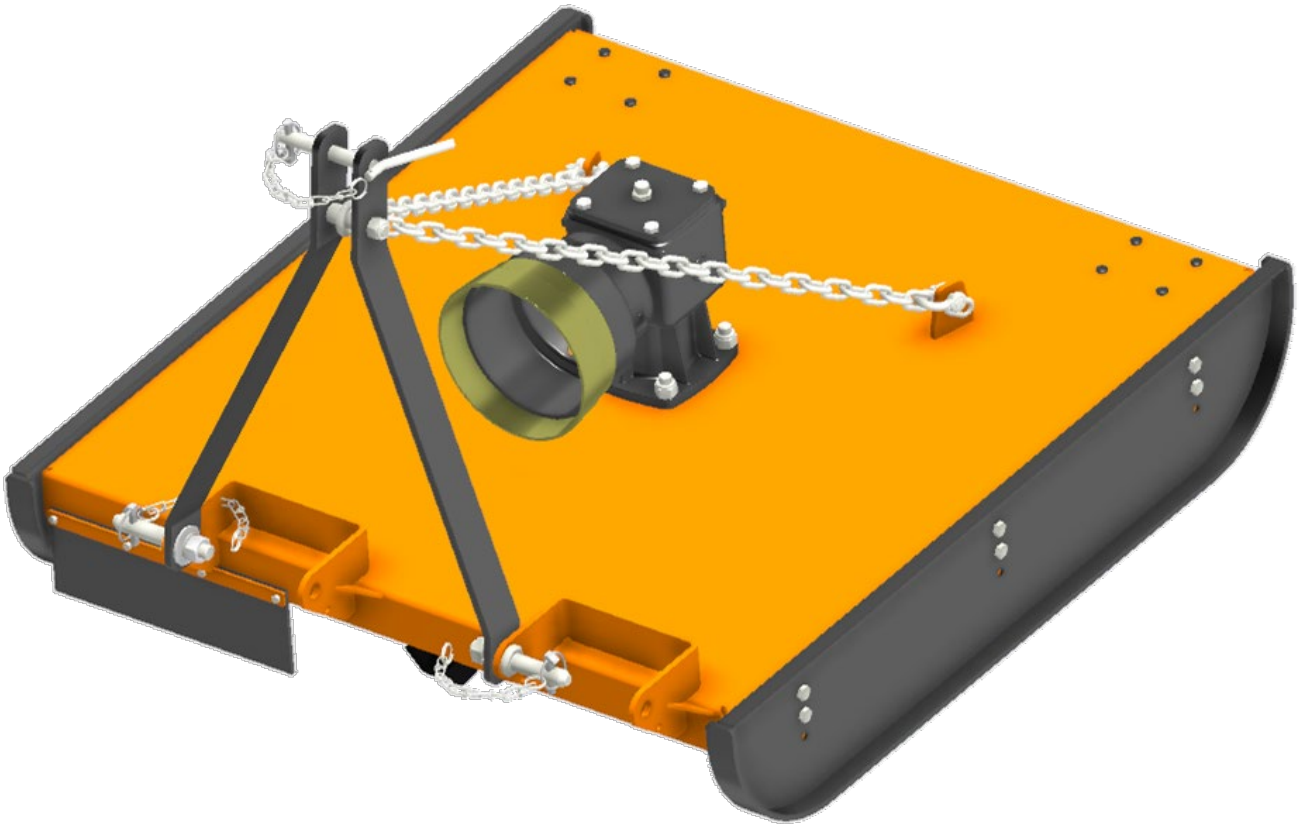
ROTARY SLASHER
SGA SERIES



OPERATOR'S & PARTS MANUAL

Grizzly®

Distributed by Direct Distributors Inc.

Congratulation for purchasing your new GRIZZLY® Rotary Slasher – SGA!

This Slasher has been designed and manufactured following all safety and quality requirements needed for a safe and satisfactory use over time.

A careful reading of this manual will permit you to familiarize with your new equipment, and will provide you all the tools needed to use it safely.

A proper maintenance and knowledge of the safety rules of use will allow obtaining the best performance and a long service life of the machine.

The Safety Alert Symbol used throughout this manual and on safety decals of the machine indicates the presence of potential hazard to the operator. When you see this symbol, be alert and carefully read the message that follows it.

The Safety Alert Symbol is used in conjunction with following Signal Words, according to the degree of possible injuries that may result operating the implement:

DANGER

Indicates an imminently hazardous situation that, if not avoided, will result in death or serious injury.

WARNING

Indicates a potentially hazardous situation that, if not avoided, could result in death or serious injury, 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 instructions or procedures that, if not observed, can cause damage to equipment or environment.

NOTE

Indicates helpful information.

READ, UNDERSTAND, and FOLLOW the safety messages following the Safety Alert Symbol and Signal Words. Failure to comply with safety messages could result in serious bodily injury or death.

TO THE PURCHASER

This manual contains valuable information about GRIZZLY® ROTARY SLASHER – SGA . It has been carefully prepared to give you helpful suggestions for operating, adjusting, servicing repair parts.

Keep this manual in a convenient place for quick and easy reference. Study it carefully. You have purchased a dependable and sturdy rotary slasher, but only by proper care and operation can you expect to get the service and long life designed and built into it.

RIGHT-HAND AND LEFT-HAND sides are determined by watching from the tractor side.

Sometime in the future your rotary slasher may need new parts to replace those are worn or broken. If so, go to nearest GRIZZLY® dealer and provide him the model and part number.

Customer information

Name _____

Purchased from _____

Purchased date _____

Model No. _____

Serial No. _____

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1. ABOUT THIS MANUAL

The operator must read the manual for a correct understanding of the hazards that may present when operating the slasher, as well as for obtain optimum performance from the machine.

The manual is part of the machine, it must be kept in good condition and remain with the machine even in case of resale, until its demolition. In case of loss or damage, request a new copy to the Manufacturer or your Dealer.

The information, descriptions and illustrations in this manual describe the state of the product at the time of its publication, and may not reflect the product in the future.

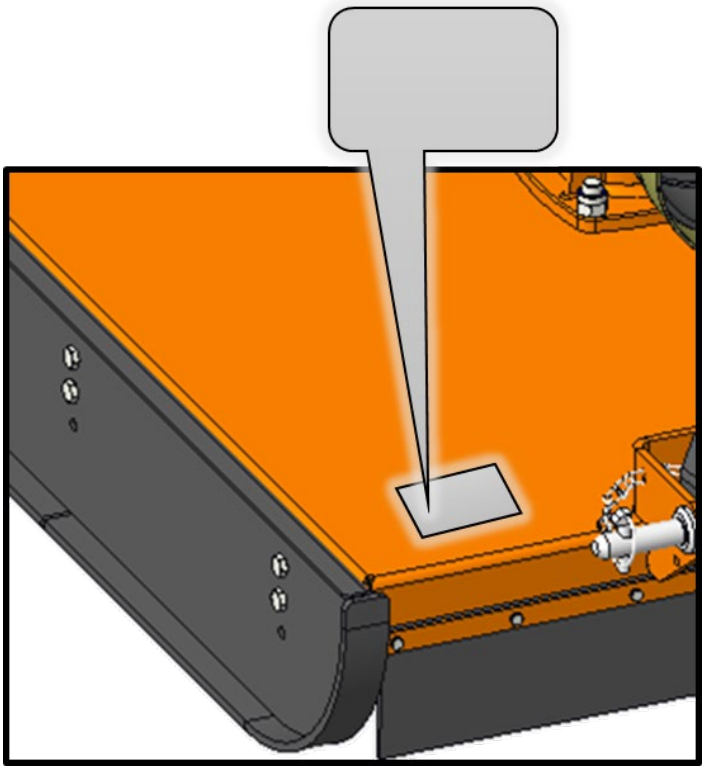
The Manufacturer reserve the right to make design improvements or changes in specifications without incurring in any obligation to install them on units previously sold.

2. INTRODUCTION

2.1. IDENTIFICATION

Each slasher is provided with a plate for unique identification (see picture below), showing the CE marking together with following information:

- Manufacturer name and address
- Product
- Model
- Chassis Serial Number
- Month & Year of manufacture
- Type
- Size/Working Width
- Weight
- Required Size of Prime mower



It's recommended to note down all data shown on the plate.

Any request for assistance or information regarding the machine must be directed to the Manufacturer or Dealer always referring to the model and serial number as shown on the plate affixed to the machine.

2.2. INTENDED USE

The Grizzly® Rotary Slasher is specially design for pasture topping, road verges and grass cutting. It can cut the grass according to the requirement as there is provision in the implement to adjust the cutting height. It is available in working width of 1.0 m, 1.20 m and 1.45 m.

The implement works with very high speed of 1350 / 1040 rpm. To prevent personal injury caused by thrown objects, front and rear safety guards are provided with implement.

Implement can be operated tractor (HP as per given in Technical Specification) having 540 rpm PTO with dual clutch. Machine can be attached to the tractor using three point linkage Systems. Input power supplied through PTO of the tractor using propeller shaft with universal joints.

