repair as required.

NOTE: Do not operate with hydraulic leaks.

6. Verify that the safety lock is in the unlock position.
7. Verify that the Disc Mower is properly connected to the tractor with the safety chain.

Break - In Checklist

Check the following mechanical items after 8 hours of operation:

1. Make sure that all hardware are tightened (especially those of the cutters).

Check the following mechanical items after 50 hours of operation:

1. Change oil in the cutting bar.
2. Change oil in the gearbox.

Tractor Requirements



AVOID SERIOUS INJURY OR DEATH

The tractor must be equipped with an approved Roll Over Protection Structure (ROPS) and safety belts to help prevent personal injury or death caused by tractor roll over.



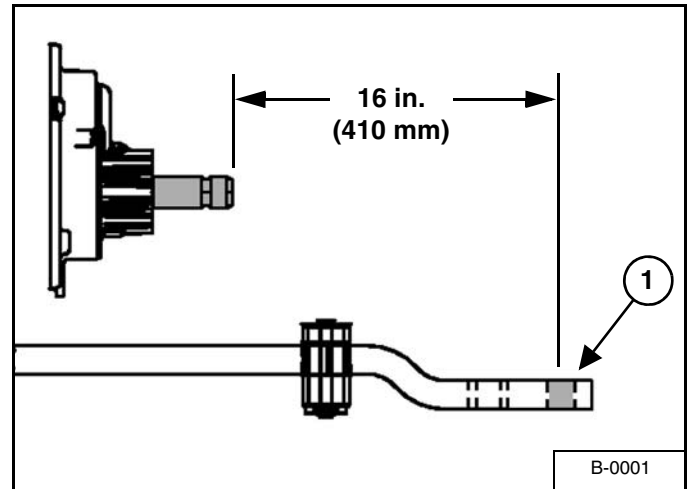
- Keep shields and all guards in place.
- Keep away from moving parts.
- Keep bystanders away.



Towing Vehicle / Tractor must have adequate braking capacity to safely control GVW trailing load. Do not tow over 20 mph (32 km/h). Towing Vehicle / Tractor unit should weigh approximately 67% of GVW.

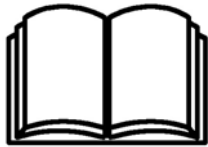
Drawbar Adjustment (Pull-Type Models)

Figure 2



Adjust the tractor's drawbar in / out, until the center of the hitch pin hole (Item 1) [Figure 2] is 16 inches (410 mm) from the end of the tractor's PTO shaft. See your tractor's owner's manual for correct adjustment procedures.

Entering And Leaving The Operator's Position



Follow the instructions in your tractor's operation manual for the correct procedure.

Entering The Operator's Position

Move to the operator's position, start the engine and release the parking brake.

Leaving The Operator's Position



AVOID INJURY OR DEATH

Before you leave the operator's position:

- **Always park on a flat level surface.**
- **Place all controls in NEUTRAL.**
- **Engage the park brake.**
- **Stop the engine and remove the key.**
- **Wait for all moving parts to stop.**

Park the tractor / equipment on a flat level surface.

Place all controls in neutral, engage the park brake, stop the engine and wait for all moving parts to stop. Leave the operator's position.

INITIAL SET-UP

Connecting Three-Point Disc Mower To The Tractor

Always inspect the tractor's three-point arms and Disc Mower hitch before connecting. See the tractor's owner's manual.

Enter the operator's position. (See "Entering The Operator's Position" on page 26.)

Move the tractor into position in front of the Disc Mower.



AVOID INJURY OR DEATH

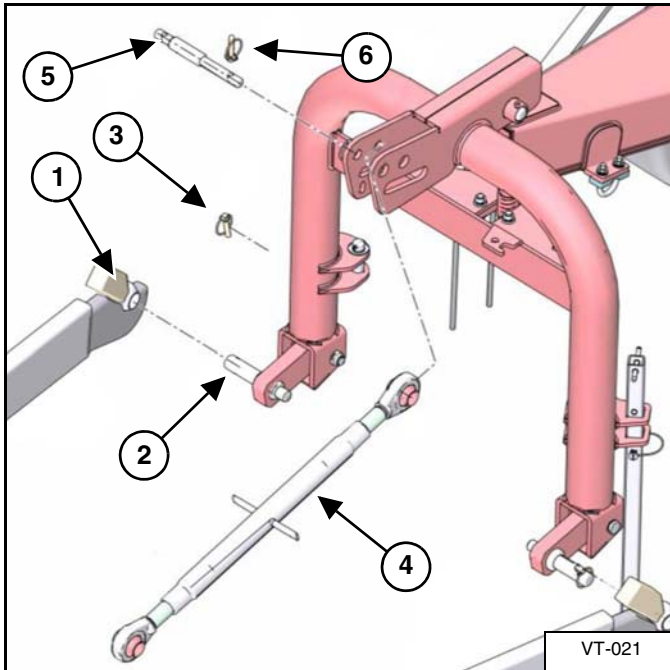
Before moving the tractor, look in all directions and make sure no bystanders, especially small children are in the work area. Do not allow anyone between the tractor and the equipment when backing up to the equipment for connecting.

Move the tractor backwards, aligning the three-point arms with the Disc Mower hitch.

NOTE: The jack may need to be lowered or raised for proper alignment of the drawbar and hitch.

Leave the operator's position. (See "Leaving The Operator's Position" on page 26.)

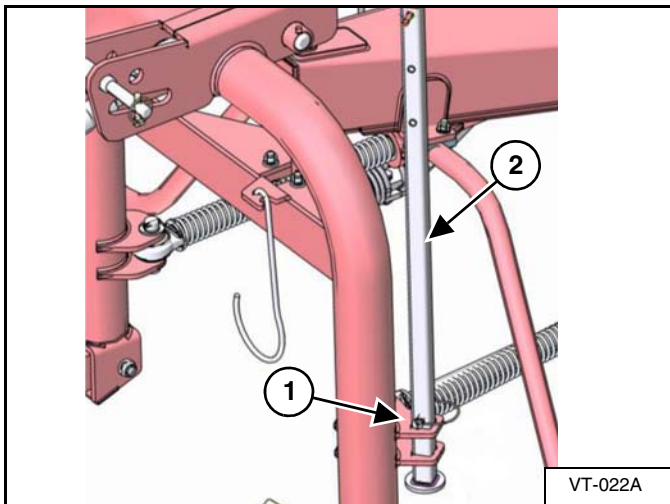
Figure 3



Install the lower lift arms (Item 1) and the lower pins (Item 2) on the Disc Mower frame (one side at a time), secure in place with safety pins (Item 3) [Figure 3].

Align the upper adjustable arm (Item 4) in the with Disc Mower frame, install pin (Item 5) through the Disc Mower frame and upper adjustable arm. Install safety pin (Item 6) [Figure 3].

Figure 4



Remove the retaining pin (Item 1) and slide the jack (Item 2) up, reinstall retaining pin (Item 1) [Figure 4] into the lower hole on the jack.

Adjusting Rotating Group Tilt



AVOID INJURY OR DEATH

Before adjusting or servicing the machine:

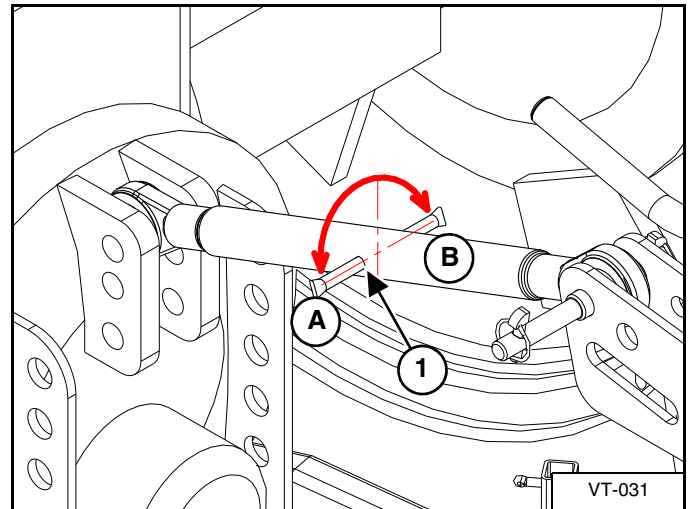
- Always park on a flat level surface.
- Place all controls in NEUTRAL.
- Engage the park brake.
- Stop the engine and remove the key.
- Wait for all moving parts to stop.

Park the tractor / equipment on a flat level surface.

Place all controls in neutral, engage the park brake, stop the engine and wait for all moving parts to stop. Leave the operator's position. (See "Leaving The Operator's Position" on page 26.)

Three-Point Hitch Models

Figure 5



To adjust rotary groups angle, turn the lever (Item 1) [Figure 5] counterclockwise (direction A), moving the Disc Mower frame downwards and reducing the angle. Turn the lever clockwise (direction B), moving the Disc Mower frame upwards increasing the angle.

Connecting The PTO Driveline (Three-Point Models)



AVOID INJURY OR DEATH

Warnings on the machine and in the manuals are for your safety. Failure to obey warnings can cause serious injury or death.

NOTE: Clean and grease tractor's PTO shaft and PTO driveline coupling each time driveline is connected.

Stop the engine and leave the operator's position. (See "Leaving The Operator's Position" on page 26.)

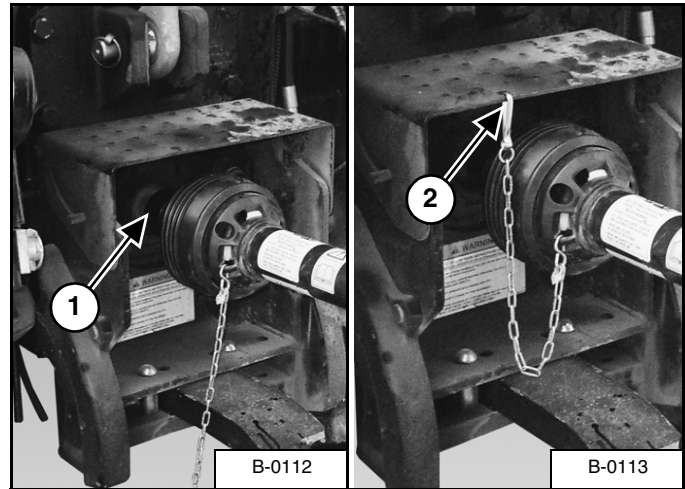


Improper hitch installation can cause PTO driveline damage.

- Do not modify the hitch or use an unapproved hitch.
- Make sure the PTO driveline is of adequate length and that u-joints are in the correct phase.

Remove the PTO driveline from the storage position (if applicable).

Figure 6



Retract the collar and slide the PTO driveline (Item 1) onto the tractor PTO shaft until it locks onto the shaft. Push and pull on the PTO driveline to verify it is securely attached to the PTO shaft. Install PTO driveline safety chain (Item 2) [Figure 6].

NOTE: The PTO driveline must have a means to retain it to the PTO shaft on the tractor.



- Do NOT exceed 540 RPM PTO.
- Keep PTO shields and all guards in place.
- Keep away from moving parts.
- Keep bystanders away.

PTO Driveline

PTO Driveline Length Check

NOTE: Due to variations in distances between tractor PTO shafts and implement input shafts, drivelines may need to be shortened or a longer shaft may be required. When fitting the implement to the tractor, the PTO driveline, with telescoping sections, must be inspected. When the sections are at the most compressed operating position, the sections must not “bottom out”. At its shortest length, there must be at least 2 in. (50,8 mm) of clearance between each section end and opposite section end at the most compressed operating position. When the sections are at the most extended position, there must be sufficient engagement between the sections. At its farthest operating extension, a minimum section engagement of 33% of shaft length must be maintained.



AVOID INJURY OR DEATH

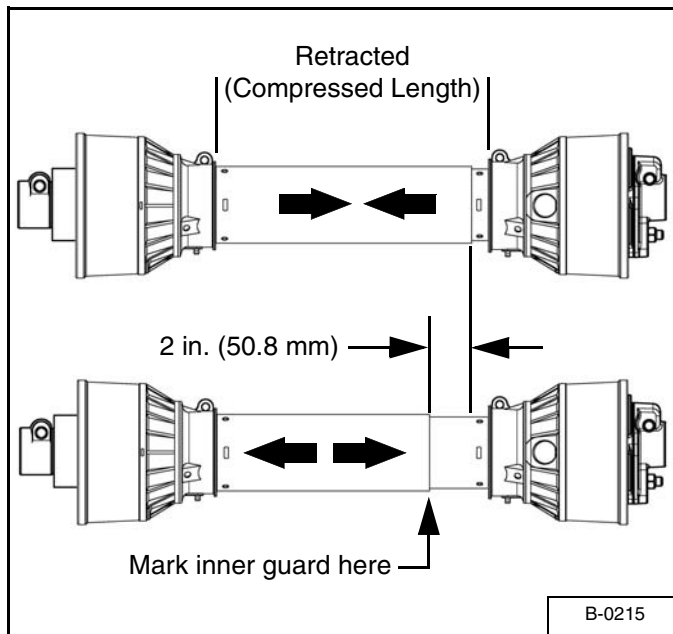
- Do NOT exceed the rated implement PTO speed.
- Stay clear of rotating driveline.
- Keep bystanders away.
- Keep hands, feet, clothing and long hair away.
- Keep PTO shields and all guards in place.
- Disengage PTO, move the tractor controls to the Neutral position, stop the engine and make sure all rotating components are stopped before leaving the operator’s position.
- Do NOT service the tractor or implement with the PTO engaged.
- Do NOT service the implement in a raised position unless properly blocked and with all rotating components stopped.
- Disengage PTO for road travel.

PTO Driveline Bottoming Out Check

Stop the engine and leave the operator’s position. (See “Leaving The Operator’s Position” on page 26.)

Make sure the PTO driveline and all rotating components have come to a complete stop before leaving the operator’s position (if applicable).

Figure 7



1. Disconnect the PTO driveline from the tractor and slide the PTO driveline together until fully retracted (compressed).
2. Measure the retracted (compressed) length of PTO driveline [Figure 7].
3. Extend the PTO driveline 2 in. (50,8 mm) from the retracted length and place a mark on the inner guard at the end of the outer guard [Figure 7].
4. Reattach the PTO driveline to the tractor PTO shaft.
5. Enter the operator’s position. (See “Entering The Operator’s Position” on page 26.) Start the engine.
6. With the rear PTO DISENGAGED, raise and lower the implement and watch the PTO driveline extend and retract.
7. If the outer PTO driveline guard slides in (retracts) over the mark at any point of travel, the PTO driveline needs to be shortened.

Reducing The PTO Driveline Length

Stop the engine and leave the operator's position. (See "Leaving The Operator's Position" on page 26.)

Make sure the PTO driveline and all rotating components have come to a complete stop before leaving the operator's position.



AVOID INJURY OR DEATH

- **Do NOT exceed the rated implement PTO speed.**
- **Stay clear of rotating driveline.**
- **Keep bystanders away.**
- **Keep hands, feet, clothing and long hair away.**
- **Keep PTO shields and all guards in place.**
- **Disengage PTO, move the tractor controls to the Neutral position, stop the engine and make sure all rotating components are stopped before leaving the operator's position.**
- **Do NOT service the tractor or implement with the PTO engaged.**
- **Do NOT service the implement in a raised position unless properly blocked and with all rotating components stopped.**
- **Disengage PTO for road travel.**

Remove the PTO driveline from the tractor and place in storage position (if equipped).

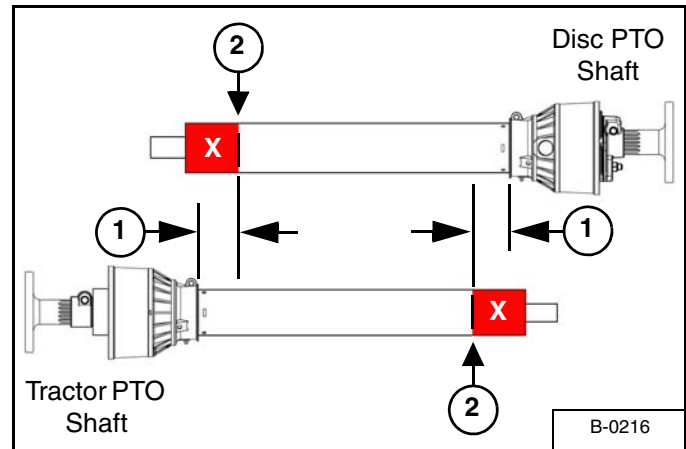
Enter the operator's position. (See "Entering The Operator's Position" on page 26.) Start the engine.

Raise or lower the disc to get the shortest distance between the tractor PTO shaft and disc gearbox PTO shaft.

Stop the engine and leave the operator's position. (See "Leaving The Operator's Position" on page 26.)

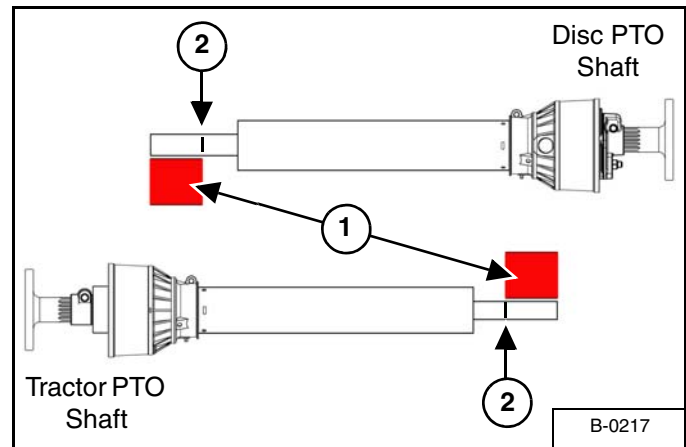
Pull the PTO driveline apart and reinstall each individual section; one half to the tractor PTO shaft and one half to the implement gearbox PTO shaft.