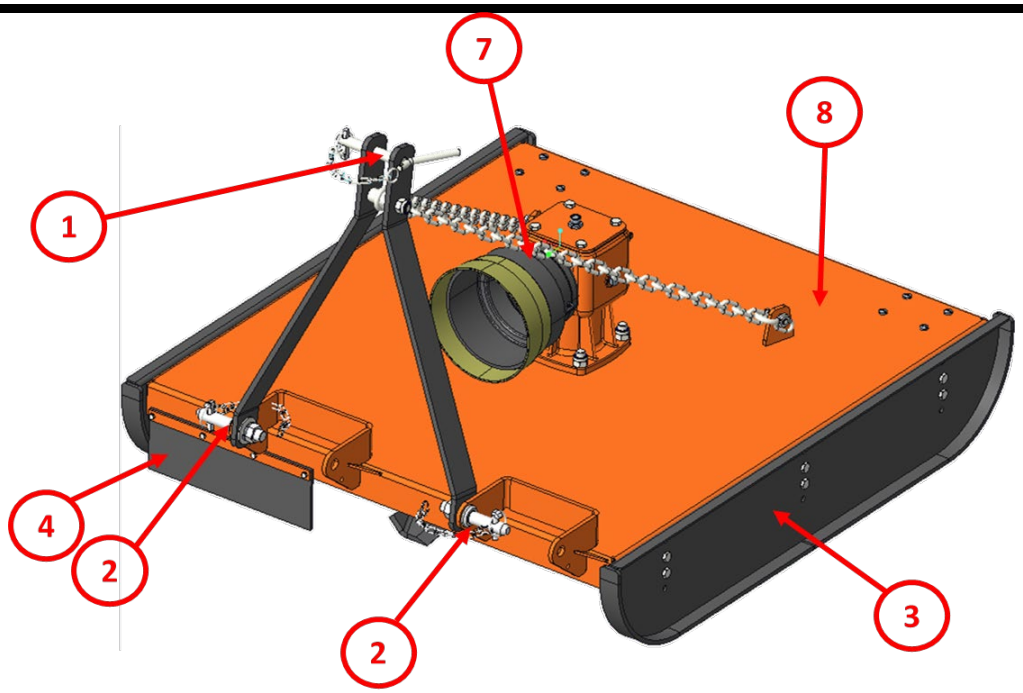
The tractors used to operate the SGA – series Slasher must have the following requirements:

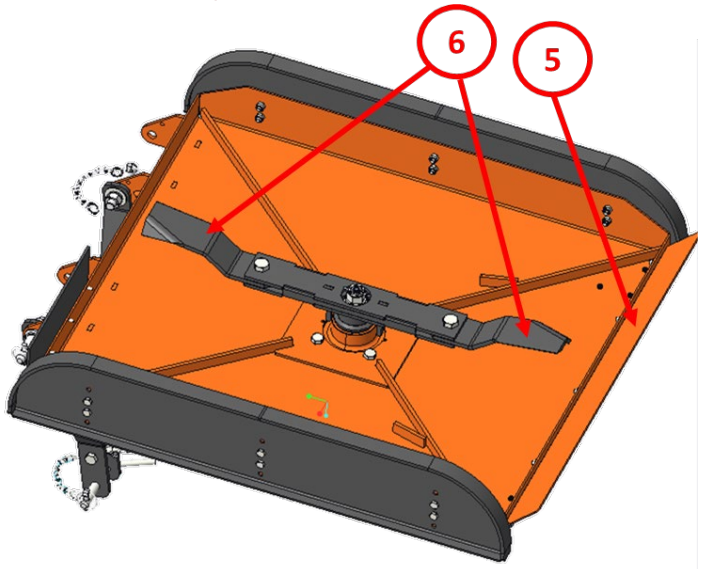
Hitch Category:	3-point Hitch, Category I
PTO:	540 RPM, 6 – SPLINE, $1^3/_8$ "Z6
Horsepower:	See in product technical specification.

DANGER

Any use of the machine other than the intended use is non-intended use, and is to be considered as unauthorized and dangerous. The manufacturer assumes no liability for damage resulting from non-intended use.

2.3. MAIN PARTS DESCRIPTION



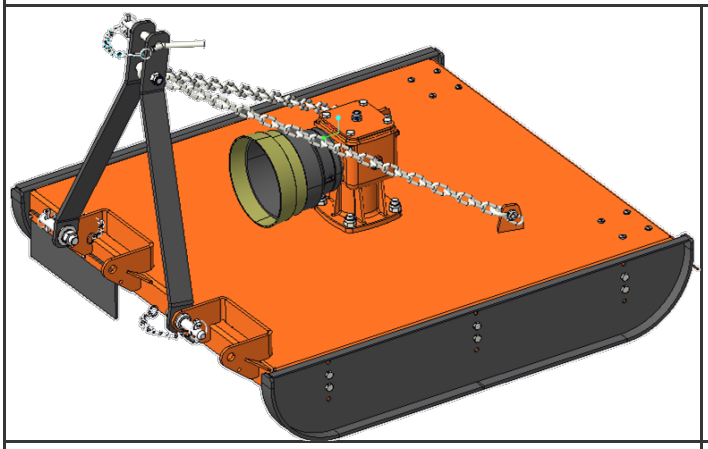
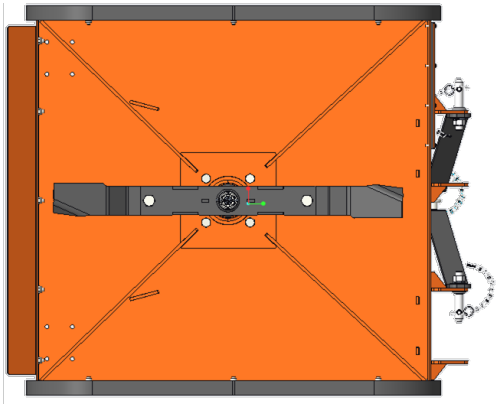
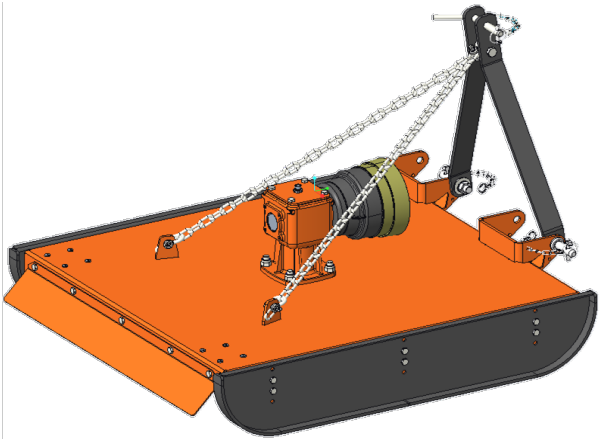


1. Top hitch Pin	5. Front Guard
2. Lower Hitch Pin	6. Blade
3. Depth Skid	7. PTO Shield
4. Rear Guard	8. Frame Weldment

NOTE
To make the illustrations more clear, some images of this manual may refer to machines lacking of Some components.

2.4. CONFIGURATIONS

The SGA Slasher can be set in different configurations.
The standard configuration can be changed applying one or more optional parts, listed below:

<table>
<tr><th colspan="2">STANDARD CONFIGURATION</th></tr>
<tr><td>  </td><td>  </td></tr>
<tr><td>• Left Skid Adjustment</td><td>• Blade attachment for cutting purpose</td></tr>
<tr><td colspan="2"></td></tr>
<tr><td>  </td><td></td></tr>
<tr><td>• Right Skid Adjustment</td><td></td></tr>
</table>

2.5. SPECIFICATIONS

MODEL		SGA 1.00	SGA 1.20	SGA 1.45
Working Width	mm	1000	1200	1450
	inch	40	47	57
Tractor power	HP	20-30	25-35	30-40
	kw	15-22	18-26	22-30
No Of. Blade	-	2		
Length	mm	1075	1271	1529
	inch	42	50	60
Width	mm	1279	1470	1653
	inch	50	58	65
Height	mm	838		
	inch	33		
Weight	Kg	125	150	215
	lbs	275	330	474
Cutting Height	mm	10 To 75		
	inch	0.25 To 3		
PTO SPEED	RPM	540	540	
Blade Speed	RPM	1350	1040	1040

3. SAFETY

Proper use of the equipment, a strict observance of the safety messages listed below and application of all reasonable practices to avoid any risks, prevents accidents or injury, allows the machine working better and longer, and minimizes the failures.

The manufacturer assumes no liability for any damage resulting from not applying the behavioral rules indicated into the manual.

3.1. GENERAL SAFETY INSTRUCTION

DANGER

The machine must be used only by authorized and well trained operators. The operator must have read and understood the instructions of this manual, it must make adequate preparation for the proper use of the machine and must hold a driving license. In case of doubt about the use of the machine and/or the interpretation of this manual, the operator must contact the Manufacturer or the Dealer.

WARNING

The manual must always remain with the machine. In case of loss or damage, request a new copy to the Manufacturer or your Dealer.

WARNING

Follow strictly the rules prescribed by the safety pictograms applied to the machine.

WARNING

Be sure that all safety pictograms are legible. If pictograms are worn, they must be replaced with others obtained from the Manufacturer, and placed in the position indicated by this manual.

DANGER

Before using the machine, make sure that all safety devices are installed and in good working conditions. In case of damages of shields, replace them immediately.

DANGER

Is absolutely forbidden to remove or alter safety devices.

DANGER

Before starting, and during operation of the slasher, make sure there are no people or animals in the operation area: the machine can project material from the back, with risks of serious injury or death.

DANGER

Pay maximum attention to avoid any accidental contact with rotating parts of the machine.