Figure 8



1. Hold PTO driveline sections parallel to one another and measure back 2 in. (50,8 mm) (Item 1) from the yoke of each section and place mark on opposite section. Cut the plastic shield at this length (Item 2) [Figure 8].

Figure 9



2. Using the plastic guard lengths that were cut off in [Figure 8], align the cut off lengths (Item 1) with the end of the inner & outer shafts. Place a mark (Item 2) [Figure 9] on the inner & outer shafts and cut the inner & outer shafts off at this length.
3. Round off all sharp edges and debur.
4. Thoroughly grease and install the PTO driveline halves together.
5. Recheck for proper operation.

PTO Driveline Engagement Check

Stop the engine and leave the operator’s position. (See “Leaving The Operator’s Position” on page 26.)

Make sure the PTO driveline and all rotating components have come to a complete stop before exiting the compact tractor.

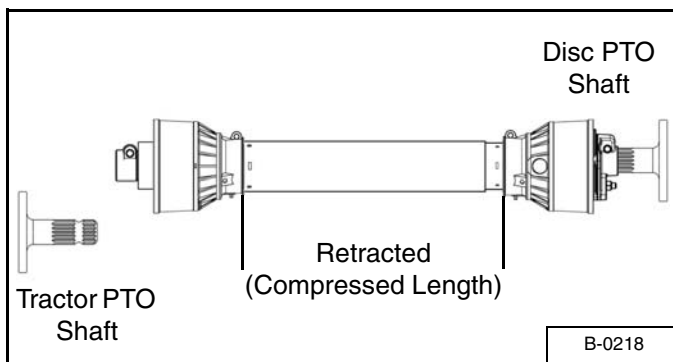


AVOID INJURY OR DEATH

- Do NOT exceed the rated implement PTO speed.
- Stay clear of rotating driveline.
- Keep bystanders away.
- Keep hands, feet, clothing and long hair away.
- Keep PTO shields and all guards in place.
- Disengage PTO, move the tractor controls to the Neutral position, stop the engine and make sure all rotating components are stopped before leaving the operator’s position.
- Do NOT service the tractor or implement with the PTO engaged.
- Do NOT service the implement in a raised position unless properly blocked and with all rotating components stopped.
- Disengage PTO for road travel.

1. Disconnect the PTO driveline from the tractor and fully slide the driveline sections together (retracted).

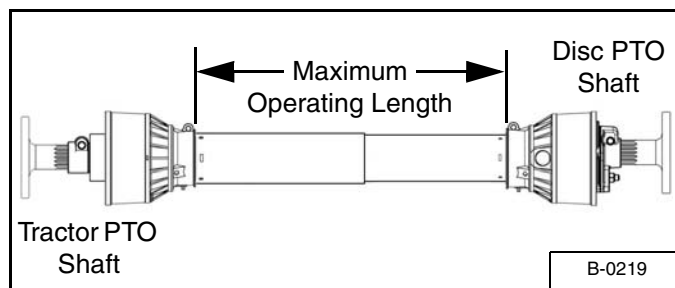
Figure 10



2. Measure the retracted (compressed) length of the PTO driveline between the bases of the plastic guards [Figure 10].

3. Multiply the retracted driveline length by 1.667 to determine the PTO driveline Maximum Operating Length. (i.e.: 25.5 in. (647,7 mm) x 1.667= 42.5 in. (1079,7 mm) Maximum Operating Length).
4. Attach the PTO driveline to the tractor PTO output shaft.
5. Enter the operator’s position. (See “Entering The Operator’s Position” on page 26.)
6. With the PTO driveline attached, position the disc where the telescoping PTO driveline is at its maximum operating extension.
7. Stop the engine and leave the operator’s position. (See “Leaving The Operator’s Position” on page 26.) Make sure the PTO driveline and all rotating components have come to a complete stop before leaving the operator’s position.

Figure 11



8. Measure the length of the PTO driveline between the bases of the plastic shields [Figure 11] to determine the maximum operating length.

A. If the measured maximum operating length is less than the Maximum Operating Length calculation (from Step 3), the PTO driveline has adequate engagement

B. If the measured maximum operating length is equal to or more than the Maximum Operating Length calculation (from Step 3), the PTO driveline does not have adequate engagement and should be replaced with a longer driveline. See your Farm King dealer for available PTO drivelines.

Connecting Hydraulic Lines



HIGH PRESSURE FLUID HAZARD

To prevent serious injury or death from high pressure fluid:

- Relieve pressure on system before repairing or adjusting.
- Wear proper hand and eye protection when searching for leaks. Use wood or cardboard instead of hands.
- Keep all components in good repair.

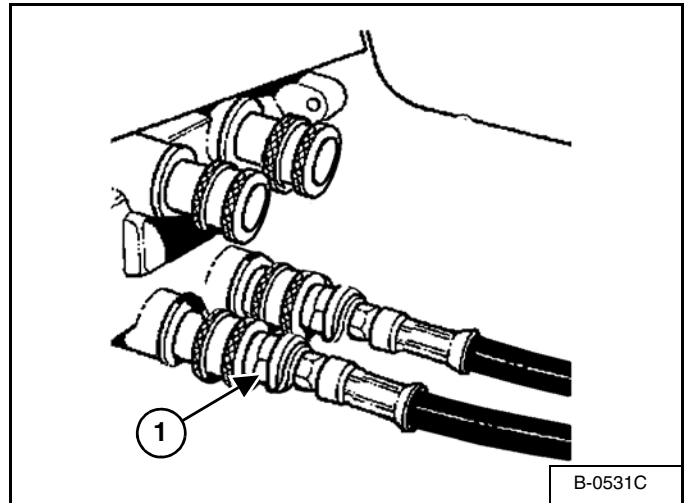


- Contain and dispose of any oil leakage in an environmentally safe manner.
- Thoroughly clean the quick couplers before making connections. Dirt can quickly damage the system.

NOTE: Make sure the quick couplers are fully engaged. If the quick couplers do not fully engage, check to see that the couplers are the same size and type.

To Connect:

Figure 12



Connect the two hydraulic lines to the tractor [Figure 12].

1. Supply Line.

To Disconnect:



AVOID BURNS

Hydraulic fluid, tubes, fittings and quick couplers can get hot when running equipment. Be careful when connecting and disconnecting quick couplers.

Pull on the hydraulic lines to disconnect.

Operating Disc Mower (All Models)



- Do NOT exceed 540 RPM PTO.
- Keep PTO shields and all guards in place.
- Keep away from moving parts.
- Keep bystanders away.



Before operating the equipment:

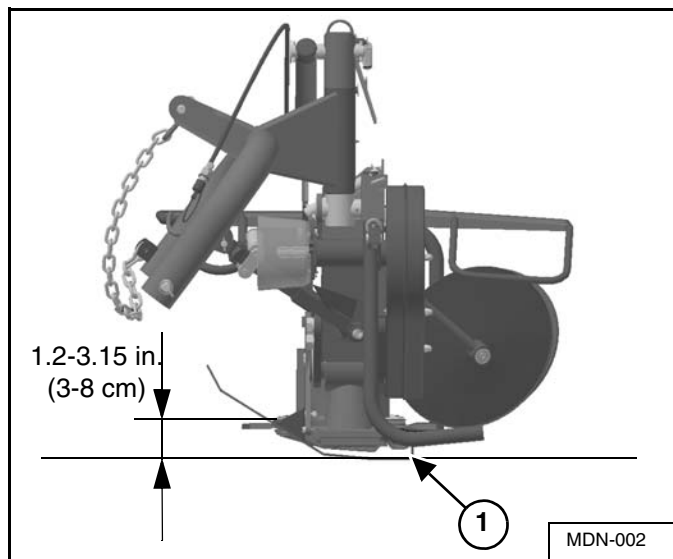
- Clear the work area of all bystanders, especially small children and animals.
- Clear the work area of all obstacles.
- Keep shields and all guards in place.
- Keep away from moving parts.

Move to the operator's position, start the engine and release the parking brake. (See "Entering The Operator's Position" on page 26.)

Move the tractor and Disc Mower to work area.

Adjustment of the Height

Figure 13



The cutting height can be adjusted using the two skids (Item 1) [Figure 13] on the back of the cutter bar. The cutting height has three positions, and allows cutting 1.2 in (3 cm) to 3.15 in. (8 cm).

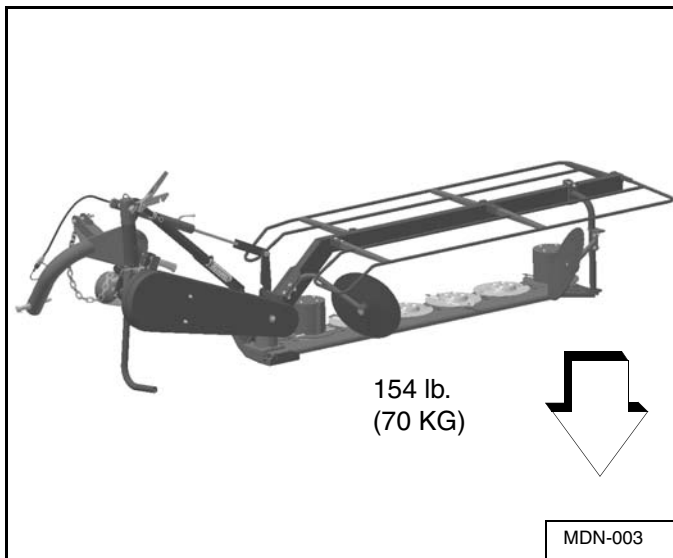
The suspension of the tractor must be calibrated and adjusted to the normal working conditions. Bring the tractor machine closer to the Disc Mower and position the lifting bars in connection with the two points of attachment to the Disc Mower. The third point is to be connected till last, so that you can adjust the cut height-level by changing the inclination of the Disc Mower, as in the picture.

After connecting the Disc Mower, put the safety stops on each gudgeon-pin.

! IMPORTANT

- Always check the down pressure of the cutter bar on the ground, it have to not exceed 154 lb. (70 kg), to get the maximum return. If necessary, adjust the height of the suspension.
- This operation is very important to avoid excessive wear of the plates placed under the cutting bar and makes the mower lasts over time.

Figure 14



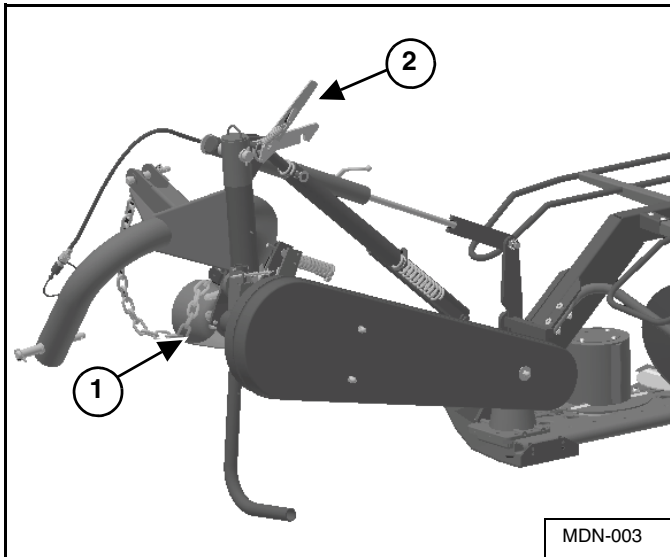
In general, the suspension should be adjusted according to the characteristics of the soil and speed. The weight on the ground must be 70 KG, as in [Figure 14].

Open Field Precautions

- Inspect the ground on which you will do the job and remove, if possible, any obstacles.
- Make sure the soil and crop conditions and keep in mind that you cannot operate when wet.
- Be aware that on sloping ground, it is preferable to work have the tractor above the mower.
- Before starting the engine of the tractor, make sure the transmission is in neutral.
- Use care when traveling, especially when operating on rough terrain.
- If during the work you hear shots, or abnormal vibration of the machine immediately turn off the engine of the tractor and make sure of the causes.
- Ensure that around the machine there are not other people, and special attention should be paid to children and pets, you should keep a distance of yards (meters).
- Before starting the engine make sure that all guards are fixed in their position.
- For work choose a speed that is compatible with the soil conditions.
- The dust created by the use of the machine can cause respiratory problems. It 'is therefore good practice to keep closed doors and windows of the cabin during the work. In the absence of the cabin it is advisable to use protective masks and clothing to cover up the body to avoid skin irritation.
- During the work, especially with crops which reach a considerable height, pay attention to the possible presence of people and animals.
- Avoid going into corners with a high speed. Pay attention to problems of stability of the machine in raising the bar when operating on sloping ground.
- If parking support the cutter bar on the ground, turn off the engine, remove the key leaving the gear and pull the hand brake before going down.

Working Position

Figure 15

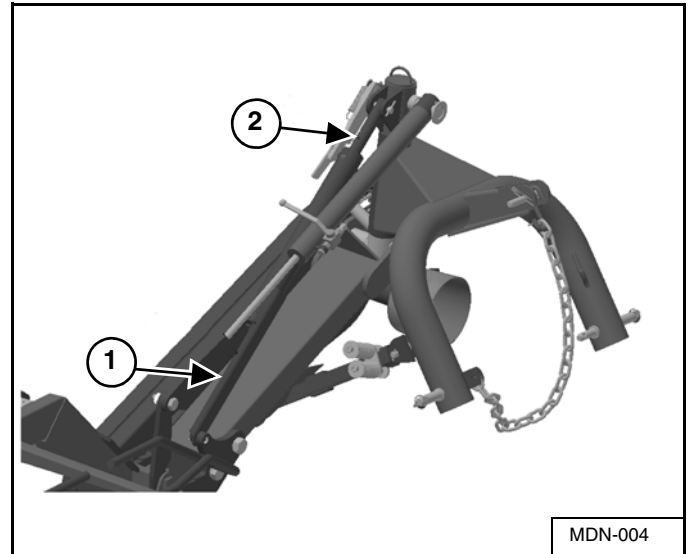


Lift the Disc Mower slightly off the ground, raise the support device of the shaft and fix it in the work position by means of the proper spring stop (Item 1). Unhitch the mowing bar lock, if engaged (Item 2) **[Figure 15]**.

Suspension Adjustment

NOTE: This feature enables the cutting blade to react in different ways according to the type of terrain.

Figure 16



Lift the Disc Mower slightly off the ground, raise the support device of the shaft and fix it in the work position by means of the proper spring stop (Item 1). Unhitch the mowing bar lock, if engaged (Item 2) **[Figure 16]**.

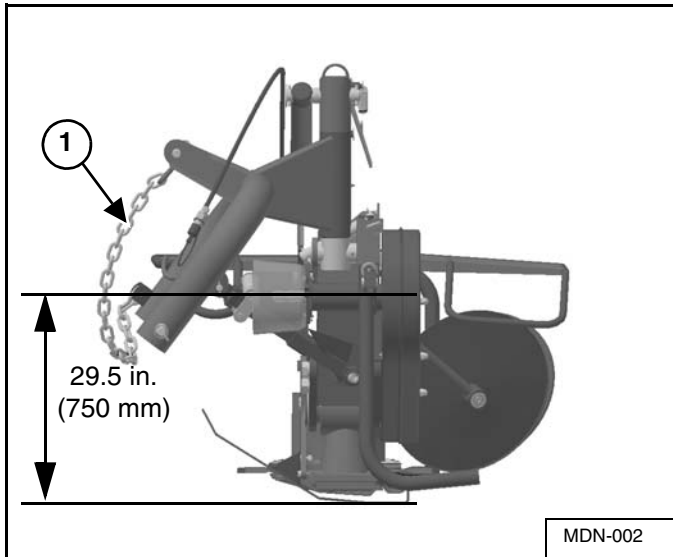
The suspension bar is provided with a spring fitted with an index. The index (Item 1) **[Figure 16]** showing the suspension adjustment position.

NOTE: The suspension should be set to the green position following the characteristics of the soil and speed.

Take out the block pin (Item 2) **[Figure 16]** before using the Disc Mower.

Height Adjustment

Figure 17



If the tractor is equipped with a limiting device of the hydraulic lifter with position indicator, adjust the low position of the towing-bars so that the power take off gudgeon on the transmission box is at 30 in. (750 mm) from the ground [Figure 17].

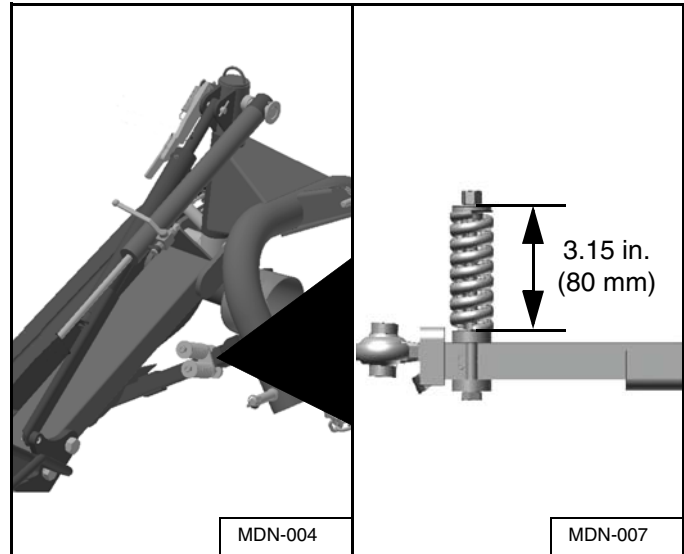
If the tractor is without a limiting device of the hydraulic lifter with position indicator, use the check chain supplied with:

- Lower the machine so that the power take off gudgeon on the transmission box is slightly over 30 in. (750 mm) from the ground [Figure 17].
- Hook the check-chain (Item 1) [Figure 17] with the hook supplied with to one of the holes of the hanger in the tractor third point.
- Lower the machine in the work position until (as in the previous case) the power take off gudgeon on c the transmission box is 750 mm from the ground [Figure 17].

Overload Safety Adjustment

NOTE: This safety device has been designed to permit the bar to snap back 45° whenever an obstacle is encountered.

Figure 18



If the tractor is equipped with a limiting device of the hydraulic lifter with position indicator, adjust the low position of the towing-bars so that the power take off gudgeon on the transmission box is at 30 in. (750 mm) from the ground [Figure 18].

The compression of the spring must be 3.15 in. (80 mm) [Figure 18].

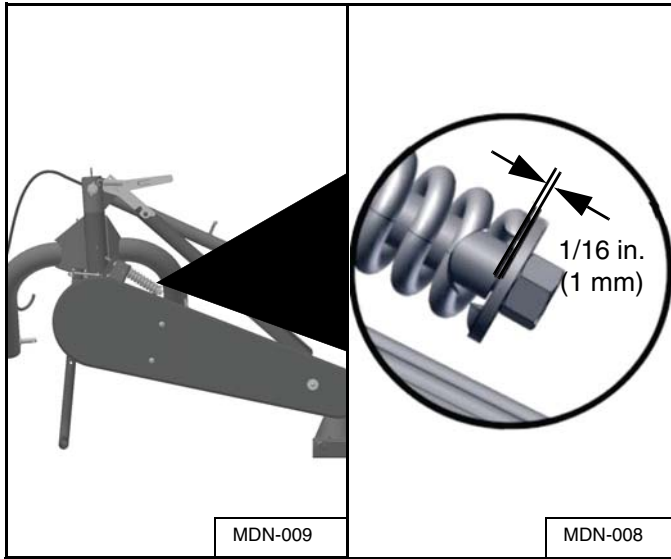
When the overload safety spring is activated, the operator must disconnect the Disc Mower's power takeoff and immediately stop the tractor. Backup slightly in order to make the safety device retract back into its normal position.

NOTE: Always keep this safety device in good condition by adjusting the pre-loading of the spring only when absolutely necessary. This system has been adjusted to a standard setting by the Manufacturer.

V-Belt Adjustment

NOTE: The tightness of the v-belts must be checked frequently, especially when new.

Figure 19



Rotate the nut until there is a 1/16 in. (1 mm) **[Figure 19]**.

TRANSPORTING

Requirements

Comply with federal, state, local and provincial laws regarding the transport of farm equipment on public roadways.



AVOID SERIOUS INJURY OR DEATH

Use of an unapproved hitch or tractor / tow vehicle can result in loss of control, leading to serious injury or death.

Tractor / tow vehicle and hitch must have the rated capacity to tow equipment.



AVOID SERIOUS INJURY OR DEATH

Excess weight will greatly increase tractor stopping distance and may cause the operator to lose control of the tractor or tow vehicle.



AVOID SERIOUS INJURY OR DEATH

Before putting the cutting set in the transport position, wait for the complete stop of the Disc rotation and send away everyone from the movement zone of the cutting set.



Towing Vehicle / Tractor must have adequate braking capacity to safely control GVW trailing load. Do not tow over 20 mph (32 km/h). Towing Vehicle / Tractor unit should weigh approximately 67% of GVW.

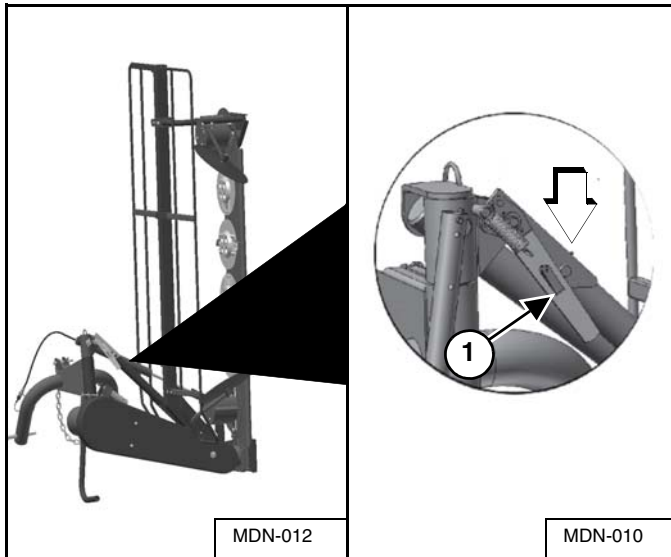
Verify that the tractor / tow vehicle is approved for transporting the equipment and that the equipment is securely attached to the tractor / tow vehicle.

Verify safety chain is installed and properly connected before transporting equipment.

Verify that the SMV (Slow Moving Vehicle) emblem, all lights and reflectors are clean and visible.

Transport Position

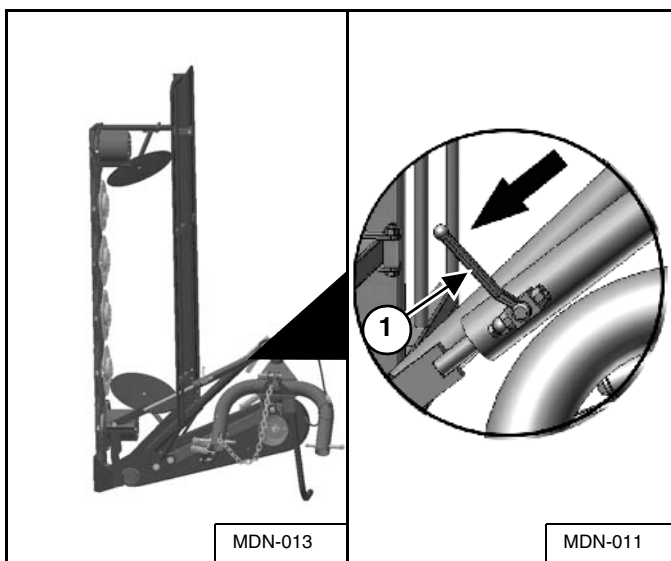
Figure 20



To put the Disc Mower in the transport position, do as follows:

- Pull the rope to release the latch (Item 1) **[Figure 20]**.
- Lift the machine with the hydraulic lift of the tractor.

Figure 21



- Close the valve (Item 1) **[Figure 21]** of the hydraulic cylinder to prevent the mower from breaking and falling.

General Transportation Precautions

The mower can alter the stability of the vehicle and cause difficulty in driving. For operate in safety condition must be remembered the formula for the verification of stability that is considered effective even at work.

It is essential to carefully observe at least the following basic safety rules:

- Before operation verify the tractor is in park and/or parking brake is set.
- During tractor/Disc Mower movement, use a second person in an area where limited visibility is available.
- Always look in the direction of travel.
- Pay attention to warning signs and comply with their instructions.
- Slow down at intersections.

Farm King



MAINTENANCE

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Farm King



TROUBLESHOOTING

Chart



Instructions are necessary before operating or servicing equipment. Read and understand the Operator’s and Parts Manual and safety signs (decals) on equipment. Follow warnings and instructions in the manuals when making repairs, adjustments or servicing. Check for correct function after adjustments, repairs or service. Untrained operators and failure to follow instructions can cause injury or death.

NOTE: If a problem is encountered that is difficult to solve, even after having read through this troubleshooting section, please call your local distributor, dealer or factory. Before you call, please have this Operator’s And Parts Manual and the serial number of your machine at hand.

PROBLEM	CAUSE	CORRECTION
The Disc Mower is not leveled sideways.	The spring placed above the arm is badly adjusted.	Adjust the setting of the spring.
The blade does not follow the ground at work	The suspension is too hard	Adjust the setting of the suspension.
Irregular cutting height	Blades worn or missing	Change or replace the blades.
	The rpm of the PTO are too low.	Make sure that the speed of the power takeoff is within range.
	Feed rate is too low (especially sensitive to the couplings dense)	Increase work speed.
Irregular cut.	Machine leans backwards.	Shorten the third point.
Traces of cutting on wet and heavy material	The rpm of the PTO are too low	Make sure that the PTO does not lose power. This happens especially on sloping land.
Traces of cutting on thin grass.	Insufficient inclination of blades.	Shorten the third point.
The grass is rejected by the ventilation of the knives before being cut	Thin grass.	Decrease the number of revolutions of the PTO and increase the feed rate.
	Blades worn or broken.	Change and replace the blades.
		Visually inspect the drivetrain.
Heating of the cutting bar.	Oil unsuitable.	Remove and replace with prescribed oil.
	Excess oil in the cutter bar.	Check the oil level and remove excess.

SERVICE SCHEDULE

Maintenance Intervals

Maintenance work must be done at regular intervals. Failure to do so will result in excessive wear and early failures. The service schedule is a guide for correct maintenance of the Disc Mower.



Instructions are necessary before operating or servicing equipment. Read and understand the Operator and Parts Manual and safety signs (decals) on equipment. Follow warnings and instructions in the manuals when making repairs, adjustments or servicing. Check for correct function after adjustments, repairs or service. Untrained operators and failure to follow instructions can cause injury or death.

#	DESCRIPTION	SERVICE PROCEDURES						
		Check	Clean	Lube	Change	Adjust	Drain	Locations
First 8 hours								
1	Make sure that all screws are completely tightened (especially those of the cutters)	•						
First 50 hours								
2	Oil in the cutting bar				•			
3	Oil in the gearbox.				•			
Every 8 hours								
4	Make sure that all screws are completely tightened (especially those of the cutters)	•						
5	Universal joint spider.			•				
6	Vertical crankshaft.			•				
7	Axis of the beam.			•				
8	Blades	•						
Every 20 hours								
9	Extension tubes of the universal joint spider.			•				
Every 40 hours								
10	Oil in the cutting bar.	•						
11	Oil in the gearbox.	•						
12	Forks of the universal joint spider.			•				
13	Input Drive Hanger Bearings			•				
14	Fork pin.			•				
15	Extension tubes of the universal joint spider.			•				

#	DESCRIPTION	SERVICE PROCEDURES						
		Check	Clean	Lube	Change	Adjust	Drain	Locations
After Each Season								
16	Oil in the cutting bar.				•			
17	Oil in the gearbox.				•			

CLEANING AND MAINTENANCE

General Instructions

The cleaning and maintenance of the machine includes cleaning and greasing of the mobile parts etc.

These operations must be carried out following the instructions of this manual and, when required, using personal protective equipment (gloves, shoes, etc.)

The operations that may be performed at the premises may be brought back to the routine maintenance operations foreseen by this manual.

The machine, during periods when it is not used, should be parked in a dry and protected area.

After a period of inactivity, perform maintenance. For any type of maintenance, put the mower on a flat and rigid surface; if you need to maintain the mower, remove it from the tractor.

Precautionary Measures To Be Adopted During The Cleaning And Maintenance Operations



AVOID INJURY OR DEATH

Do not clean, oil or grease by hand and elements of the Disc Mower while in motion. It is prohibited to perform any operation on the moving parts repair or adjustment.

In case you need to operate with the machine in an elevated position, the locking devices shall be provided to prevent unintentional lowering.

Keep hands, feet, hair and clothing away from moving parts.

Keep the working area free from obstructions, clean and dry.

Always use chains, straps and lifting devices that are in good condition and of adequate size to lift the Disc Mower components. The manual load lifting and handling may not be higher than 30 Kg for each operator.

Fluid such as engine oil, hydraulic fluid, coolants, grease, etc. must be disposed of in an environmentally safe manner. Some regulations require that certain spills and leaks on the ground must be cleaned in a specific manner. See local, state and federal regulations for the correct disposal.

Keep shields and guards in place. Replace if damaged.

Check The Cutting Blades



AVOID INJURY OR DEATH

We recommend the use of glasses and appropriate clothing. Always make sure that the correct locking tools used, respecting the instructions for use. In case of replacement, be careful if are right or left. **Not mow in a rocky or stony field.**

Check the cutting blades systematically before using the Disc Mower.

To get a quality mowing and a use security, check the cutting blades carefully and systematically. Replace the cutting blades in the following cases:

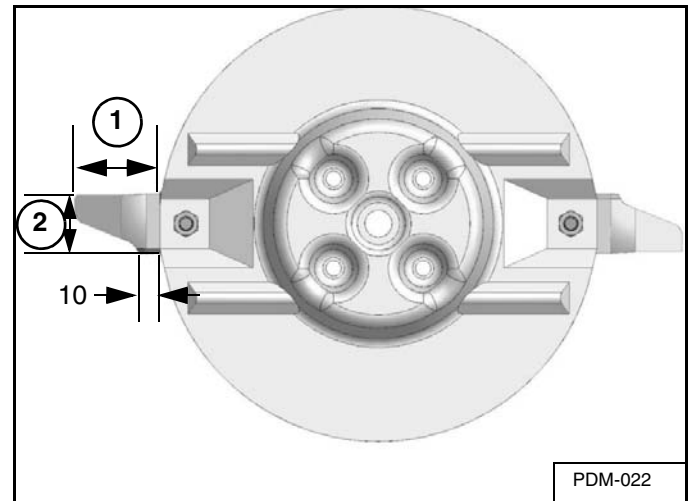
1. Damaged cutting blades.

Because of an uneven ground the cutting blades can have clefts or deformations, which cause:

- an increase of accident risks,
- a reduction in mowing quality,
- possible failure of the Disc holder.

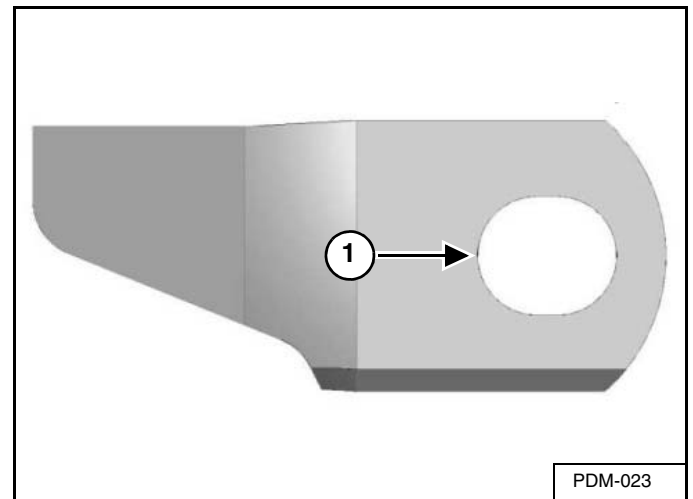
2. Knives worn

Figure 22



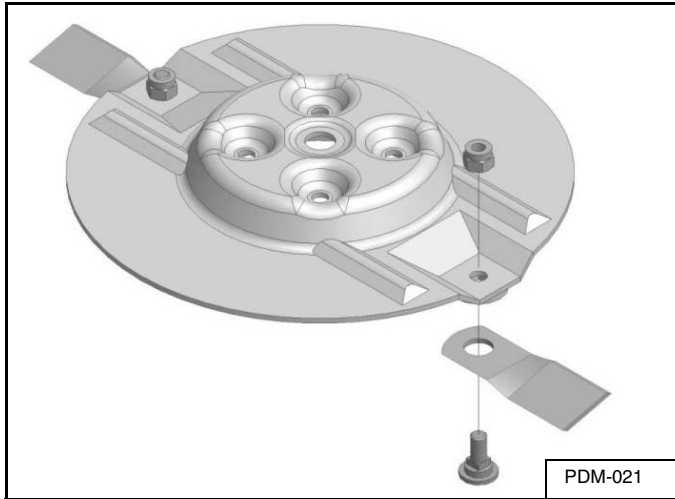
The length (Item 1) of a cutting blade should not be less than 70 mm. The width (Item 2) [Figure 22] of a cutting blade, measured at 10 mm from the Disc, should be more than 35 mm.

Figure 23



The pitch (Item 1) [Figure 23] of the fixing screw should not be ovalized more than 23 mm for a boring of 21 mm.

Figure 24

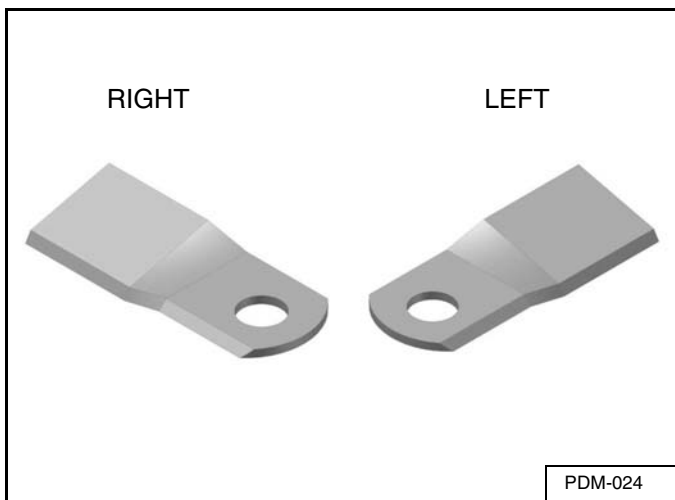


Worn-out, damaged, or deformed cutting blades must be immediately replaced with original blades **[Figure 24]** only.

NOTE: Farm King cannot guarantee mowing machines that use any other type of cutting blades.