DANGER

During operation, adjustment, maintenance, repairing or transportation of the machine, the operator must always use appropriate Personal Protective Equipment (PPE).

DANGER

Do not operate the implement while wearing loose fitting clothing that can give rise to entanglement in parts of the machine.

DANGER

Do not operate the implement when tired, not in good condition or under the influence of alcohol or drugs.

CAUTION

If the use of the machine is required at night or in conditions of reduced visibility, use the lighting system of the tractor and possibly an auxiliary lighting system.

CAUTION

Do not stand, ride or climb on mower.

3.2. EQUIPMENT SAFETY INSTRUCTIONS

WARNING

Use the slasher for its intended purpose only. Improper use can damage the implement and cause serious injury to persons, animals, or death.

DANGER

The machine should be used by a single operator driving the tractor.

WARNING

Any unauthorized modification of the machine may cause problems in safety and relieves the Manufacturer from any liability for damages or injuries that may result to operators, third parties and objects.

WARNING

Before using the machine, familiarize yourself with its controls and its working capacity.

WARNING

Do not leave the slasher unattended with tractor engine running.

WARNING

Keep the machine clean from debris and foreign objects which may damage functioning or cause injury.

WARNING

Do not use the machine if the category of the connecting pins of the slasher does not match that of the tractor hitch system.

WARNING

Do not use the machine with missing bolts, screws, pins or safety pins.

WARNING

Never use the machine to transport or lift people, animals or objects.

WARNING

Make certain, by adding front ballast that at least 20% of the total weight (tractor, implement and ballast) is on the front axle of the tractor, to ensure stability.

WARNING

Before engaging the tractor PTO, make sure the tractor PTO speed is set as required for the slasher(540 rpm). Do not over speed PTO or machine breakage may result.

DANGER

Do not operate the slasher if the driveshaft is damaged. The driveshaft could be subject to breakage during operation, causing serious injury or death. Remove the driveshaft and replace it with an undamaged.

DANGER

With slasher disconnected from tractor, rest the driveline on the provided support of the slasher.

3.3. OPERATING SAFETY INSTRUCTION

WARNING

Before using the machine, be sure to have cleared the operating area from obstacles (stones, branches, debris, etc...). Mark all the obstacles that cannot be eliminated (e.g. by means flags).

DANGER

Never engage the tractor PTO in the presence of people close to the driveshaft. The body, hair or clothing of a person can get caught in rotating parts, causing serious injury or death.

DANGER

Before engaging the PTO and during all operations, make sure that no person or animal is in immediate area of action of the machine. Never use the slasher if people are in his working area.

DANGER

It's absolutely forbidden to stand near the slasher with moving parts.

WARNING

The operator must operate slasher lifting/lowering only from the driving seat of the tractor. Do not perform lifting maneuvers on side or behind the tractor.

DANGER

The presence of steep slopes may cause instability to the system tractor and slasher, with risk of tipping and consequent serious injury or death hazard. Consult the manual for the tractor to determine the maximum slope that the tractor is able to deal with.

DANGER

Never engage the PTO until the slasher is in the down position and resting on the ground. Never raise the slasher until all blades have come to a complete stop. The machine might throw objects at high speed, causing serious injury or death.

WARNING

Never leave the driver's seat when the tractor is turned on. Before leaving the tractor, lower the slasher to the ground, disengage the PTO, insert the parking brake, stop engine and remove the key from the control panel.

DANGER

The PTO shields of tractor and implement side, the driveshaft shielding and the driveshaft retaining chains must be properly installed and in good condition, to avoid risk of entanglement with serious injury or death.

DANGER

Before engaging the PTO of the tractor, always make sure that the driveshaft is correctly installed, with clamping elements properly connected both to tractor side and to implement side.

WARNING

Only operate PTO at 540 rpm. Know how to stop tractor and slasher quickly in an emergency.

WARNING

Stop operating immediately if blades strike a foreign object. Repair all damage and make certain spindles and blades are in good condition before restarting operation.

WARNING

Always disengage the tractor PTO when the driveshaft exceed an angle of 10 degrees up or down while operating. An excessive angle with driveshaft rotating can break the driveshaft and cause flying projectiles.

CAUTION

Prolonged use of the slasher can cause overheating of the gearbox. Do not touch the gearbox during use and immediately after, it could be extremely hot and cause severe burn.

WARNING

All adjustment operations on the slasher must be performed by qualified and trained operators, with the tractor engine off, the PTO disengaged, the slasher lowered to the ground or on security stands, the ignition key off and the parking brake set.

3.4. TRANSPORTING SAFETY INSTRUCTIONS

WARNING

Before transporting, determine the stopping characteristics of the tractor and implement.

WARNING

Transport only at speeds where you can maintain control of the equipment.

WARNING

When driving on roads, the implement must be in transport position adequately raised from the road surface, with tractor lifting hydraulics locked so that the slasher cannot be lowered accidentally.

DANGER

The implement may be wider than the tractor. Pay attention during transporting to persons, animals or obstacles exposed.

WARNING

When turning, use extreme care and reduce tractor speed.

WARNING

Do not operate the tractor with weak or faulty brakes or worn tires.

CAUTION

Always use tractor lighting system and auxiliary lighting system for an adequate warning to operators of other vehicles, especially when transporting at night or in conditions of reduced visibility.

DANGER

In case of slasher lifting, make sure that the lifting device chosen is suitable to perform the operation safely, and use only the lifting points prescribed on slasher.

3.5. MAINTENANCE SAFETY INSTRUCTION

WARNING

All maintenance and repairing operations must be performed by qualified and trained operators, with the tractor engine off, the PTO disengaged, the slasher lowered to the ground or on security stands, the parking brake and the set ignition key off. Secure blocking prevents equipment from dropping due to hydraulic leak down, hydraulic system failures, or mechanical component failures.

WARNING

Perform repairs and replacements necessary to the slasher using only original spare parts provided by the manufacturer or your Dealer.

DANGER

Perform maintenance operations always using appropriate Personal Protective Equipment (protective eye glasses, hard hat, hearing protection, safety shoes, overall and work gloves, filter mask).

CAUTION

Before any maintenance operation, make sure that the parts which may become hot during use (gear box) have cooled.

WARNING

Do not perform repairs that you do not know. Always follow the manual instructions and in case of doubt contact the Manufacturer or your Dealer.

DANGER

Do not swallow fuels or lubricants. In case of accidental contact with eyes, rinse well with water and consult a doctor.

3.6. STORAGE SAFETY INSTRUCTIONS

WARNING

Never leave the tractor unattended with the slasher in lifted position. Accidental operation of lifting lever or a hydraulic failure may cause sudden drop of unit with injury or death by crushing.

DANGER

Following operation, or before unhooking the slasher, stop the tractor, set the brakes, disengage the PTO, lower the attached slasher to the ground, shut off the engine, remove the ignition key and wait for all moving parts to stop.

WARNING

Make sure all parked machines are on a hard, level surface and engage all safety devices.

CAUTION

Store the unit in an area away from human activity.

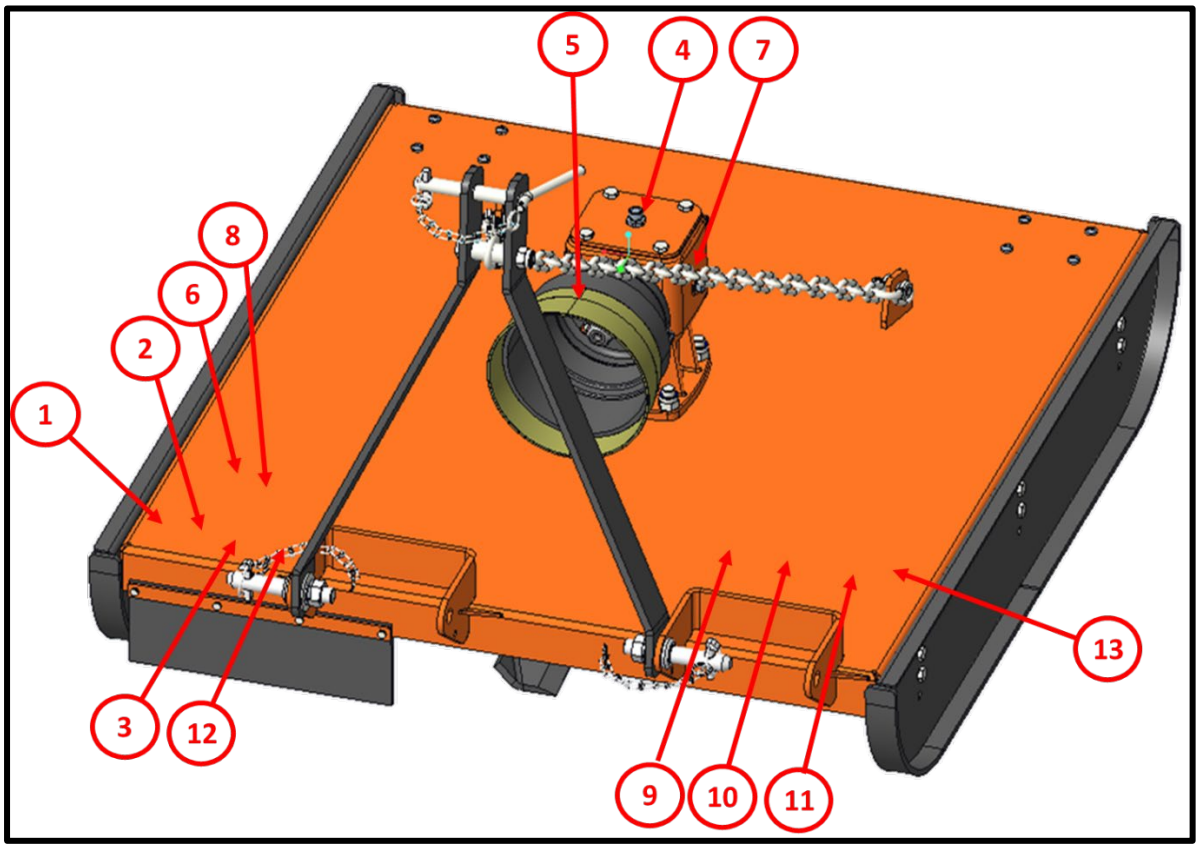
3.7. SAFETY LABELS

The safety labels applied on the machine give fundamental information for using the machine safely.