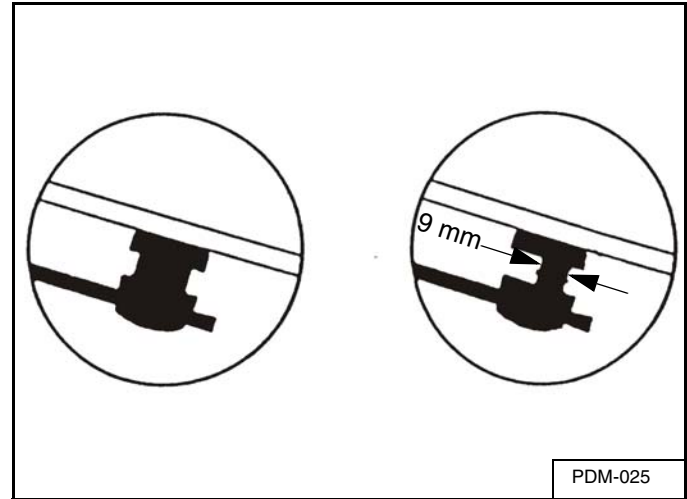
Make sure that the new cutting blades are all of the same length.

Figure 25



Cutting blades are either of “right” or “left” type **[Figure 25]**. Pay attention to the Disc rotation direction during installation.

Figure 26

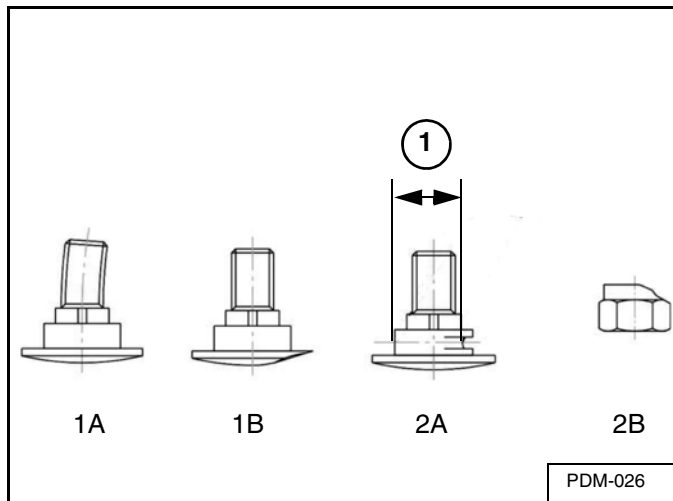


3. Check of the cutting blade fixing set **[Figure 26]**.

Check them regularly. (torque should be 51.6 ft-lb (70 Nm)) Check immediately after knocking an obstacle and check when you have to replace the cutting blades. To avoid unbalances, always replace two new Farm King cutting blades on each Disc.

In order to replace worn-out or damaged cutting blades, the lock nuts on the top of the cutting Discs must be unscrewed before the old blade can be replaced with a new one. Make sure that the cutting side is installed facing downwards.

Figure 27



1) The fixing screws **[Figure 27]** have to be replaced:

When you see a clear deformation;

When the head-wear reaches the bearing circumference of the cutting blades;

When the diameter (Item 1) **[Figure 27]** of the screw body is less than 18 mm.

2) The nuts have to be replaced:

When the self-locking part of the nut is worn or inefficient (2B) **[Figure 27]**.

The Hydraulic System

The hydraulic system works at high pressure. Pay attention to connect the flexible hoses correctly to the hydraulic cylinder.

When connecting the flexible hoses to the tractor's hydraulic system, make sure that neither the tractor's nor the mowing machine's hydraulic circuits are under pressure.

During all connections between the tractor and the machine, clearly mark the couplings and power takeoffs in order to avoid all possibility of error, bearing in mind that an inversion of the two a.m. connections leads to a corresponding inversion in the functions (RISK OF ACCIDENT).

Regularly check the hydraulic hoses and replace when worn-out or damaged.

Be carefully when checking the hydraulic hoses because pressurized fluid (hydraulic oil) might spurt out and cause serious burns.

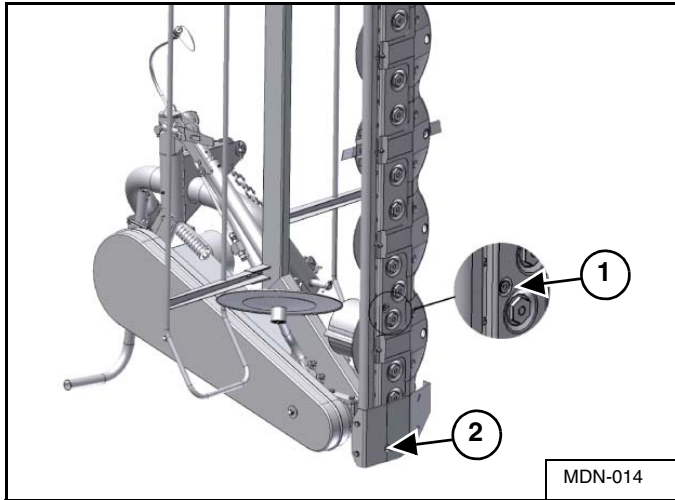
Prior to working on the hydraulic system, lower the mowing machine, de-pressurize the circuit, and switch off the motor.

Lubrication

Gearbox

Check periodically the oil level in the gearbox.

Figure 28



Check the oil periodically, that of the gearbox:

With the mower in an upright position, unscrew the cap (Item 1) [Figure 28] and check the oil level. If necessary, add oil until it comes out of the hole.

The check must be done with cold oil temperature.

- Oil type SAE 90 EP

After the first 50 work hours, it is required to change the oil.

After the first oil change it should be changed every 200 hours, or at least before each season.

NOTE: Replace the washer at every oil change or oil control.

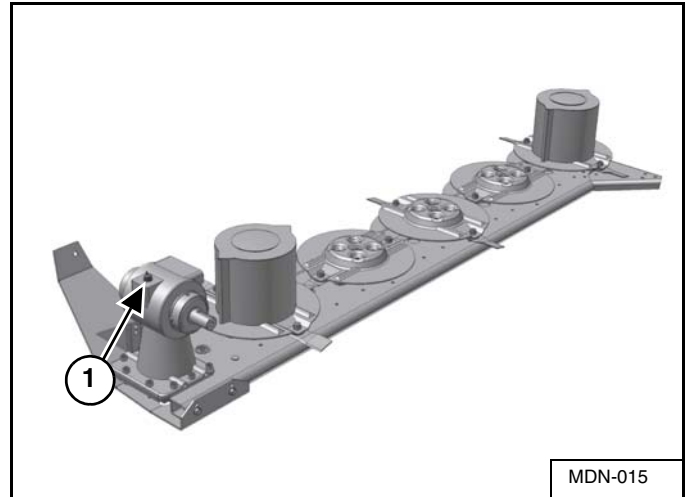
Oil drain: drain the oil through the hole (Item 2) [Figure 28] under the cutter bar.

NOTE: Temperatures of 60° are normal.

NOTE: Each time you open the plug, change the washer.

LUBRICATION OF THE CUTTER BAR				
	MDN 4	MDN 5	MDN 6	MDN 7
Oil Quantity	1.90 qt. 1.8 l	2.43 qt. 2.3 l	2.96 l 2.8 l	3.8 l 3.6 l

Figure 29



Check the level of the oil by unscrewing the cap (Item 1) [Figure 29].

The filling is carried out through the hole (Item 1) [Figure 29].

NOTE: 60° C is normal hot in working situation.

Checking intervals:

- After 50 working hours.
- Make a complete change every 200 working hours, or at least each season starting.

Type and quantity of oil: SAE 90 EP 0.70 qt (0.74 L)

General Lubrication

NOTE: The cardan shaft must be daily greased as provided in the booklet. All joints and all supporting points must be periodically lubricated.

Figure 30

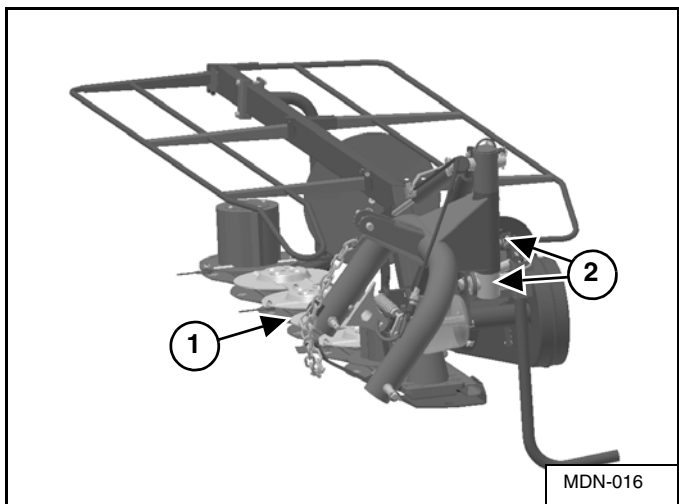
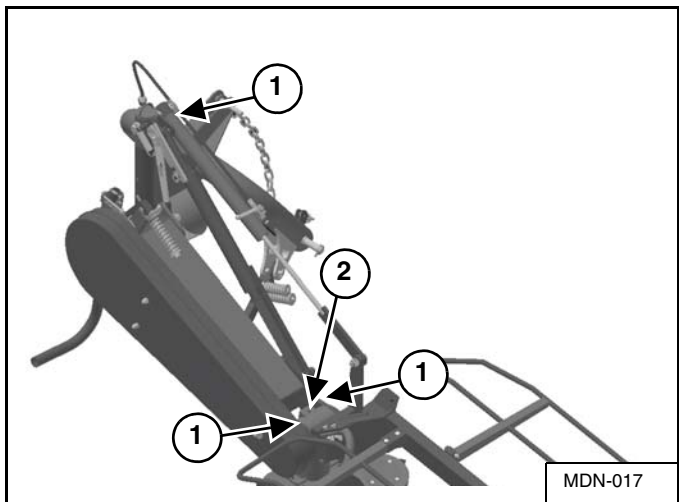


Figure 31



Apply grease (Item 1) and oil (Item 2) [Figure 30] and [Figure 31] to the areas noted.

STORAGE AND RETURN TO SERVICE**Storage**

Sometimes it may be necessary to store your Farm King Disc Mower for an extended period of time. Below is a list of items to perform before storage.

 **IMPORTANT**

DO NOT permit children to play on or around the stored machine.

- Thoroughly clean the equipment.
- Lubricate the equipment.
- Inspect the hitch and all welds on the equipment for wear and damage.
- Check for loose hardware, missing guards, or damaged parts.
- Check for damaged or missing safety signs (decals). Replace if necessary.
- Replace worn or damaged parts.
- Touch up all paint nicks and scratches to prevent rusting.
- Store the Disc Mower in a clean, dry, sheltered area.
- Place the equipment flat on the ground.

Return To Service

After the Farm King Disc Mower has been in storage, it is necessary to follow a list of items to return the equipment to service.

- Be sure all shields and guards are in place.
- Lubricate the equipment.
- Clean and inspect pusher chain for excessive wear or stiffness. Check for proper adjustment and alignment.
- Inspect and repack wheel bearings with a SAE multi purpose type grease.
- Check that tires are properly inflated.
- Connect to a tractor and operate equipment, verify all functions operate correctly.
- Check for leaks. Repair as needed.
- Review the Operator's Manual.

PARTS IDENTIFICATION

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Farm King

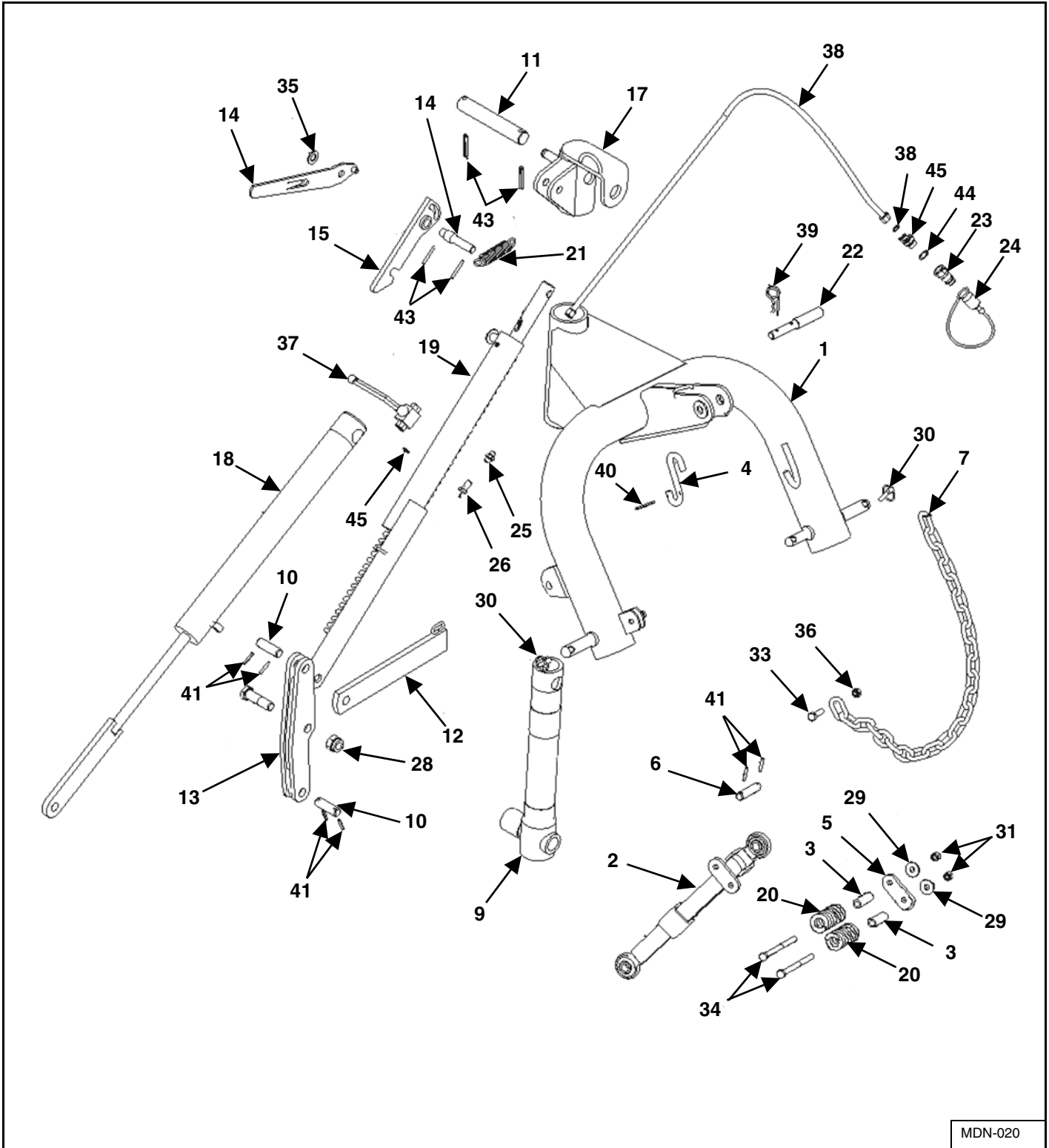


GENERAL INFORMATION

The parts identification section lists descriptions, part numbers and quantities for the Disc Mower. Contact your Farm King dealer for additional Disc Mower parts information.