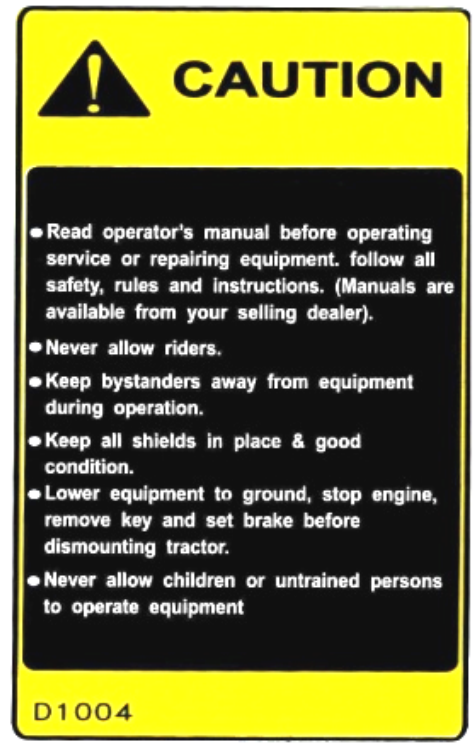
Make sure safety labels are in good conditions. If pictograms are worn, they must be replaced with others obtained from the Manufacturer and placed in the position indicated by this manual.

Make sure the safety labels are legible. If necessary, wipe them by a cloth, with soap and water.

SAFETY LABELS POSITION AND DESCRIPTION



SR. NO.	SPARE CODE	DECALS	DESCRIPTION

1	D1001		WARNING STICKER
2	D1004		CAUTION
3	D1005		WARNING TRANSPORT

4	D1007		OIL FILLING PLUG
5	D1024		OPTIMUM PTO SPEED -540
6	D1108		CE LOGO
7	D1006		MAINTAIN OIL LEVEL
8	D1038		MAINTENANCE:TURN OFF TRACTOR& REMOVE KEY
9	D1095		THROWN OR FLYING OBJECTS HAZARD

10	D1078		HAND HAZARD
11	D1098		IMPLEMENT INPUT DRIVELINE
12	D1082		SAFETY EQUIPMENT
13	D1198		DO NOT STAND , RIDE OR CLIMB ON MOWER

4. SET UP

The slasher is delivered equipped with a driveshaft and related operating manual.

When the machine is delivered, check that there is no damage to the slasher or driveshaft. In case of damage or missing parts immediately notify the Manufacturer or your Dealer.

Because of its size, the slasher could be delivered with some parts disassembled. In this case, the assembly of such parts is an owner's task, and must be carefully performed with reference to the layout tables of the Spare parts section.

ATTENTION

For proper tightening torques of bolts and screws, refer to the section Torque values table of the manual.

4.1. CONNECTING TO THE TRACTOR

Implement can be attached to the suitable category tractor.

WARNING

Disengage PTO drive.

WARNING

Trained person is required to attach and detach from the tractor. Else may cause major injury to operator and savvier damage to implement and tractor.

CAUTION

Implement should always be park on the level ground for attaching and detaching to tractor safely and easily.

CAUTION

Before attaching implement to the tractor, check for any accessories fitted on tractor like drawbar, automatic hitch etc. for any hindrance, restriction, proper functioning and free up movement of equipment. If require remove accessories before attaching equipment.

When using tractors with multi-speed PTO, Be certain that PTO is set for prescribed RPM.

- Bring the tractor back and insert LH lower link of the tractor to the corresponding hitch pin of the equipment and lock it with the help of linch pin.
- Similarly attach RH lower link of the tractor to the corresponding hitch pin of the equipment. If required adjust height of lower link with the help of adjustable lift rod.
- Attach top link of tractor to top hitch point of the equipment. Adjust length of top link if required to reach and align to the requirement hole on the top hitch point.
- Proceed with the driveline connection (see Section Driveline installation).

4.2. DRIVELINE INSTALLATION

Before installing the driveshaft, the operator must read the manuals of the tractor and driveshaft, checking in particular that rpm and direction of rotation of the PTO tractor match those of the slasher.

If the direction of rotation of the PTO tractor does not match that of the slasher, contact the Manufacturer or your Dealer.

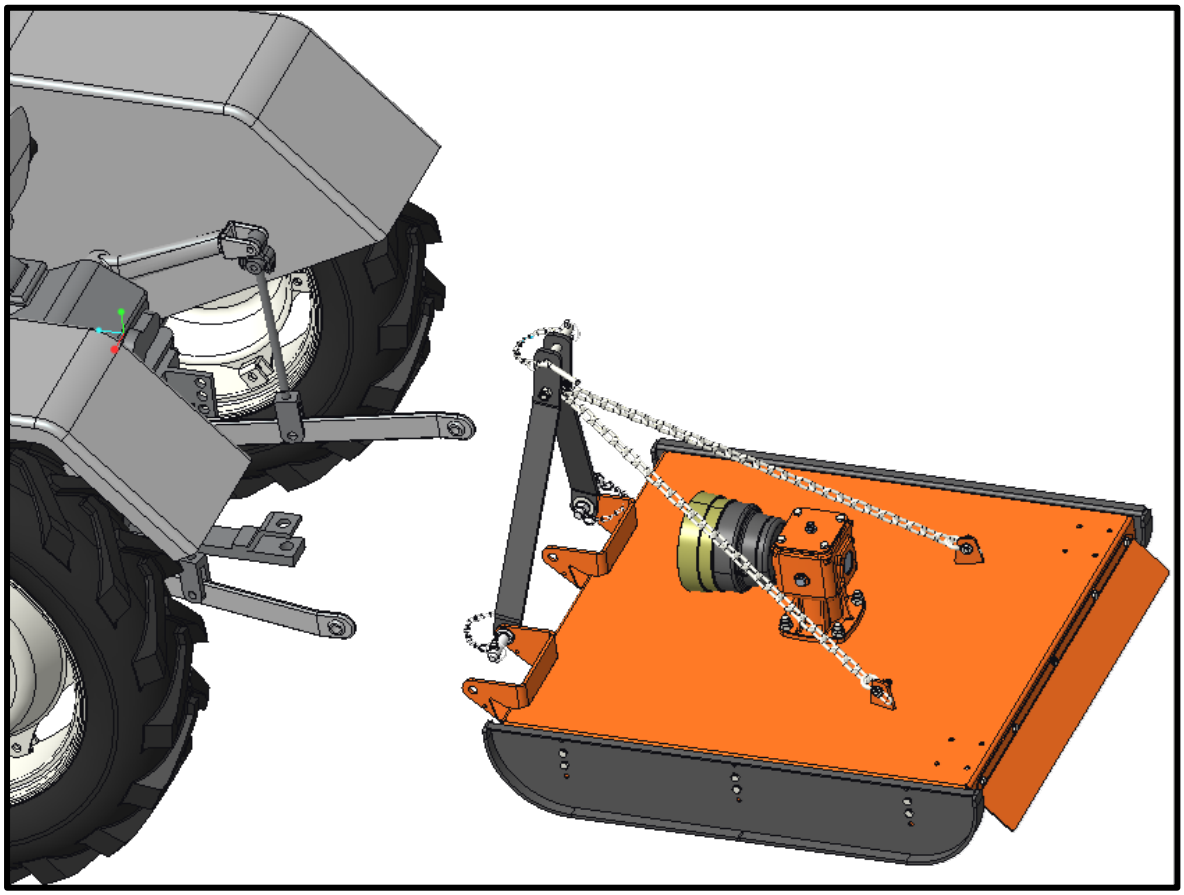
To connect the driveshaft to the tractor and implement, the operator must:

- Park tractor and slasher on a flat surface, with parking brake set, engine off, and ignition key removed;
- Check that driveshaft, slasher and tractor safety shields are in good condition, otherwise provide for their replacement;
- Remove the PTO shield of the slasher through the fixing screws;

- Insert the driveline yoke on the slasher PTO by first lining up the splines, then ensure its tightening onto the shaft through its fastener/snap pin;
- Replace the PTO shield of the slasher through the fixing screws;
- Insert the driveline yoke on the tractor PTO, then ensure its tightening onto shaft through its fastener/snap pin;
- Hook to the tractor and slasher the two retaining chains of the driveline shielding, to prevent shielding rotation during functioning of the machine. The chains should not be too tight.

WARNING

The driveline must not exceed an angle of 15 degrees up or down while operating. Exceeding this angle with driveline rotating can break the driveline and cause safety hazard to operator and bystanders.