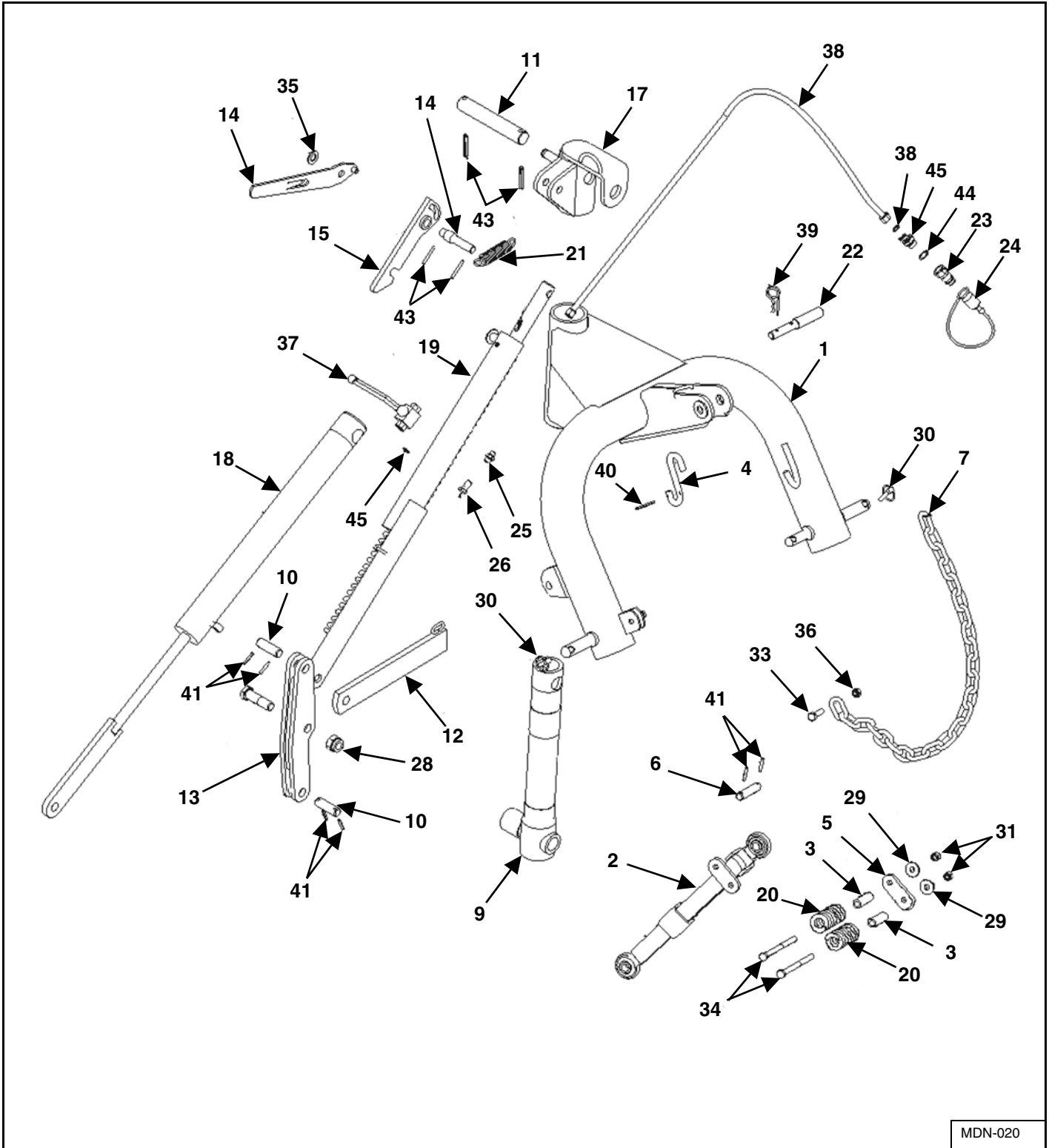
THREE POINT HITCH



MDN-020

ITEM	PART NUMBER	DESCRIPTION	MDN 4 QTY	MDN 5 QTY	MDN 6 QTY	MDN 7 QTY
1	10001046	THREE POINT HITCH	1	1	1	1
2	10001145	EMERGENCY RELEASE	2	2	2	2
3	10013020	SPRING SPACER	1	1	1	1
4	110010030	KIT CRICKET + HOOK	1	1	1	1
5	110020010	CHECK PLATE	1	1	1	1
6	110020028	BACK ANCHOR PIN	1	1	1	1
7	113003950	CHAIN RINGS 10	1	1	1	1
8	113004250	SCREW M22X76 LOWERED HEAD	1	1	1	1
9	123000550	RUDDER VERTICAL AXIS	1	1	1	1
10	123000950	ELASTIC PIN LEVER LIFT	2	2	2	2
11	123001150	UPPER WRIST PIN	1	1	1	1
12	123001350	COMMAND BAR	1	1	1	1
13	123001550	BAR RECOVERY LEVER BUILT-UP	1	1	1	1
14	123001850	SHOCK ABSORBER UPPER WRIST PIN	1	1	1	1
15	123002050	SHOCK ABSORBER BLOCKING HOOK	1	1	1	1
16	123002150	CONTROL LEVER BUILT-UP	1	1	1	1
17	123002250	CAP OF RUDDER VERTICAL AXIS	1	1	1	1
18	123003602	BAR RAISING JACK	1	1	1	1
19	133000100	SHOCK-ABSORBER MDN 6 / 7	1	1	1	1
19	113000400	SHOCK-ABSORBER MDN 4 / 5	1	1	1	1
20	140020005	D45 SPRING THREAD 10 L=97	2	2	2	2

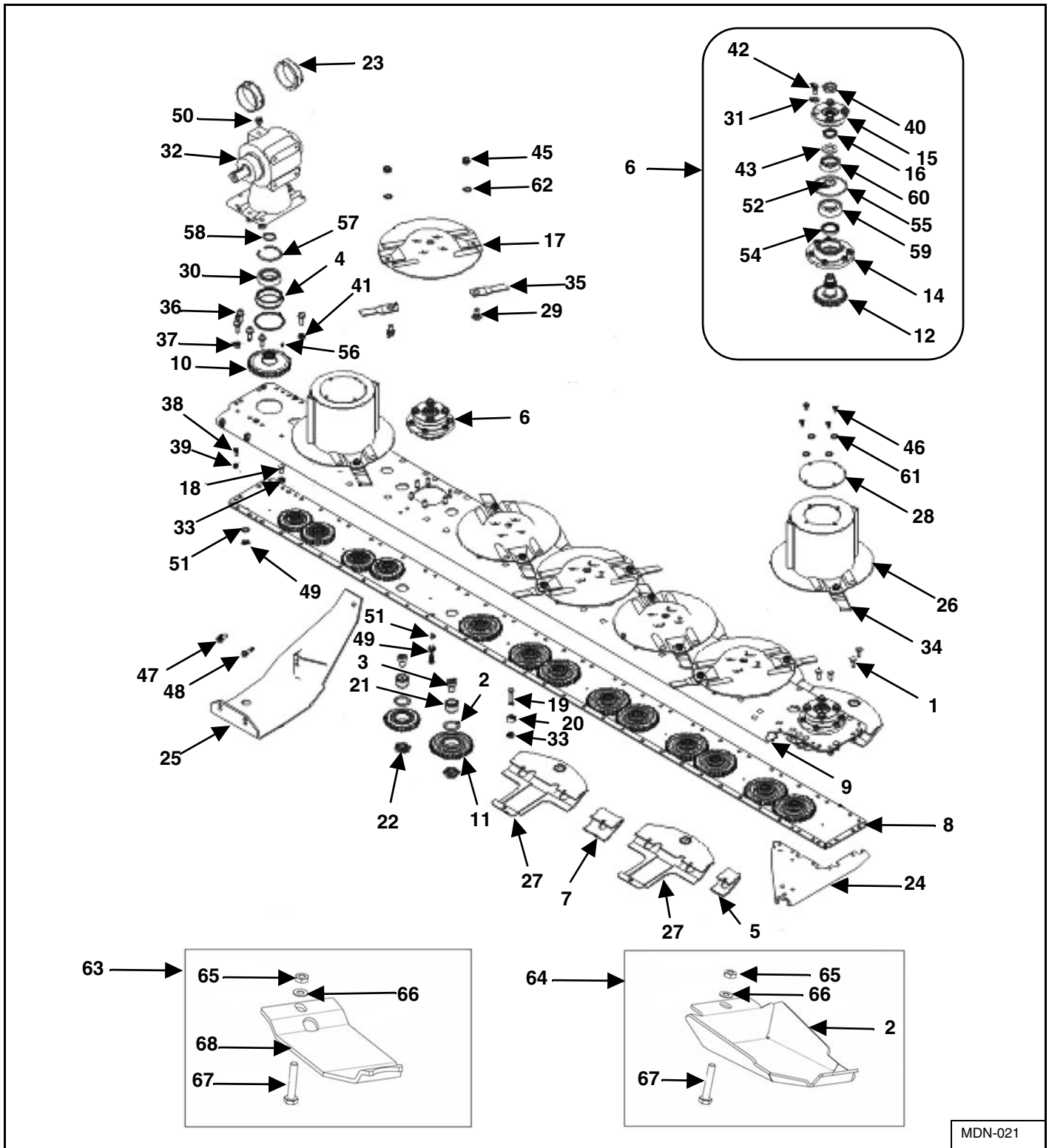
THREE POINT HITCH (CONT'D)



MDN-020

ITEM	PART NUMBER	DESCRIPTION	MDN 4 QTY	MDN 5 QTY	MDN 6 QTY	MDN 7 QTY
21	160072008	D28 SPRING THREAD 4 L=125	1	1	1	1
22	170010017	HINGE OF 3° POINT HITCH 1^ AND 2^ CAT	1	1	1	1
23	980100617	FAST JOINT 1/2"	1	1	1	1
24	980100618	JOINT COVER 1/2"	1	1	1	1
25	980100626	NIPLES M/M 1/4"	1	1	1	1
26	980100701	PIERCED SCREW 1/4 WITH HOLE 1,5	1	1	1	1
27	980100710	NIPLES M/M 1/2"-1/4"	1	1	1	1
28	980205425	SELFLOCKING NUT N. 6.8 PG 22 UNI7473	1	1	1	1
29	980205724	WASHER M12 UNI6593 ZB	2	2	2	2
30	980206005	CLICK EMERGENCY PIN Ø9	2	2	2	2
31	980206023	NUT ES UNI5587 M12 ZB	2	2	2	2
32	980206031	STRAIGHT GREASE CUP 8X1	2	2	2	2
33	980206099	SCREW TE UNI 5739 8.8 12X45 ZINC	1	1	1	1
34	980206216	SCREW TE UNI 5737 8.8 12X160 ZB	2	2	2	2
35	980206499	WASHER UNI6592 D 19X34X3 ZB	1	1	1	1
36	980206613	METALBLOC NUT M 12 ZB	1	1	1	1
37	980600397	CLOSING VALVE 1/4 G	1	1	1	1
38	981013440	HYDRAULIC PIPE 1/4" L=2000 FD/FD	1	1	1	1
39	981106002	R SPLIT PIN Ø3.5 UNI8833-B	1	1	1	1
40	981108022	ELASTIC PIN UNI8752 5X50 ZB	1	1	1	1
41	981108210	ELASTIC PIN UNI 6873 6X36 ZB	6	6	6	6
42	981108604	ELASTIC PIN UNI 6873 10X60 ZB	2	2	2	2
43	981108608	ELASTIC PIN UNI 6873 6X50 ZB	1	1	1	1
44	981600619	COPPER WASHER 1/2"	1	1	1	1
45	981600630	COPPER WASHER 1/4"	4	4	4	4

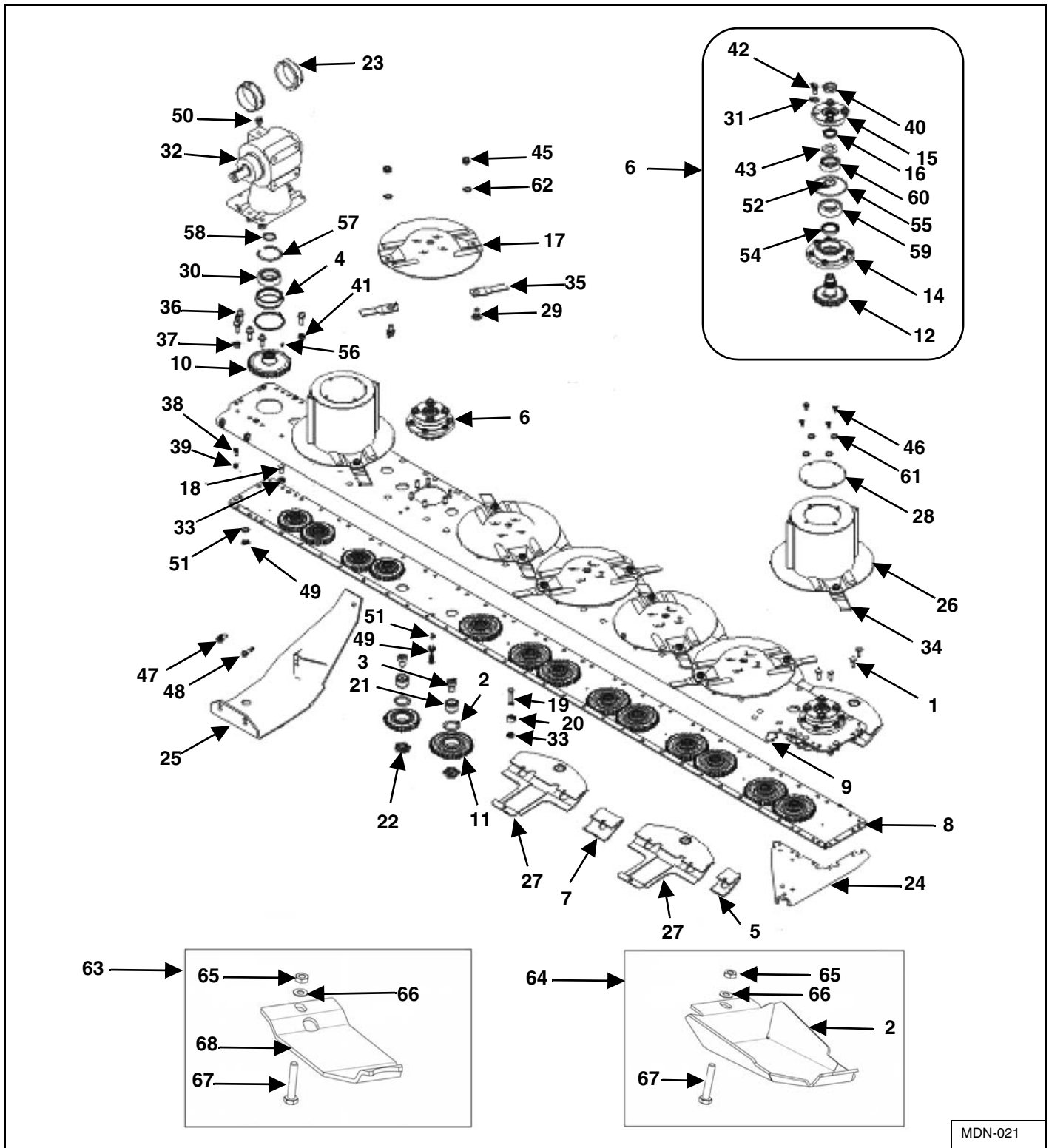
CUTTING GROUP



MDN-021

ITEM	PART NUMBER	DESCRIPTION	MDN 4 QTY	MDN 5 QTY	MDN 6 QTY	MDN 7 QTY
1	0404710100	SPECIAL SCREW M10X30	4	6	8	10
2	32021392	PLATE	4	5	6	7
3	0404710700	SCREW SOCKET HEAD M20X30 VE7986	8	11	12	15
4	0404710800	BUSHING OF MOTION ENTRY BEARING	1	1	1	1
5	10021021	CURVED NARROW SHOE	4	4	5	5
6	32022110	DISC SUPPORT	4	5	6	7
7	10021131	CURVED WIDE SHOE	*	1	*	1
8	10021210	GEAR TANK MDN 4	1	*	*	*
	10021220	GEAR TANK MDN 5	*	1	*	*
	10021230	GEAR TANK MDN 6	*	*	1	*
	10021240	GEAR TANK MDN 7	*	*	*	1
9	10021111	TANK COVER MDN 4	1	*	*	*
	10021121	TANK COVER MDN 5	*	1	*	*
	10021134	TANK COVER MDN 6	*	*	1	*
	10021141	TANK COVER MDN 7	*	*	*	1
10	113000050	GEAR Z=45	1	1	1	1
11	113000200	TOOTHED WHEEL Z=45	6	6	10	10
12	113000250	GEAR Z=34	4	5	6	7
13	113000300	TOOTHED WHEEL Z=36 GROUP	2	5	2	5
14	113000450	HUB	4	5	6	7
15	113000550	FLANGE	4	5	6	7
16	113000650	BUSHING SEAL	4	5	6	7
17	113000750	CUTTING DISC	2	3	4	5
18	113001050	SPECIAL SCREW M10X24	42	48	54	60
19	113001150	SPECIAL SCREW M10X54	4	5	6	7
20	113001250	BUSH RISE STONE-BUFFER	4	5	6	7
21	10021042	COUNTERWHEEL BEARING HINGE	8	11	12	15
22	113002050	SPECIAL NUT M20	8	11	12	15
23	113002750	JOINT BUSHING	2	2	2	2
24	113003050	COLUMN ANCHOR PLATE	1	1	1	1
25	10021474	BAR INNER SLIDE	1	1	1	1
26	133000250	LATERAL DRUM	2	2	2	2
27	10021000	STONE-BUFFER	4	5	6	7
28	32022015	DRUM CAP	2	2	2	2
29	505060	SCREW M12 FOR BLADES CONNECTION	8	10	12	14
30	80101184	BEARING 6208 C3	1	1	1	1

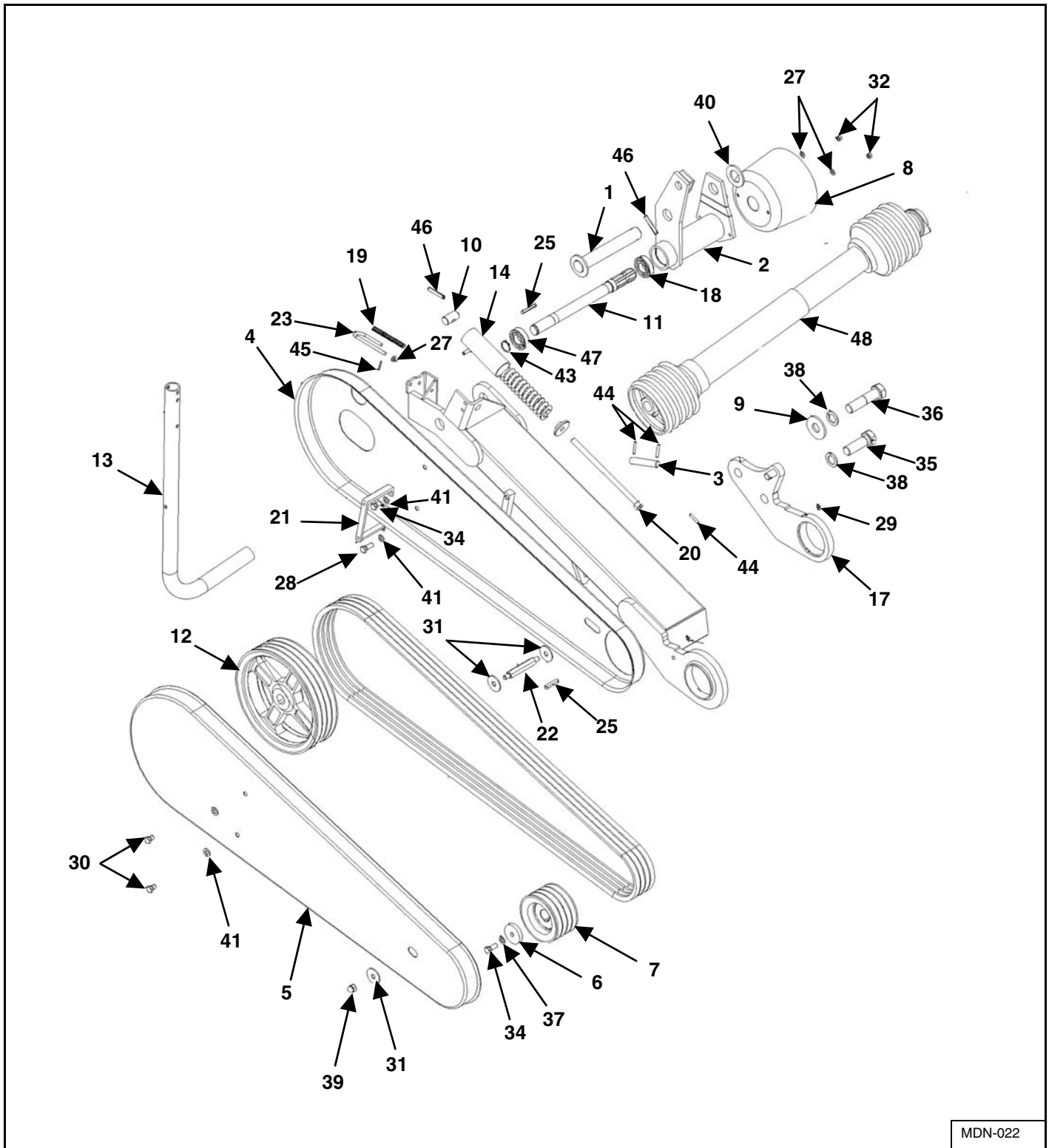
CUTTING GROUP (CONT'D)



MDN-021

ITEM	PART NUMBER	DESCRIPTION	MDN 4 QTY	MDN 5 QTY	MDN 6 QTY	MDN 7 QTY
31	85501187	CUP SPRING 25X12,2X1,5	16	20	24	28
32	914200500	TRANSMISSION BOX LF-142A	1	1	1	1
33	980200018	NUT ES M10 UNI5587	94	100	106	112
34	980204183	LEFT BLADE MEL 129	4	4	6	6
35	980204184	RIGHT BLADE MER 129	4	6	6	8
36	980205048	WASHER GROWER M12 RINF	8	8	8	8
37	980205095	HEX NUT UNI 5587 8.8 M12	5	5	5	5
38	980205572	SCREW TE UNI 5739 10.9 8X20	4	4	4	4
39	980205206	NUT UNI 5587 6.8 PG 8 HIGH	4	4	4	4
40	980205247	NUT ES UNI5589 M27X2	4	5	6	7
41	980205333	NUT ES UNI5588 M12	3	3	3	3
42	980205382	SCREW TE UNI 5739 10.9 P.G. 12X25 ZB	16	20	24	28
43	980205529	CUP SPRING D27.5X52X2.5	4	5	6	7
44	980205571	SCREW SOCKET HEAD UNI 5931 12.9 12X35	8	8	8	8
45	980205699	SELFLOCKING NUT ES M12 UNI7473	8	10	12	14
46	980206170	SCREW TE UNI 5739 8.8 8X16 ZB	8	8	8	8
47	980206245	WASHER M10 UNI6592 ZB	2	2	2	2
48	980206352	SCREW TE UNI 5739 8.8 10X30 ZINC	2	2	2	2
49	980206519	STOPPER TCE 2-3/8"C.S. HEXAGON SOCKET	2	2	2	2
50	980206524	OIL STOPPER 3/8" GAS	1	1	1	1
51	980600695	ALLUMINIUM WASHER 3/8"	2	2	2	2
52	980900079	O-RING 4131 D=32.92 Th=3.53	4	5	6	7
53	980900086	O-RING 4375	1	1	1	1
54	980900139	OIL SEAL DIN 3760 45X60X8 NB	4	5	6	7
55	980900691	O-RING 4437 DI=110.72 SP=3.53	4	5	6	7
56	981108024	ELASTIC PIN UNI 6873 10X10	2	2	2	2
57	981108100	STOPPER RING FOR HOLES UNI 7437 C70 80	1	1	1	1
58	981108179	OUTER RING UNI 7435 C70 40X2,5	1	1	1	1
59	981304154	BEARING 6307 2Z C3	4	5	6	7
60	981304161	BEARING 6207 2RS C3	4	5	6	7
61	980200144	WASHER UNI 6592 8X17X1,6 ZINC	8	8	8	8
62	980206704	WASHER UNI 6592 13X24X2,5 ZINC	8	10	12	14
63	32021397	KIT BOTTOM RENFORCE SUPPORT	4	5	6	7
64	32021005	KIT PLATE TO RISE	2	2	3	3
65	980206137	NUT M10 6.8 LOW UNI 5589 ZB	4	5	6	7
66	85501189	WASHER M10 UNI 6592 ZB	4	5	6	7
67	980206378	SCREW TE UNI5737 8.8 10X55 ZINC.	4	5	6	7
68	32021390	PLATE	4	5	6	7

CONNECTING FRAME

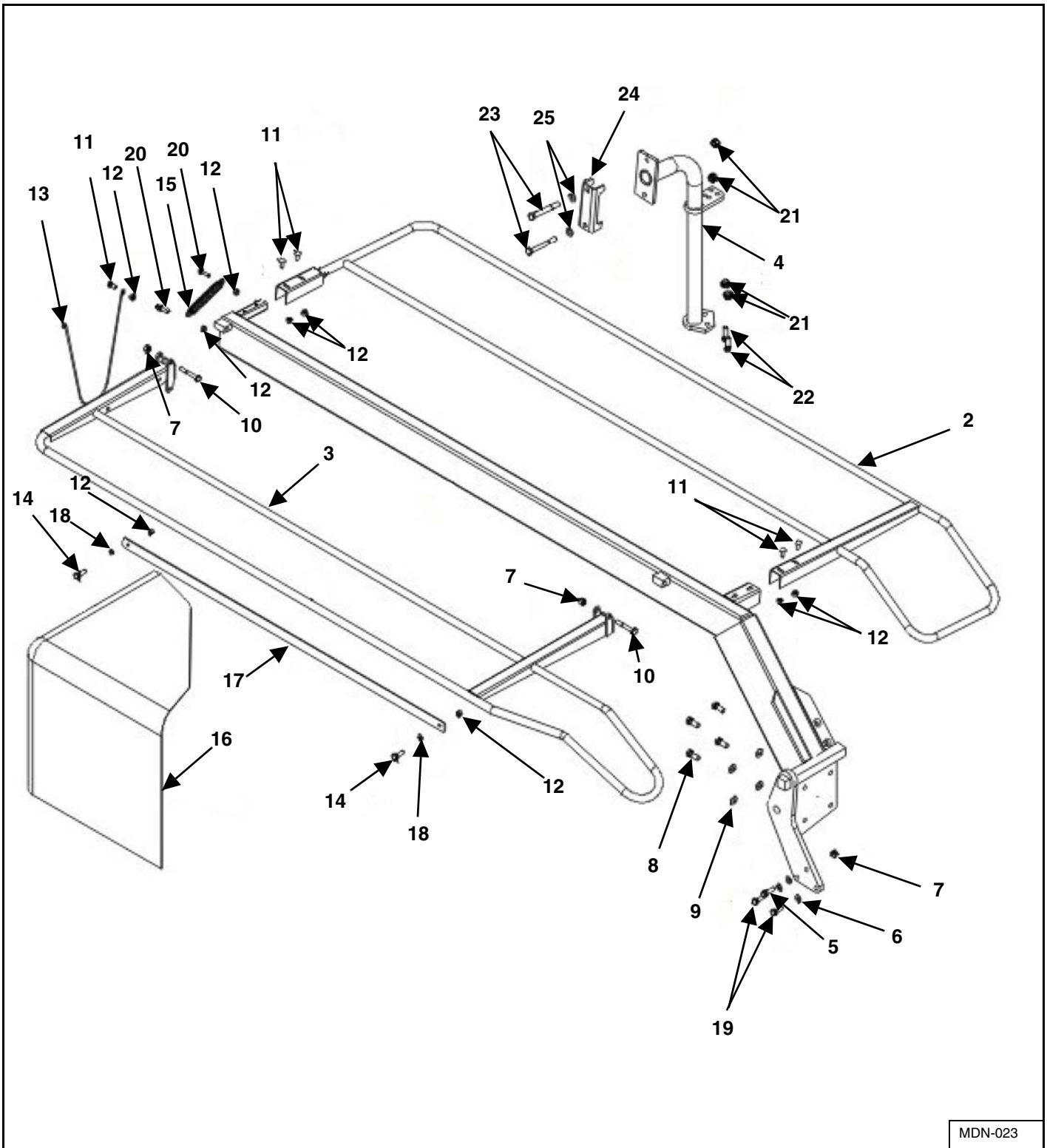


MDN-022

ITEM	PART NUMBER	DESCRIPTION	MDN 4 QTY	MDN 5 QTY	MDN 6 QTY	MDN 7 QTY
1	10013010	LOWER PIN	1	1	1	1
2	10031010	SPLINTER-BAR OF MOTION ENTRY SHAFT	1	1	1	1
3	110020028	BACK ANCHOR PIN	1	1	1	1
4	110020030	BELTS INNER PROTECTION	1	1	1	1
5	110020031	BELTS EXTERNAL PROTECTION	1	1	1	1
6	110030005	SUPPORTING PULLEY WASHER	1	1	1	1
7	113001350	PULLEY SPB 140 4 RACE	1	1	1	1
8	113004350	CARDAN JOINT PROTECTION CAP	1	1	1	1
9	113005350	WASHER 70-28-6	1	1	1	1
10	123000650	WHORL OF SPLINTER-BAR TIE ROD	1	1	1	1
11	123000750	POWER TAKE OFF SHAFT	1	1	1	1
12	123001450	PULLEY SPB 315 4 RACE	1	1	1	1
13	123002550	BAR SUPPORT LEG	1	1	1	1
14	123002650	SPRING SPACER	1	1	1	1
15	123002750	SUPPORT SPRING	1	1	1	1
16	123003050	BAR-HOLDER BEAM WELDED GROUP BUILT-UP	1	1	1	1
17	10021004	LOWER MOBILE ARMBUSH FOR CONTRAST ROW	1	1	1	1
18	981304017	BEARING 3206 2RS	1	1	1	1
19	123003550	SPRING D12,5 THREAD 1 L=120	1	1	1	1
20	123003750	TIE-BEAM	1	1	1	1
21	10041070	SUPPORT FOR THE CARTER	1	1	1	1
22	144002850	HEXAGON CARTER SUPPORT L=97	1	1	1	1
23	150020031	LEG BOLT	1	1	1	1
24	170020014	BELT TIGHTENER SPRING	1	1	1	1
25	980200030	KEY 6604 C 40 8X7X55	1	1	1	1
26	980200117	KEY 6604 C 40 10X8X50	1	1	1	1
27	980200144	WASHER UNI6592 D 8.4X17X1.6 ZB	3	3	3	3
28	980206064	SCREW TE UNI 5737 8.8 12X35 ZINC	1	1	1	1
29	980206031	STRAIGHT GREASE CUP 8X1	2	2	2	2
30	980206349	SCREW TE UNI 5739 8.8 12X16 ZINC	2	2	2	2

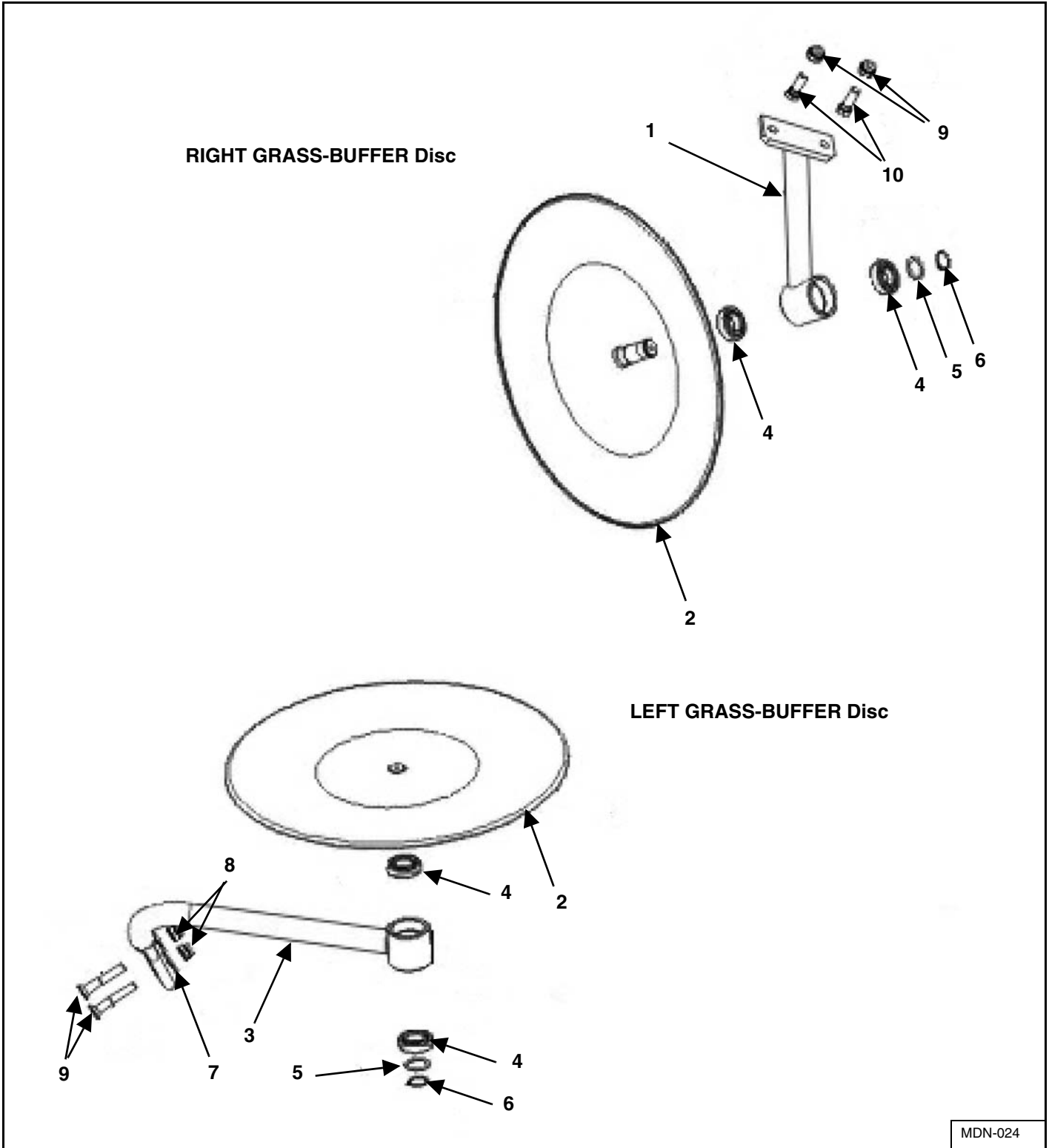
ITEM	PART NUMBER	DESCRIPTION	MDN 4 QTY	MDN 5 QTY	MDN 6 QTY	MDN 7 QTY
31	980206100	WASHER UNI6593 D 14X48X3 ZB	3	3	3	3
32	980206142	NUT METALBLOC M 8 ZB	2	2	2	2
33	980206437	SCREW TE UNI 5739 8.8 8X25 ZINC	2	2	2	2
34	980206441	SCREW TE UNI 5739 8.8 12X30 ZINC	2	2	2	2
35	980206447	SCREW TE UNI 5737 8.8 27X80 ZB	1	1	1	1
36	980206452	SCREW TE UNI 5737 8.8 27X110 ZB	1	1	1	1
37	980206552	WASHER GROWER M12 ZB	1	1	1	1
38	980206559	WASHER GROWER D 27 RINF. ZB	2	2	2	2
39	980206631	NUT UNI 5721 6.8 PG 12 ZB	1	1	1	1
40	980206698	WASHER UNI6592 D 37X66X5 ZB	1	1	1	1
41	980206704	WASHER UNI6592 D 13X24X2.5 ZB	4	4	4	4
42	980913660	BELT SBP 2840	4	4	4	4
43	981108032	OUTER RING UNI 7435 C70 30	1	1	1	1
44	981108210	ELASTIC PIN UNI 6873 6X36 ZB	3	3	3	3
45	981108211	ELASTIC PIN UNI 6873 3,5X26 ZB	1	1	1	1
46	981108604	ELASTIC PIN UNI 6873 10X60 ZINC	2	2	2	2
47	981304028	BEARING 6206 2RS	1	1	1	1
48	989931010	CARDAN 8C26034CE007002	1	1	1	1