Always work with the driveline as straight as possible. This will prolong life of driveline and that of its components, avoiding premature breakdowns.

Driveline Length Check

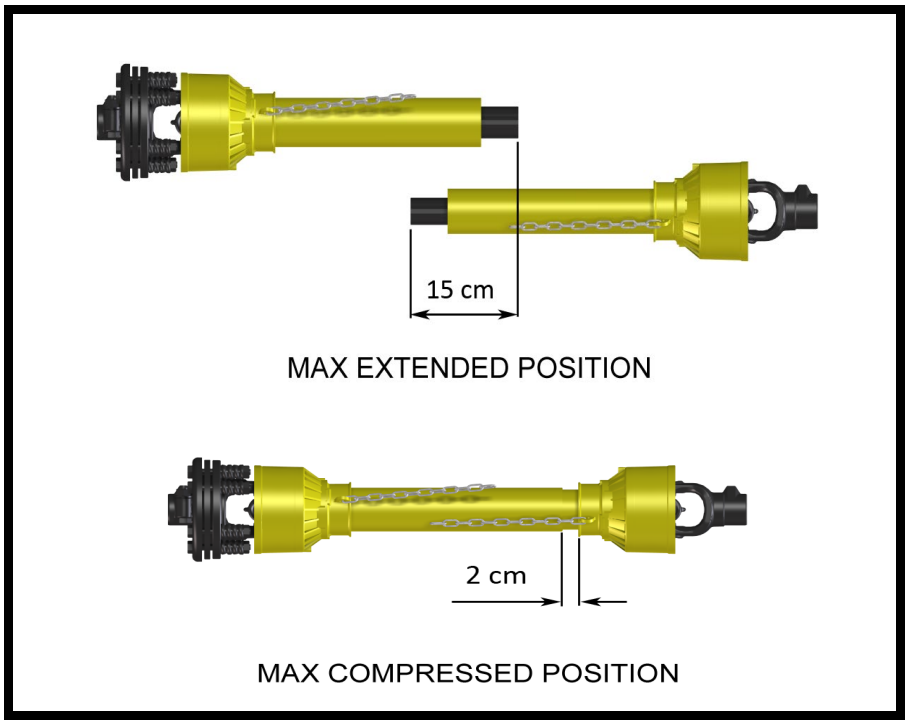
Before operating the slasher, ensure that the size of driveshaft is adequate. The driveshaft supplied with the machine has a standard length; therefore it may need an adaptation of the length, depending of the tractor which the slasher is combined.

The length of the driveshaft must be such to:

- Avoid bottom out of the transmission tubes, when the driveshaft is in compressed position (when the slasher is raised up off the ground);
- Ensure an overlapping of the transmission tubes enough to transmit the torque required, when the driveshaft is in max extension (when the slasher is in its lowest position in the ground).

When the driveshaft is at its minimum length (max compressed position), there must be at least a 2 cm of distance between the ends of each transmission tube and the yokes side.

When the driveshaft is at its maximum operational extension, there must be an overlap between the tubes profiles of 15 cm at least.



A driveshaft too long may cause structural damages to the tractor and machine. If the driveshaft is too long, it may be adapted by removing it and shortening the tubes according to the instructions provided by the Manufacturer in its use and maintenance manual.

A driveshaft too short can cause disengage of the tubes during operation, with severe hazard for the operator and structural damage to the tractor and machine. If the driveshaft is too short, it must be replaced with a longer one. In this case contact the Manufacturer or your Dealer.

IMPORTANT

- Before operating the slasher the first time, or before reusing the slasher after a long term storage, make sure that the driveshaft is lubricated in accordance with how indicated in his own instruction booklet;
- Always engage the tractor PTO at low rpm to minimize the effect of the peak torque on the driveline and the machine.

4.3. TRACTOR-MOWER STABILITY

Before connecting the machine to the tractor is required to check the stability of the tractor-machine system, in order to determine the ballast to apply to the front of the tractor, to ensure adequate distribution of the weight on the axles when the implement is in lifted position (e.g. for transportation).

In order to assure the stability it is necessary that the following relations are verified (see table below for definitions):

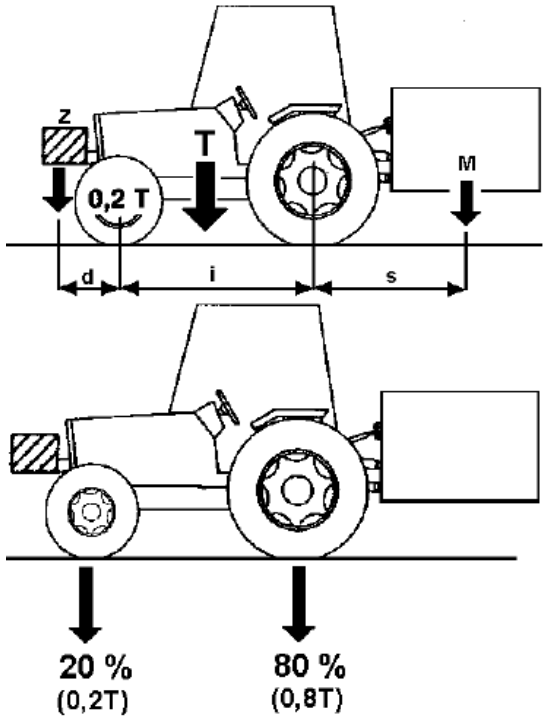
$$\mathbf{1)\ M} \times \mathbf{(S1+S2) \leq 0.2} \times \mathbf{T} \times \mathbf{i + Z} \times \mathbf{(d+i)}$$

$$\mathbf{2)\ M \leq 0.3T}$$

Consequently, the minimum ballast required is:

$$\mathbf{Zmin = (M} \times \mathbf{(S1+S2) - 0.2} \times \mathbf{T} \times \mathbf{i)/(d+i)}.$$

To determine the appropriate characteristics of the ballast, refer to the manual of the tractor.



i = Tractor wheelbase (cm)
d = Distance between front axle and ballast center of mass (cm)
T = Weight of tractor + operator (75 kg)
Z = Ballast weight (kg)
M = Implement weight (kg)
s1 = Distance between rear axle and lower hitch points (cm)
s2 = Distance between lower hitch points and implement center of mass:
Here in image s1+s2=s

CAUTION

The weight of the implement modifies the stability of the system tractor-slasher, resulting in loss of steering control and braking.

5. OPERATING

Before operate the slasher, make sure you have read and understood the operating manuals of the slasher, tractor and PTO shaft, and followed what is described in the section "Set Up".

DANGER

During operation, adjustment, maintenance, repairing or transportation of the machine, the operator must always use appropriate Personal Protective Equipment (PPE).

Before starting work, ensure that tractor, implement and driveline's safety guards are in good conditions and fully functional.

5.1. START UP AND REUSING

Before the start up and before reusing the slasher after long term storage (e.g. after seasonal end), perform the following **pre-operational inspections and service of the implement**, to assure that the machine is in perfect condition and ready to be used:

- Check that the slasher has not damaged functional parts and has all mechanical parts in good condition. Repair and / or replace the damaged parts;
- Check that the slasher has no missing parts (pins, safety pins, plugs oil ...). Restore the missing parts;
- Check that all guards and safety devices have no damages and are properly positioned. Repair and / or replace the damaged shielding, restore the correct position;
- Verify that the PTO driveshaft is properly installed (see section: Connection of the driveshaft);
- Check for possible oil leaks from the gearbox. Identify the reason of loss, then repair and / or replace the damaged components;
- Check the correct oil level in the gearbox (see section Maintenance);
- Check that blades are not excessively worn and the relating hardware is correctly tightened (see section Maintenance);
- Check that all the slasher hardware is properly tightened. Refer to the tightening table in the manual for proper torque values;
- Check that all safety decals are correctly positioned, in good condition and legible. Replace any damaged decals;
- Check that there is no constraint that may prevent the movement of equipment, such as wrappings or foreign objects around the blades or driveline. Remove any constraint.
- Check the tractor, to ensure correct direction of PTO and rpm speed.

WARNING

Before the start up and before each use, make the following **checks on the operating area** identified for tillage:

- Check that area is clear of foreign objects (rocks, branches or debris). Remove any obstacle and visibly highlight obstacles that cannot be eliminated (e.g. by means flags);
- Make sure in the working area exposed there are no people or animals.

WARNING

Before conducting the above inspections and service, make sure the tractor engine is off, all rotation parts are completely stopped and the tractor is in park with the parking brake engaged. Make sure the slasher is resting on the ground or securely blocked up.

Once all the checks above have been done, start tractor and slasher as follows:

- Start engine tractor and engage the tractor PTO at low rpm, making sure that the slasher is in the down position and resting on the ground, then increase speed engine until to 540 rpm;
- Start driving the tractor at low speed. Subsequently increase the ground speed until the desired speed is obtained, depending on ground conditions (see section Operating instruction);
- Drive for a while operating the slasher, then stop the tractor to check the quality of the work performed and if the slasher is adjusted properly. Once you have made necessary adjustments (see section Adjustments), you may continue mowing following the instruction of section Operating instruction to operate properly the slasher and get the desired finish cutting. If you need to get off the tractor, leave the slasher in the down position and resting on the ground, reduce engine speed and disengage PTO, set the parking brake, stop engine and remove the ignition key.

5.2. OPERATING INSTRUCTIONS

The SGA-series rotary slasher have been designed to cut grass with heights up to 6". It is recommended to avoid cutting grass taller than 8".

Always operate tractor PTO at 540 rpm to maintain proper blades speed and obtain a clean cut.

The proper tractor ground speed should be selected considering: height, type and density of grass, grass condition (wet or dry), and ground condition (hilly, level, or rough). Generally a ground speed from 2 to 5 mph (2-8 km/h) applies to most conditions. A test run is suggested to define the optimal working speed for proper own conditions.

Tall, dense grass should be cut at low speed, while thin medium-height grass can be cut at a faster ground speed. Generally, the grass dispersion is increased by higher ground speeds.

Extremely tall grass should be cut in two passes. Set slasher to a high cutting height on the first pass, and then position the slasher at the desired height on the second pass. If possible, mow at a 90 degree angle in travel to the first pass.

Under certain conditions, tractor tires may roll some grass down and prevent it from being cut at the same height as the surrounding area. When this occurs, reduce the tractor ground speed but maintain a 540 rpm engine speed: the lower ground speed will permit the grass to partially rebound, thanks to the suction effect of the blades. If grass will not rebound enough to be cut evenly, resulting in an uneven and not satisfactory appearance, cut the area twice.

In general, lower cutting height gives a more even cut with fewer tendencies to leave tire tracks. However, it is better to cut grass more often, rather than too short. Short grass deteriorates rapidly in hot weather and invites weed growth during growing season.

Very low cutting heights should be avoided. Damaging shock loads occur when the blades strike the ground repeatedly. This can cause damage to the slasher.

IMPORTANT

For cleaner cuts and efficient mowing, the blades must be kept sharp. Sharp blades produce cleaner cuts and require less power.

During operations:

- Always keep the tractor engine at 540 rpm rate ensuring to blades the right rotating speed required for the use;
- Always keep a tractor speed adequate to ground conditions 2 to 5 mph (2-8 km/h). Reduce speed in the case of hard or stony soils;
- When increasing or decreasing mowing ground speed, use gear selection (not engine speed). This will maintain the constant maximum blade speed necessary for a clean cut.
- Choose a driving pattern that provides the maximum pass length and minimizes turning; Plan your pattern to travel straight forward whenever possible
- When working in the hills, if you can do "climbing" in the sense of the slope, in any case do not work along the hillsides, making the steps from top to bottom to reduce the terrace Where possible always try to «work up» the slope. If this is not possible avoid hoeing along the contours of the hill and hoe up and down the slope to avoid a terracing effect;
- Enter new areas carefully. Cut grass higher at first, allowing slasher to clear hidden objects;
- Periodically check for foreign objects wrapped around the blades and/or rotor blades and remove them, after disengaging PTO, turning off tractor engine, and removing ignition key;

- If the blades strike a foreign object, stop operating immediately, idle the engine speed and disengage the PTO. Wait for stopping of all rotating parts, then raise the implement and proceed to removing possible objects or debris, after stopped the tractor, set the parking brake, stopped engine and removed the ignition key. Make sure rotor and blades are in good condition before restarting operation. Repair any damages immediately;

Typical problems that may occur operating the slasher are described into Troubleshooting section, together with their solutions.

DANGER

During operation, the machine can throw material at very high speed from the back, which could result in personal or property damage. Pick up all rocks and other debris before mowing. Prevent people and animals to approach the operational area.

When working on uneven terrain, observe following precautions:

- use extreme care and reduce ground speed on slopes and rough terrain;
- use rear wheel weights, front tractor weights, and/or tire ballast to improve stability in extremely uneven terrain;
- develop a safe working pattern suitable for the ground profile;
- pass diagonally through sharp dips and avoid sharp drops to prevent hanging up the tractor and implement;
- operate the implement up and down steep slopes, DO NOT operate across steep slopes, to prevent the tractor from tipping;
- do not stop, start, or change directions suddenly on slopes;
- Watch for hidden hazards on the terrain during operation.

5.3. ADJUSTMENTS

WARNING

All adjustment operations must be performed with the tractor engine off, the PTO disengaged, the slasher lowered to the ground or on security stands, the parking brake set and the ignition key off. Secure blocking prevents equipment from dropping due to hydraulic leak down, hydraulic system failures, or mechanical component failures.

CUTTING HEIGHT ADJUSTMENT

CUTTING HEIGHT-When close to personal or traffic it is strongly recommended the slasher is adjusted to 4 inches (100mm) minimum cut height.

WARNING

Set high cut heights to avoid any debris that could be picked up by the blades and thrown by the slasher. Low cut heights, whilst economical as fewer cuts per year are required, Can be extremely dangerous.

If working within 12 inches (300mm) of personnel or passing traffic (in particular, this includes maintenance of vacant suburban blocks and roadsides) be aware that debris buried within the grass can be picked up and thrown. Debris such as lengths of steel (pipe, posts or star pickets) or lengths of timber can become

lethal projectiles. The recommended minimum cut height in these areas is 4 inches (100mm) (nominal cut height on flat ground.) The higher cut height will lower the possibility of the blades scalping and throwing debris, however prior to beginning work, a thorough inspection of the whole area to be cut is strongly recommended.

WARNING

Minimum recommended cut height for maintenance of vacant suburban blocks and roadsides mowing is 4 inches (100mm).

NOTE

Before commencing any adjustment, maintenance, or cleaning. Always disengage the Power Take off (PTO) Shaft, switch off the tractor engine, remove key and wait until all moving parts have come to a complete stop. Ensure the machine is on level ground or on a robust secure support.

Never place any part of the body underneath the implement or between moveable parts even when engine has been turned off. Hydraulic systems can "creep" (i.e. slowly lower). They may fail or movement of the control levers can cause the implement to drop or rotate unexpectedly causing severe injury or death.

CUTTING HEIGHT – BLADE CLEARANCE

Adjust the Rotary slasher SGA skids and tractor three-point linkage so that the required cutting height is achieved. The following 2 points should however be considered:

1. FORWARD CUTTING For predominantly forward cutting the blades should cut 3/8"-3/4" (1-2cm) lower at the front of the slasher than the rear. This will prevent blades back cutting, reduce blade wear and 'dust' and lower the power required.

2. FORWARD & REAR CUTTING it is advisable to adjust the linkage and slasher so that the blade beam is cutting horizontally.

CUTTING HEIGHT - ADJUSTMENT WHEN USING SKIDS

On level ground, set the slasher to the required cutting height taking into account points 1 & 2 above plus give the leading edge of the skid approximately 2" – 2-3/4" (5-7mm) of clearance. This clearance will reduce drag of Rotary slasher and reduce skid wear.

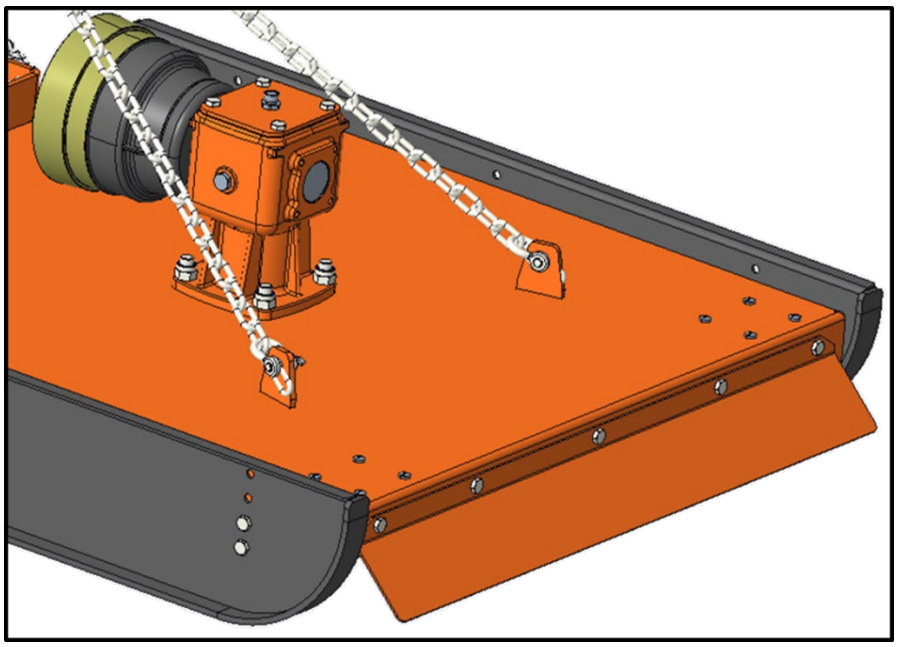
NOTE

Lift the Rotary slasher just clear of the ground when turning in a tight radius to prevent damage to the skids.

NOTE

When slashing level ground, it is possible to support the slasher almost fully on the tractor three-point linkage thus minimizing skid wear. However on undulating ground where an even cut height is required the backstay chains must have sufficient slack to permit the rear of the slasher to follow the ground contours.

When cutting height adjustments are set up correctly the top of the skids may not be parallel to the top of the slasher body.



Follow the following procedure for the cutting height adjustment:

- Put the implement on the level ground.
- Remove all the nuts and bolts from the skid.
- Select the appropriate hole of the skid and fastened with nuts and bolts.