PROTECTIONS SHIELDS



ITEM	PART NUMBER	DESCRIPTION	MDN 4 QTY	MDN 5 QTY	MDN 6 QTY	MDN 7 QTY
1	10011005	MAIN CHASSIS MDN 4	1			
	10011015	MAIN CHASSIS MDN 5		1		
	10011020	MAIN CHASSIS MDN 6			1	
	10011025	MAIN CHASSIS MDN 7				1
2	10043135	PROTECTIONS BACK CHASSIS MDN 4	1			
	10043125	PROTECTIONS BACK CHASSIS MDN 5		1		
	10043115	PROTECTIONS BACK CHASSIS MDN 6			1	
	10043105	PROTECTIONS BACK CHASSIS MDN 7				1
3	10043130	FRONT CHASSIS MDN 4	1			
	10043120	FRONT CHASSIS MDN 5		1		
	10043110	FRONT CHASSIS MDN 6			1	
	10043100	FRONT CHASSIS MDN 7				1
4	113005460	CHASSIS SUPPORT COLUMN	1	1	1	1
5	980206377	SCREW TE UNI 5739 8.8 10X35 ZB	1	1	1	1
6	980206245	WASHER M10 UNI6592 ZB	3	3	3	3
7	980205250	NUT METALBLOC M10 ZB	3	3	3	3
8	980305125	SCREW TE UNI 5739 10.9 12X30	4	4	4	4
9	85501187	CUP SPRING 25X12,2X1,5	4	4	4	4
10	980206200	SCREW TE UNI 5737 8.8 10X65 ZB	2	2	2	2
11	980206426	SCREW TE UNI 5739 8X20 ZINC	5	5	5	5
12	980206142	NUT METALBLOC M8 ZINC	9	9	9	9
13	981100300	FORK WITH D4 THREAD	1	1	1	1
14	980206220	SCREW TB C/FLANGE TORX 8X20 ZINC	2	2	2	2
15	150080005	TRACTION SPRING Ø21X152	1	1	1	1
16	/	PROTECTION BURLAP MDN 4	1			
	124000650	PROTECTION BURLAP MDN 5		1		
	134000650	PROTECTION BURLAP MDN 6			1	
	144002950	PROTECTION BURLAP MDN 7				1
17	113004450	LINE FOR BURLAP STRENGTHENING MDN 4	1			
	123003950	LINE FOR BURLAP STRENGTHENING MDN 5		1		
	133001450	LINE FOR BURLAP STRENGTHENING MDN 6			1	
	143000650	LINE FOR BURLAP STRENGTHENING MDN 7				1
18	980200144	WASHER UNI6592 D 8.4X17X1.6 ZB	2	2	2	2
19	980206352	SCREW TE UNI 5739 8.8 10X30 ZB	2	2	2	2
20	980206096	SCREW TE UNI 5739 8.8 8X30 ZB	2	2	2	2
21	980206613	NUT METALBLOC M12 ZINC	4	4	4	4
22	980206435	SCREW TE UNI 5739 8.8 12X35 ZB	2	2	2	2
23	980205551	SCREW TE UNI 5737 8.8 12X100 ZB	2	2	2	2
24	113005550	SUPPORT COLUMN ATTACK	1	1	1	1
25	980206704	WASHER UNI6592 D 13X24X2.5 ZB	2	2	2	2

GRASS-BUFFER DISC

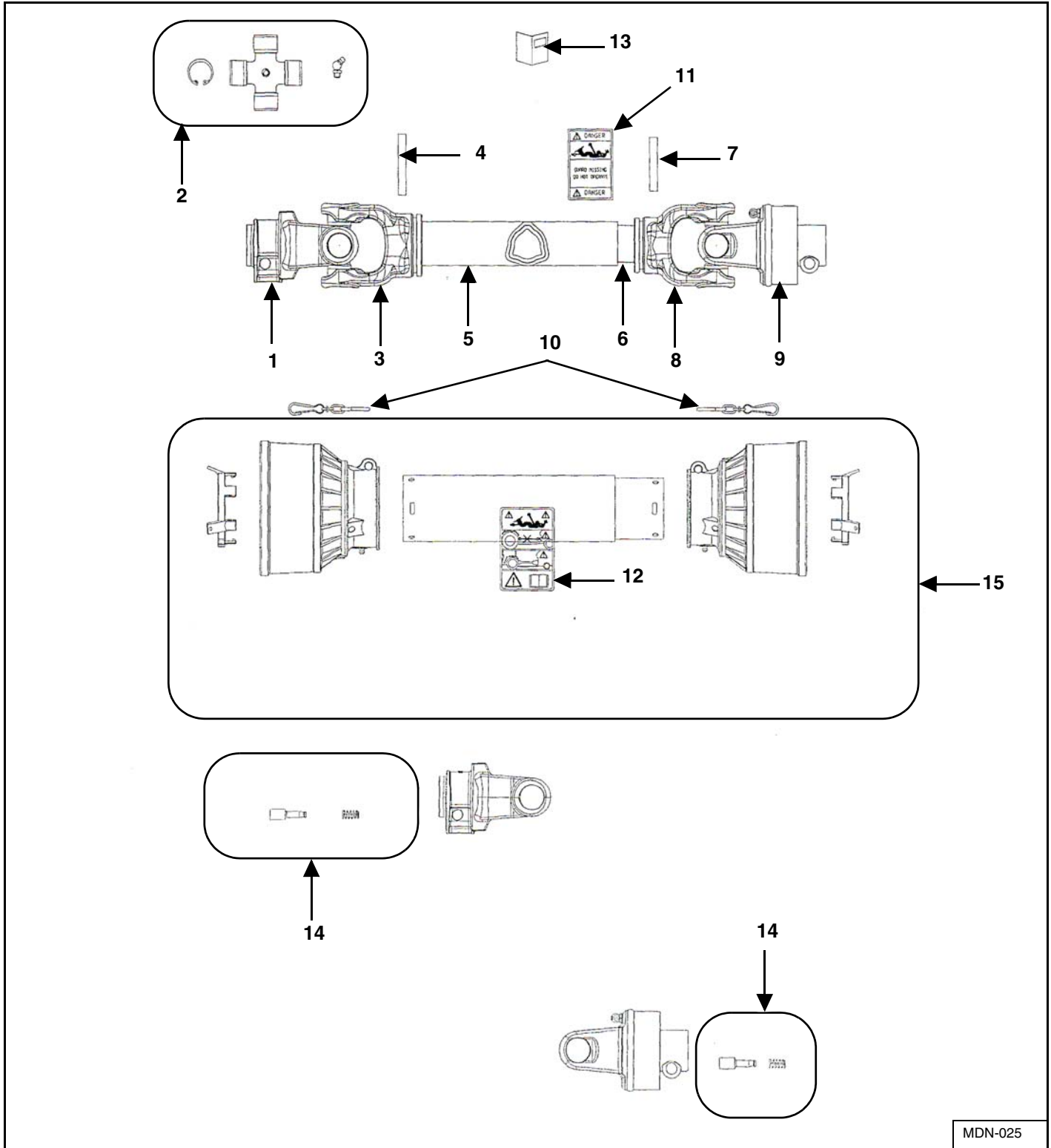


MDN-024

ITEM	PART NUMBER	DESCRIPTION	MDN 4 QTY	MDN 5 QTY	MDN 6 QTY	MDN 7 QTY
LEFT	10061010	COMPLETE LEFT GRASS-BUFFER DISC	*	*	*	*
RIGHT	10061040	COMPLETE RIGHT GRASS-BUFFER (EXTERNAL DISC)	*	*	*	*

ITEM	PART NUMBER	DESCRIPTION	MDN 4 QTY	MDN 5 QTY	MDN 6 QTY	MDN 7 QTY
1	10061042	OUTSIDE SUPPORT OF ROTARY GRASS-BUFFER	1	1	1	1
2	110080018	GRASS-BUFFER DISC BUILT-UP	2	2	2	2
3	133001050	INNER SUPPORT	1	1	1	1
4	981304603	BEARING 6005 2RS	4	4	4	4
5	980200041	RING DIN 988 25X35X1	2	2	2	2
6	981108046	EXTERNAL RING UNI 7435 C70 D 25	2	2	2	2
7	980206704	WASHER UNI 6592 D 13X24X2,5 ZB	2	2	2	2
8	980206613	NUT METALBLOC M12 ZB	4	4	4	4
9	980206041	SCREW TPSEI 5933 10.9 12X40 ZB	2	2	2	2
10	980206016	SCREW TE M12X40 8,8 UNI5739 ZB	2	2	2	2

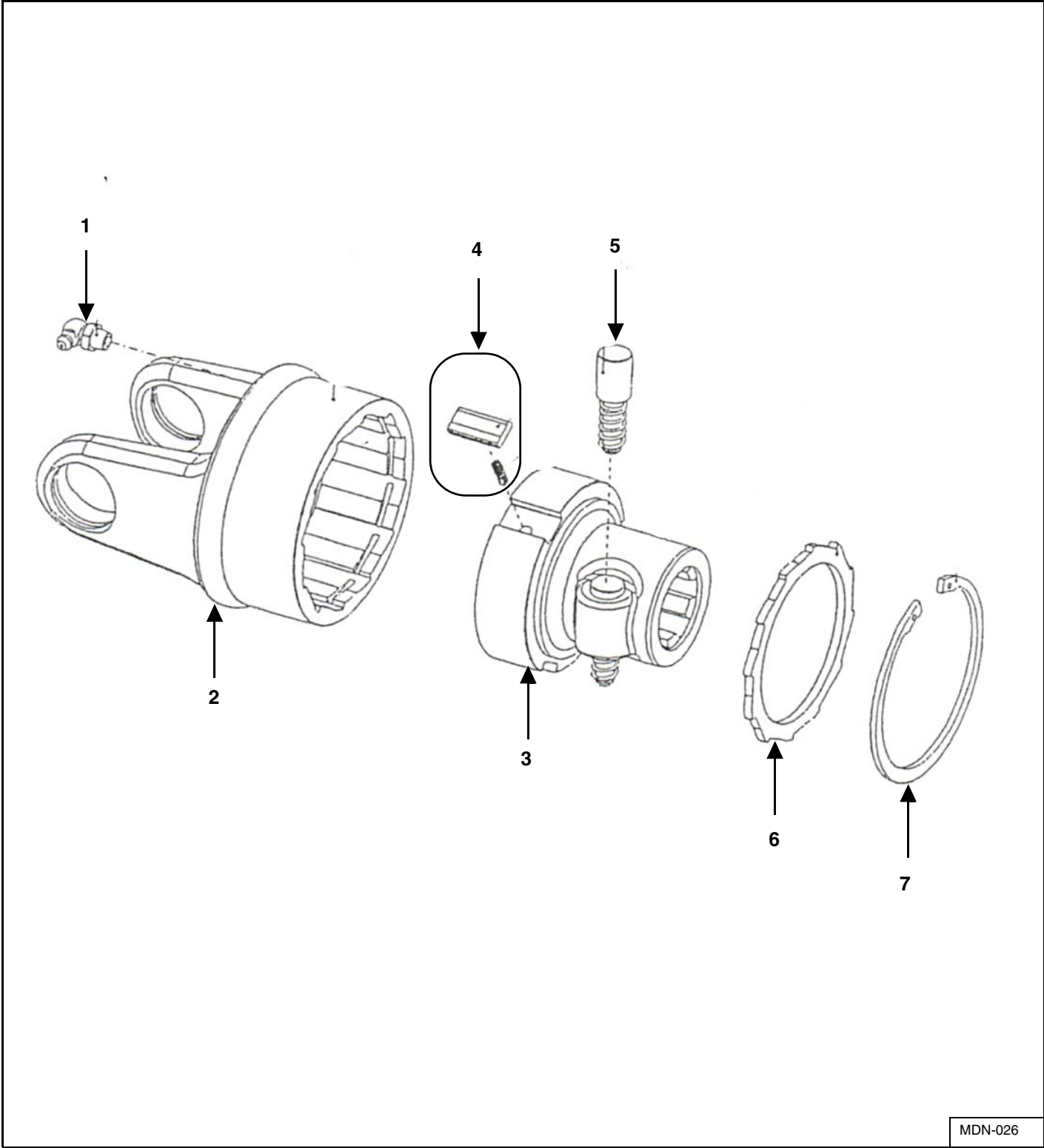
CARDAN SHAFT



MDN-025

ITEM	PART NUMBER	DESCRIPTION	MDN 4 QTY	MDN 5 QTY	MDN 6 QTY	MDN 7 QTY
1	5070H0355	FORK S7 1 3/8 Z6 CAST IRON	1	1	1	1
2	4120H0011R30	CRUISE 106 2 LAB. INGR. 45°	2	2	2	2
3	204066851	FORK 6 T. CARD. EXT. 606R	1	1	1	1
4	341042000R10	ELASTIC PIN 10X75 DIN 1481	1	1	1	1
5	225210445	T.C.E. 12512 L=445	1	1	1	1
6	270160450	T.C.I. 12509 L=450 TENIFER	1	1	1	1
7	341043000R10	ELASTIC PIN 10X65 DIN 1481	1	1	1	1
8	204066852	FORK 6 T. CARD. INT. 607R	1	1	1	1
9	601106704R	RA 1/6 DX 1 3/8 Z6 P.	1	1	1	1
10	252000050R02	COMPLETE CHAIN WITH MOUNTS L=60	2	2	2	2
11	399143000	STICKER USA X T. CARD. EXT. DANGER	1	1	1	1
12	399CEE051	WARNING STICKER CEE MINI 125X70	1	1	1	1
13	399CEE010	INSTRUCTION MANUAL CEE SERIES 100	1	1	1	1
14	403000001R10	BUTTON	2	2	2	2
15	5F06061FFCE	COMPLETE PROTECTION 106*061*F11 CE	1	1	1	1

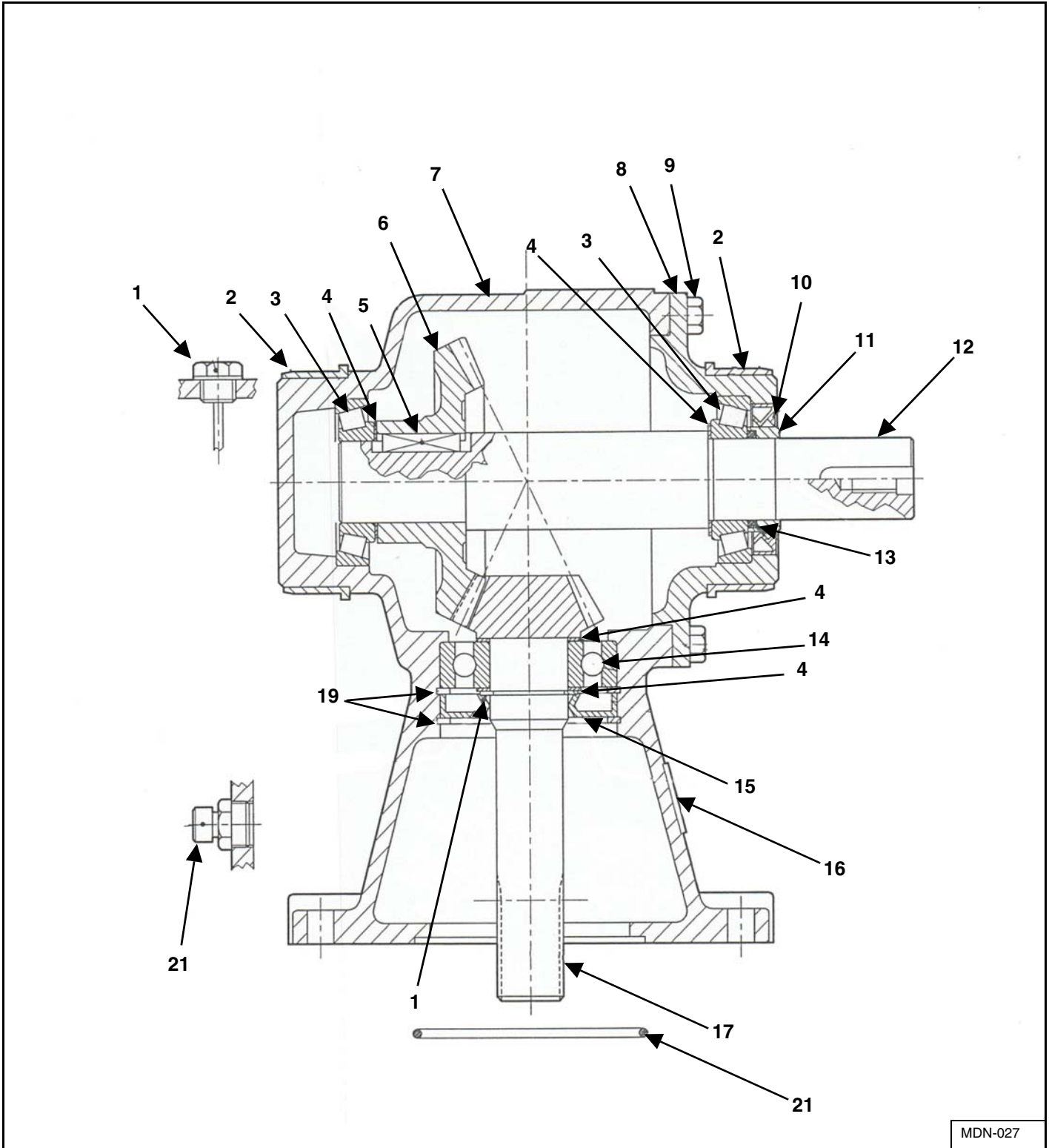
FREE WHEEL



MDN-026

ITEM	PART NUMBER	DESCRIPTION	MDN 4 QTY	MDN 5 QTY	MDN 6 QTY	MDN 7 QTY
1	348014000R20	GREASE NIPPLE 8X1.25X90 ART.36	1	1	1	1
2	418061201	EXTERNAL BODY RA1 WITH FORK D.106	1	1	1	1
3	5130C0301	HUB RA1DX 1 3/8 Z6 BUTTON, PLATE	1	1	1	1
4	4210C0001R03	OVERHEAD PLATES RA1	3	3	3	3
5	403000001R10	BUTTON	1	1	1	1
6	246000132R02	DISC CLOSURE X RA RIGHT	1	1	1	1
7	338005000R20	ELASTIC RING INT. 82X2,50 DIN 472/1	1	1	1	1