STOPPING AND DISCONNECTION

To stop the slasher at the end of a working session:

- Bring the tractor on a dry and level surface;
- Stop the tractor and place the transmission in park or neutral;
- Reduce the engine speed, then disengage the PTO;
- Wait for stopping of all rotating parts;
- Set the parking brake;
- Shut down the engine and remove the key before exiting the tractor;
- Do the cleaning and maintenance required to make the machine ready for later use (see section Maintenance).

WARNING

Never leave the tractor unattended with the implement in the lifted position.

To disconnect the slasher from the tractor (e.g. to make a change of implement):

- Bring the tractor on a dry and level surface;
- Stop the tractor and place the transmission in park or neutral;
- Reduce the engine speed, then disengage PTO;
- Wait for stopping of all rotating parts;
- Set the parking brake;

- Shut down the engine and remove the key before exiting the tractor;
- Disconnect the driveline from the tractor PTO and rest it on and store in appropriate place;
- Disconnect the top link and the rear lifting arms of the tractor from the slasher hitches;
- Check the slasher stability. If needed, place safety blocks;
- Get on the tractor, start the engine and move away from the slasher slowly;
- Make sure that the slasher remains stored in a protected area, to prevent that unauthorized personnel can approach it.

Before a long term storage (e.g. at seasonal end), do cleaning and maintenance operations as specified in sections Maintenance and Storage.

5.4. TRANSPORT

To set the slasher for transportation, perform the following steps:

- Idle tractor engine, disengage tractor PTO, and wait for stopping of all rotating parts;
- Adjust the tractor top link so that when lifted, the rear of the machine is higher than the front. To do this, shorten the tractor top link until the top hitch plate is locked forward and no longer able to pivot. This will keep the slasher locked and minimize the shaking and bouncing during transport, avoiding damages to the hitch a frame.
- Lift the slasher until the transport position, making sure the driveline transmission tubes does not hit either the tractor or the gearbox slasher. A minimum gap of 2 cm should be leaved between the tubes and tractor and slasher (see also section Driveline installation). The slasher should not be lifted over 14”-16” from the ground.
- Lock the tractor lifting hydraulics, turn off the engine, set the parking brake, remove ignition key and get off the tractor.

CAUTION

Make sure PTO is disengaged and blades have stopped turning before raising slasher to transport position.

WARNING

Never leave the tractor unattended with the implement in the lifted position.

During transportation:

- Always use caution and select a safe ground speed that is appropriate for the terrain. Reduce speed when under adverse surface conditions, turning, or on inclines. Take care that the implement does not strike obstacles such as trees, fences or buildings.
- Do not operate PTO. Always transport the implement with disengaged PTO.
- A minimum 20% of tractor and equipment weight must be applied to the front wheels when attachments are in transport position. Without this weight, front tractor wheels could raise up resulting in loss of steering. The weight may be attained with front wheel weights, ballast in tires or front tractor weights.
- Do not transport on steep slopes.
- Do not transport equipment while under the influence of alcohol or drugs.
- Never allow riders on power unit or attachment.
- When driving on public roads, install a SMV (Slow Moving Vehicle) sign. Always comply strictly with all federal, state and local laws and traffic regulations.

WARNING

When driving on public roads, reduce your speed, be aware of traffic around you and proceed in such a way that faster moving vehicles may pass you safely.

6. MAINTENANCE

Proper and regular maintenance ensures a long life of your implement avoids failures and saves time and repair costs.
Periodic inspections and maintenance operations described in this section must be performed by operator in the times and terms prescribed. Failure to comply with maintenance prescriptions can compromise the functioning and duration of the machine, and consequently invalidate the warranty.
The frequency of maintenance indicated refers to normal conditions of use: it must be intensified in severe or unusual operating conditions (frequent stops and starts, prolonged cutting season etc ...).
Repairs, maintenance and modifications other than those mentioned in this paragraph should NOT be performed without consulting the Manufacturer or your Dealer. Manufacturer, as the case, may give the au-thorization to proceed with the repair together with all necessary instructions.
Wrong or inappropriate repairs or maintenance may generate abnormal operating conditions, equipment damage and generate risks for the operator.

WARNING

For safety reasons, all maintenance operations must be performed with tractor PTO disengaged, slasher stopped and completely lowered to the ground or onto support blocks, parking brake set, tractor engine shut off, and ignition key removed.

WARNING

Perform maintenance operations always using appropriate Personal Protective Equipment (protective eye glasses, hard hat, safety shoes, overall and work gloves, filter mask).

IMPORTANT

Respect the environment. Store or dispose of unused chemicals as specified by the chemical Manufacturer.

6.1. SAFE LUBRICANTION AND MAINTENANCE OF THE MACHINE

CAUTION

To avoid serious injuries or death from unexpected machine movement, locate the machine on a level surface before performing any maintenance work. Lower the machine to the ground or support the raised machine with adequate blocks before performing any maintenance work. If the machine is connected to the tractor, apply the parking brake and/or place the transmission in PARK, shut off the engine and remove the key.

6.2. LUBRICATION AND MAINTENANCE PROCEDURES

CAUTION

Do not clean, lubricate or adjust the machine while it is moving.

IMPORTANT

The recommended maintenance intervals are based on normal operating conditions; in severe or unusual conditions it may be necessary to lubricate more frequently. Perform the lubrication and maintenance procedures indicated in this section at the start and end of each season.
Clean the grease fittings before using a grease gun. Replace any missing or damaged grease fittings immediately. If the new grease fitting does not accept grease, remove it and inspect the adjacent parts for failures. Proper lubrication of the Rotary Slasher at each point at the 08-hour intervals pointed out in this manual, using the grease and/or oil recommended, will prolong the service life of your machine. Failure to perform the above may result in failures as well as loss of time and money.

6.3. LUBRICATION OF IMPLEMENT

CAUTION

Before oiling, maintaining or adjusting the implement, switch off the tractor engine.

The following routine maintenance procedures are recommended, to ensure the efficient and safe operation of your slasher, as well as maximizing the work life of the machine.

Prior to initial operation of slasher

- Ensure that gearbox is adequately lubricated.

After initial two hours of work

- Check that all bolts are tightened correctly.
- Check oil level of gear box. Top up if necessary.

Daily Maintenance (minimum of every 8 hours)

- Separate and lubricate the drive shaft.
- Grease universal joints
- Check the level of oil in the gearbox, and top up if necessary.
- Check the underside of the slasher body, in particular the blades. Replace blades if there are visible signs of damage or excessive wear.
- Ensure bolts are tightened securely on the blades and skids.
- Ensure cuttings have not built up around the gearbox or cutter unit.
- Ensure safety guard tightened secularly and also ensure crack.

Weekly Maintenance

- Perform all steps as per daily service.
- Check & tighten all nuts and bolts on the slasher.
- Clean away any residue on the slasher
- After approximately every 50 hrs of work, check universal joints for excessive wear.

After Every 250 Hours of Work

- Inspect thoroughly the universal joints, and replace any worn parts.
- Complete full service, as per daily and weekly procedures

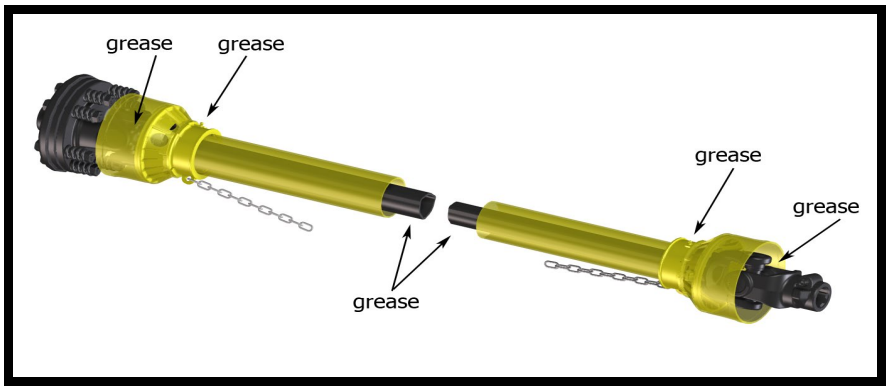
6.4. DRIVE SHAFT MAINTENANCE

Lubricant: HP 85W140 (API GL4) gear oil (or equivalent).

Check the oil level every 50 hours, making sure that the mark left from the oil on the dipstick of the breather plug (A) is located between the two reference marks (minimum and maximum).

Lubricant: SAE multi-purpose lithium-type grease

Grease crosses, sliding parts of protective shielding and driveshaft transmission tubes (see picture below) every 8 working hours.



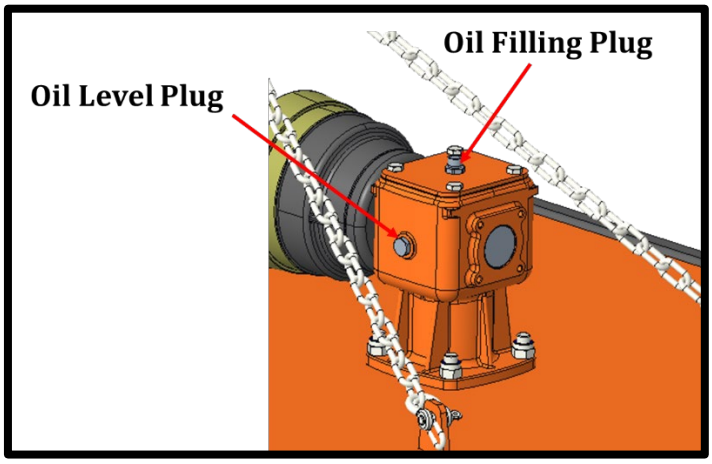
IMPORTANT
For details about maintenance and lubrication of the driveshaft, refer to the user manual of the driveshaft Manufacturer.