GEARBOX



MDN-027

ITEM	PART NUMBER	DESCRIPTION	MDN 4 QTY	MDN 5 QTY	MDN 6 QTY	MDN 7 QTY
1	0.142.7101.00	PLUG 3/8" GAS	1	1	1	1
2	113002750	BUSH	2	2	2	2
3	8.0.9.00026	BEARING 30207	2	2	2	2
4	0.259.7500.00	SHIM 35.3X48.0	4	4	4	4
5	8.4.1.01125	PARALLEL KEY B 10X8X35	1	1	1	1
6	0.142.5001.00	CROWN WHEEL Z33 M3.75	1	1	1	1
7	0.142.0301.00	CASING	1	1	1	1
8	0.142.1301.00	COVER	1	1	1	1
9	8.1.1.01540	BOLT M10X22 8.8 DCRT	8	8	8	8
10	8.7.1.00769	DOUBLE LIP SEAL 45X65X10	1	1	1	1
11	0.142.7100.00	BUSH	1	1	1	1
12	0.142.2001.00	SHAFT	1	1	1	1
13	8.7.6.00954	O-RING 39.83X34.59X2.62	1	1	1	1
14	8.0.1.00644	BEARING 6307	1	1	1	1
15	8.7.3.00081	OIL SEAL 35X80X10	1	1	1	1
16	0.259.7111.00	PLATE	1	1	1	1
17	0.142.6000.00	PINION SHAFT Z16 M3.75	1	1	1	1
18	8.5.1.00005	SNAP RING 35 UNI 7435	1	1	1	1
19	8.5.2.00030	SNAP RING 80 UNI 7437	2	2	2	2
20	8.7.6.01188	O-RING OR-4375	1	1	1	1
21	8.6.7.00161	OIL FILLER PLUG 3/8" GAS	1	1	1	1

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SPECIFICATIONS

Dimensions

MODEL	LENGTH	WIDTH	HEIGHT	WEIGHT
MDN 4	129.9 IN, 3300 MM	36.2 IN. 920 MM	46.5 IN. 1180 MM	683.4 LB. 310 KG
MDN 5	147.6 IN, 3750 MM	36.2 IN. 920 MM	46.5 IN. 1180 MM	749.6 LB. 340 KG
MDN 6	161.4 IN, 4100 MM	36.2 IN. 920 MM	46.5 IN. 1180 MM	815.7 LB. 370 KG
MDN 7	175.2 IN. 4450 MM	36.2 IN. 920 MM	46.5 IN. 1180 MM	970.0 LB. 440 KG

Performance

MODEL	CUTTING WIDTH	VERTICAL LIFT	NUMBER OF DISCS	NUMBER OF BLADES	PTO G/MAX	POWER HP
MDN 4	65.0 IN. 1.65 M	HYDRAULIC	4	8	540	36
MDN 5	82.7 IN. 2,10 M	HYDRAULIC	5	10	540	40
MDN 6	96.5 IN. 2.45 M	HYDRAULIC	6	12	540	45
MDN 7	112.20 IN. 2.85M	HYDRAULIC	7	14	540	50

HARDWARE TORQUE VALUES

Metric Chart

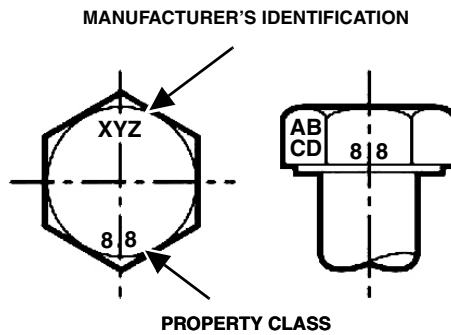
NOTE: Do not use the values listed in the charts if a different torque value or tightening procedure is specified in this manual for a specific application. Torque values listed are for general use only.

Use the following charts to determine the correct torque when checking, adjusting or replacing hardware. **Torque values are listed in newton-meters (inch* or foot pounds) for normal assembly applications.**

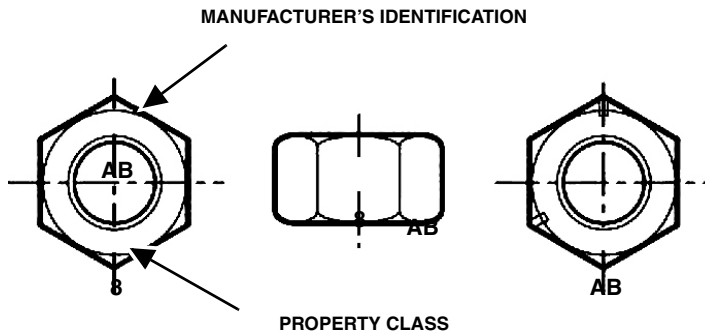
Nominal Size	Class 5.8		Class 8.8		Class 10.9		Lock nuts
	Unplated	Plated W / ZnCr	Unplated	Plated W / ZnCr	Unplated	Plated W / ZnCr	CL.8 w/ CL. 8.8 Bolt
M4	1.7 (15*)	2.2 (19*)	2.6 (23*)	3.4 (30*)	3.7 (33*)	4.8 (42*)	1.8 (16*)
M6	5.8 (51*)	7.6 (67*)	8.9 (79*)	12 (102*)	13 (115*)	17 (150*)	6.3 (56*)
M8	14 (124*)	18 (159*)	22 (195*)	28 (248*)	31 (274*)	40 (354*)	15 (133*)
M10	28 (21)	36 (27)	43 (32)	56 (41)	61 (45)	79 (58)	30 (22)
M12	49 (36)	63 (46)	75 (55)	97 (72)	107 (79)	138 (102)	53 (39)
M16	121 (89)	158 (117)	186 (137)	240 (177)	266 (196)	344 (254)	131 (97)
M20	237 (175)	307 (226)	375 (277)	485 (358)	519 (383)	671 (495)	265 (195)
M24	411 (303)	531 (392)	648 (478)	839 (619)	897 (662)	1160 (855)	458 (338)

NOTE: Torque values shown with * are inch pounds.

Identification of Hex Cap Screws and Carriage Bolts - Classes 5 and up



Identification of Hex Nuts and Lock Nuts - Classes 5 and up



HARDWARE TORQUE VALUES (CONT'D)

Imperial Chart

NOTE: Do not use the values listed in the charts if a different torque value or tightening procedure is specified in this manual for a specific application. Torque values listed are for general use only.

Use the following charts to determine the correct torque when checking, adjusting or replacing hardware. **Torque values are listed in newton-meters (inch* or foot pounds) for normal assembly applications.**

Nominal Size	SAE Grade 5		SAE Grade 8		LOCK NUTS			
	Unplated or Plated Silver	Plated W / ZnCr Gold	Unplated or Plated Silver	Plated W / ZnCr Gold	Unplated or Plated Silver	Plated W / ZnCr Gold	Grade W / Gr. 5 Bolt	Grade W / Gr. 8 Bolt
1/4	6.2 (55*)	8.1 (72*)	9.7 (86*)	12.6 (112*)	13.6 (121*)	17.7 (157*)	6.9 (61*)	9.8 (86*)
5/16	13 (115*)	17 (149*)	20 (178*)	26 (229*)	28 (250*)	37 (324*)	14 (125*)	20 (176*)
3/8	23 (17)	30 (22)	35 (26)	46 (34)	50 (37)	65 (48)	26 (19)	35 (26)
7/16	37 (27)	47 (35)	57 (42)	73 (54)	80 (59)	104 (77)	41 (30)	57 (42)
1/2	57 (42)	73 (54)	87 (64)	113 (83)	123 (91)	159 (117)	61 (45)	88 (64)
9/16	81 (60)	104 (77)	125 (92)	163 (120)	176 (130)	229 (169)	88 (65)	125 (92)
5/8	112 (83)	145 (107)	174 (128)	224 (165)	244 (180)	316 (233)	122 (90)	172 (127)
3/4	198 (146)	256 (189)	306 (226)	397 (293)	432 (319)	560 (413)	217 (160)	306 (226)
7/8	193 (142)	248 (183)	495 (365)	641 (473)	698 (515)	904 (667)	350 (258)	494 (364)
1	289 (213)	373 (275)	742 (547)	960 (708)	1048 (773)	1356 (1000)	523 (386)	739 (545)

NOTE: Torque values shown with * are inch pounds.

Identification of Hex Cap Screws and Carriage Bolts



SAE GRADE
2 BOLTS



SAE GRADE
5 BOLTS



SAE GRADE
8 BOLTS



SAE GRADE
2 NUTS

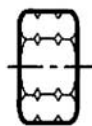


SAE GRADE
5 NUTS



SAE GRADE
8 NUTS

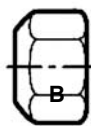
Identification of Hex Nuts and Lock Nuts



Grade A - No Notches

Grade B - One Circumferential Notch

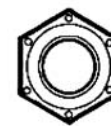
Grade C - Two Circumferential Notches



Grade A - No Mark

Grade B - Letter B

Grade C - Letter C



Grade A - No Marks

Grade B - Three Marks

Grade C - Six Marks

(Marks not always located at corners)

HYDRAULIC CONNECTION SPECIFICATIONS

O-Ring Fitting (Straight Thread)

Lubricate the O-ring before installing the fitting. Loosen the jam nut and install the fitting. Tighten the jam nut until the washer is tight against the surface.

O-ring Face Seal Connection

Figure 32

O-ring Face Seal Tightening Torque		
Tubeline O.D.	Thread Size	N•m (ft-lb)
1/4"	9/16" - 18	13 (18)
3/8"	11/16" - 16	22 (30)
1/2"	13/16" - 16	40 (54)
5/8"	1" - 14	60 (81)
3/4"	1-3/16" - 12	84 (114)
7/8"	1-3/16" - 12	98 (133)
1"	1-7/16" - 12	118 (160)
1-1/4"	1-11/16" - 12	154 (209)
1-1/2"	2" - 12	163 (221)

When the fitting is tightened, you can feel when the fitting is tight to eliminate leakage caused by under or over torqued fittings. Use petroleum jelly to hold the O-ring in position until the fittings are assembled.

Flare Fitting

Figure 33

Flare Fitting Tightening Torque		
Tubeline O.D.	Thread Size	N•m (ft-lb)
1/4"	7/16" - 20	13 (18)
5/16"	1/2" - 20	17 (23)
3/8"	9/16" - 18	22 (30)
1/2"	3/4" - 16	40 (54)
5/8"	7/8" - 14	60 (81)
3/4"	1-1/16" - 12	84 (114)
7/8"	1-3/16" - 12	98 (133)
1"	1-5/16" - 12	118 (160)
1-1/4"	1-5/8" - 12	154 (209)
1-1/2"	1-7/8" - 12	163 (221)
2"	2-1/2" - 12	252 (342)

Tighten until the nut makes contact with the seat. Use the chart [Figure 33] to find the correct tightness needed.

NOTE: If the fitting leaks, disconnect and inspect the seat area for damage.

Port Seal (O-ring Boss) Fitting

Figure 34

Port Seal And O-ring Boss Tightening Torque		
Tubeline O.D.	Thread Size	N•m (ft-lb)
1/4"	7/16" - 20	13 (18)
3/8"	9/16" - 18	22 (30)
1/2"	3/4" - 16	40 (54)
5/8"	7/8" - 14	60 (81)
3/4"	1-1/16" - 12	84 (114)
7/8"	1-3/16" - 12	98 (133)
1"	1-5/16" - 12	118 (160)
1-1/8"	1-7/16" - 12	154 (209)
1-1/4"	1-5/8" - 12	163 (221)

NOTE: Port seal and nut, washer and O-ring (O-ring Boss) fittings use the same tightening torque valve chart.

If a torque wrench cannot be used, use the following method.

Tighten the nut until it just makes metal to metal contact, you can feel the resistance.

Tighten the nut with a wrench no more than one hex flat maximum.

Do not over tighten the port seal fitting.

NOTE: If a torque wrench cannot be used, use the hex flat tightening method as an approximate guideline.

NOTE: Port seal fittings are not recommended in all applications. Use O-ring boss fittings in these applications.

Tubelines And Hoses

Replace any tubelines that are bent or flattened. They will restrict flow, which will slow hydraulic action and cause heat.

Replace hoses which show signs of wear, damage or weather cracked rubber.

Always use two wrenches when loosening and tightening hose or tubeline fittings.

WARRANTY

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WARRANTY

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Limited Warranty

BASE LIMITED WARRANTY

Farm King provides this warranty only to original retail purchasers of its products. Farm King warrants to such purchasers that all Farm King manufactured parts and components used and serviced as provided for in the Operator's Manual shall be free from defects in materials and workmanship for a period following delivery to the original retail purchaser of one (1) year. This limited warranty applies only to those parts and components manufactured by Farm King. Parts and components manufactured by others are subject to their manufacturer's warranties, if any.

Farm King will fulfill this limited warranty by, at its option, repairing or replacing any covered part that is defective or is the result of improper workmanship, provided that the part is returned to Farm King within thirty (30) days of the date that such defect or improper workmanship is, or should have been, discovered. Parts must be returned through the selling representative and the buyer must prepay transportation charges.

Farm King will not be responsible for repairs or replacements that are necessitated, in whole or part, by the use of parts not manufactured by or obtained from Farm King. Under no circumstances are component parts warranted against normal wear and tear. There is no warranty on product pump seals, product pump bearings, rubber product hoses, pressure gauges, or other components that require replacement as part of normal maintenance.

REPAIR PARTS LIMITED WARRANTY

Farm King warrants genuine Farm King replacement parts purchased after the expiration of the Farm King Limited Warranty, and used and serviced as provided for in the Operator's Manual, to be free from defects in materials or workmanship for a period of thirty (30) days from the invoice date for the parts. Farm King will fulfill this limited warranty by, at its option, repairing or replacing any covered part that is defective or is the result of improper workmanship, provided that the part is returned to Farm King within thirty (30) days of the date that such defect or improper workmanship is, or should have been, discovered. Such parts must be shipped to the Farm King factory at the purchaser's expense.

WHAT IS NOT COVERED

Under no circumstances does this limited warranty cover any components or parts that have been subject to the following: negligence; alteration or modification not approved by Farm King; misuse; improper storage; lack of reasonable and proper maintenance, service, or repair; normal wear; damage from failure to follow operating instructions; accident; and/or repairs that have been made with parts other than those manufactured, supplied, and / or authorized by Farm King.

AUTHORIZED DEALER AND LABOR COSTS

Repairs eligible for labor under this limited warranty must be made by Farm King or an authorized Farm King dealer. Farm King retains the exclusive discretion to determine whether it will pay labor costs for warranty repairs or replacements, and the amount of such costs that it will pay and the time in which the repairs will be made. If Farm King determines that it will pay labor costs for warranty work, it will do so by issuing a credit to the dealer's or distributor's account. Farm King will not approve or pay invoices sent for repairs that Farm King has not previously approved. Warranty service does not extend the original term of this limited warranty.

Farm King

Limited Warranty

WARRANTY REQUIREMENTS

To be covered by warranty, each new product must be registered with Farm King within thirty (30) days of delivery to original retail purchaser. If the customer decides to purchase replacement components before the warranty disposition of such components is determined, Farm King will bill the customer for such components and then credit the replacement invoice for those components later determined to be covered by this limited warranty. Any such replacement components that are determined not be covered by this limited warranty will be subject to the terms of the invoice and shall be paid for by the purchaser.

EXCLUSIVE EFFECT OF WARRANTY AND LIMITATION OF LIABILITY

TO THE EXTENT PERMITTED BY LAW, FARM KING DISCLAIMS ANY WARRANTIES, REPRESENTATIONS, OR PROMISES, EXPRESS OR IMPLIED, AS TO THE QUALITY, PERFORMANCE, OR FREEDOM FROM DEFECT OF THE COMPONENTS AND PARTS COVERED BY THIS WARRANTY AND NOT SPECIFICALLY PROVIDED FOR HEREIN.

TO THE EXTENT PERMITTED BY LAW, FARM KING DISCLAIMS ANY IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE ON ITS PRODUCTS COVERED HEREIN, AND DISCLAIMS ANY RELIANCE BY THE PURCHASER ON FARM KING'S SKILL OR JUDGMENT TO SELECT OR FURNISH GOODS FOR ANY PARTICULAR PURPOSE. THE PURCHASER'S ONLY AND EXCLUSIVE REMEDIES IN CONNECTION WITH THE BREACH OR PERFORMANCE OF ANY WARRANTY ON FARM KING'S PRODUCTS ARE THOSE SET FORTH HEREIN. IN NO EVENT SHALL FARM KING BE LIABLE FOR INCIDENTAL OR CONSEQUENTIAL DAMAGES (INCLUDING, BY WAY OF EXAMPLE ONLY AND NOT LIMITATION, LOSS OF CROPS, LOSS OF PROFITS OR REVENUE, OTHER COMMERCIAL LOSSES, INCONVENIENCE, OR COST OF REPLACEMENT OF RENTAL EQUIPMENT). IN NO EVENT SHALL FARM KING'S CONTRACT OR WARRANTY LIABILITY EXCEED THE PURCHASE PRICE OF THE PRODUCT. (Note that some states do not allow limitations on how long an implied warranty lasts or the exclusion or limitation of incidental or consequential damages, so the above limitations and exclusion may not apply to you.) This warranty gives you specific legal rights and you may also have other rights, which vary from state to state.

Farm King neither assumes nor authorizes any person or entity, including its selling representatives, to assume any other obligations or liability in connections with the sale of covered equipment, or to make any other warranties, representations, or promises, express or implied, as to the quality, performance, or freedom from defect of the components and parts covered herein. No one is authorized to alter, modify, or enlarge this limited warranty, or its exclusions, limitations and reservations.

Corrections of defects and improper workmanship in the manner, and for the applicable time periods, provided for herein shall constitute fulfillment of all responsibilities of Farm King to the purchaser, and Farm King shall not be liable in negligence, contract, or on any other basis with respect to the subject equipment.

This limited warranty is subject to any existing conditions of supply which may directly affect Farm King's ability to obtain materials or manufacturer replacement parts.

Buhler Industries Inc. reserves the right to make improvements in design or changes in specifications to its products at anytime, without incurring any obligation to owners of units previously sold.

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Farm King



www.farm-king.com

Farm King

301 Mountain Street South
Morden, Manitoba Canada R6M 1X7
Toll Free: 1-888-FK-80001
E-mail: info@buhler.com
www.farm-king.com

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