NOTE
For replacement of the driveshaft service parts, refer to the user manual of the driveshaft Manufacturer.

6.5. GEAR BOX LUBRICATION

Lubricant: HP 85W140 (API GL4) gear oil (or equivalent).

Check the oil level every 50 hours, making sure that the mark left from the oil on the dipstick of the breather plug (A) is located between the two reference marks (minimum and maximum).



If the mark is below the minimum, fill up oil till restore the correct level.

The oil change must be performed:

- after the first 50 working hours;
- Each 500 working hours.

CAUTION
Before touching the gearbox wait until it has cooled sufficiently.

WARNING

Do not overfill gearbox with oil. Oil will expand when hot! Make sure slasher is cool before checking oil level. Overfilling the gearbox will cause the excess oil to blow out vent plug and ruin the belt.

IMPORTANT

Frequently check for possible oil leaks from gearbox through visual inspection, and in case of leakage provides immediately proper maintenance.

Avoid oil leaks on the ground when restoring oil level or making oil change.

6.6. MAINTENANCE OF IMPLEMENTS

CAUTION

For safety reasons, each maintenance operation must be performed with the tractor's PTO disengaged; the implement lowered completely to the ground or on safely supported blocking, tractor engine shut off and ignition key removed

Proper servicing and adjustment is the key to the long life of any farm implement. With careful and systematic inspection, you can avoid the costly maintenance, time and repair.

After using your implement for several hours, ensure all the bolts are tight.

Replace any worn, damaged or illegible safety labels by obtaining new labels from your dealer.

6.7. BLADE SERVICING

It will be necessary to gain access to the bottom side of the slasher to change the blades. Disconnect PTO Shaft from the tractor, raise implement and block securely, before changing the blades.

Remove nuts from blade retaining bolts and then carefully remove blade bolt.

Always replace or sharpen both blades at the same time. Blade bolts and nuts must be replaced each time new blades are fitted. Insert blade bolt through lower part of the blade beam, then through the blade with the hardened bush inserted.

Finally insert through the top part of the blade beam and secure with a nut. Blade should swivel on the bolt, if it does not, determine the cause (i.e. maybe nut too tight) and rectify.

Blade beam rotation is anti-clockwise when looking down on the slasher. Be sure to install blade cutting edge to lead in an anti-clockwise direction.
When sharpening blades, grind each blade the same amount to maintain balance
Replace blades in pairs. Unbalanced blades will cause excessive vibration that can damage gearbox bearings. Vibration may also cause structural cracks to the implement and/or gearbox housing.

7. STORAGE

Before leaving the slasher unused for a long time, perform following tasks to preserve the appearance and functionality of the implement, and to make easier the restart at later use:

- park the slasher on a flat surface, in a place dry and protected from exposition to the elements, possibly with storage temperature between 32°F – 122°F (0 and 50°C) (see section Stopping and disconnection);
- thoroughly clean the machine, removing from the blades clamps of dirt and all residues due to mowing, in order to avoid damage from grass and stagnant water;

- Inspect carefully the machine, checking for worn and/or damaged parts. Perform immediately all repairs and/or replacements needed, in order to make the machine ready for restarting;
- in case of abrasion of painted surfaces, provide restoring the surface protection through touch-up paint to prevent rust;
- Make sure the safety decals are in their original positions, intact and legible. When required, replace the decals immediately;
- Lubricate properly all grease points, and restore the oil levels as indicated in the Maintenance section. Use protective oil to coat the exposed mechanical components and to protect them against rust.

8. SCRAPPING

In case of scrapping, the machine must be disposed in appropriate and authorized sites, according to local legislation of the Country where the machine is used.

Before scrapping, separate plastic parts from rubber parts, aluminum, steel, etc.

Recover and dispose any exhausted oils to authorized centers for oil collecting.

9. TROUBLESHOOTING

PROBLEM	**POSSIBLE CAUSE**	**POSSIBLE SOLUTION**
Vibration	Damaged blades	Replace
	Damaged beam	Replace
	Twisted PTO shaft	Replace
	PTO shaft crosses worn	Replace
	Lifting too high with PTO Engaged	Reduce Lift
Drive Shaft Failures	Inadequate lubrication of sliding members.	Clean and lubricate as per maintenance schedule.
	Incorrect length of sliding members.	Shorten or replace as required.
	Over lifting Rotary slasher while drive shaft rotating	Allow PTO drive to stop prior to high lifts.
	Working rotary slasher using tractor foot throttle	Work all implements with hand throttle and select gear to give required travel speed.
Gearbox noisy	Worn bearings in gearbox	Dismantle gearbox & replace
	Backlash not correct	Dismantle gearbox & adjust
Gearbox Leaking oil	Damaged seals and gaskets	Replace seals/gaskets
	Bent output spindle	Replace spindle
Blade Wedges	Low operating RPM.	Increase PTO to 540 rpm.
Excessive Blade Wear	Excessive blade speed	Check PTO rpm is 540 rpm max.
	Cutting height too low.	Raise cutting height
	Sandy or stony conditions	Accept wear or raise cutting height
Scalping	Cutting height too low	Raise cutting height
	Linkage pins worn	Replace

10. TORQUE VALUES TABLE

Check frequently hardware to make sure that screws and bolts are tightened according to torque values listed in following table:

	8.8 GRADE	10.9 GRADE
BOLT SIZE (METRIC)	Nm	Nm
M6	10-11	14-15
M8	25-27	34-36
M10	51-54	69-73
M12	91-97	122-129
M14	137-147	185-196
M16	224-240	302-320
M18	300-321	403-428
M20	440-472	593-630

11. WARRANTY

Direct Distributors Inc. offer the following warranty to the purchaser of Grizzly® equipment mentioned herein above subject to the conditions set out herein after provided the Grizzly® equipment shall be in the possession of and used by such purchaser from the date of delivery.

Direct Distributors Inc. Warrants its products for a period of twelve (12) months from date of delivery, for manufacturing or material defects only. Failed part will be replaced at its authorized dealers only and any part component there of that shall be examined by them, shall disclose if to be defective. This warranty shall not apply to equipment or parts that have been subject to negligence, or accident, or not maintained as per company instructions speci-fied in operator manual or that have been altered or repaired or used with non-genuine parts or abused or due to contaminated oil or used in not recommended application.

Warranty Terms & Conditions:

1) The purchaser of Grizzly® equipment should strictly follow the instruction given in the instruction manual provided by the company along with the Grizzly® equipment at the time of delivery. Changes if any, resulting in improper usage will not be covered by the warranty. This warranty will automatically terminate on the expiry of warranty period of 12 months. Even the Grizzly® equipment may not be in use for any time during the warranty period for any reason whatsoever including any technical reasons and time taken for such repairs/replacement of parts, and in transit, whether under this warranty or otherwise shall not be excluded from the warranty period.

2) All wear and tear items like bearings, chains, sprockets, oil seals, tines, blades, rubber parts and gaskets are not covered under warranty.

3) All items with normal wear or failure due to normal wear will not be covered under warranty.

4) While the company or authorized dealers will make every effort to carry out repairs/replacement of parts under this warranty as soon as possible. It is expressly made clear that the company shall not be liable to do within any specific period of time.
In the event of repairs/replacement of any parts, this warranty will thereafter continue to remain in force only for the unexpired period of warranty.

5) It is entirely left to company discretion to repair/replacement of parts at the site of delivery or at the authorized service points of its dealers. The defective parts which has/have been agreed to be replaced, should be returned to the company without any further claim.

6) The warranty shall not cover any consequential or resulting liability, damage or loss arising directly or indirectly out of any defect in the Grizzly® equipment. This warranty shall be strictly limited to repairs and replacement of the defective parts specified in the warranty, and does not cover any reimbursement of labour charges for any repairs so earned out at dealer/client end.

7) This warranty shall not be extended in any case of replacement or return of the Grizzly® equipment as a whole. Only failed parts will be covered under warranty.

8) The purchasers of Grizzly® equipment will itself fully responsible for model/variant selection.

9) This warranty does not cover for statutory duties and taxes like excise, service tax or CST or VAT or State sales tax and octroi and any other local taxes payable on any of the parts which the company may supply or repairs free of cost during the warranty period.

10) This warranty also does not cover the cost of packaging, to and from freight and transportation charges etc., On the defective Grizzly® equipment or other parts of the Grizzly® equipment sent to the authorized service station.

11) **Warranty becomes void if**:

a) The Grizzly® equipment has not been delivered, assembled, started and put into operation by the company or its authorized representative.

b) The dully filled delivery certificate is not in our possession within 15 days from the date of delivery.

c) The Grizzly® equipment or any parts thereof is subjected to neglect, fire, floods or other acts of God or if in the company's opinion any damage has caused to the Grizzly® equipment during transportation.

d) The original serial number is removed, obliterated or altered from the unit.

e) Any attempt is made to have the repairs executed by a person or persons, other than the company or its authorized representative.

f) Any defect is not informed immediately to the company or its authorized representative, any alteration in warranty card is made.

g) Whenever the user or anyone else on his behalf applies equipment to the tractor or to prime mower that has not been expressly approved by the manufacturer or not suitable to the equipment.

12) a) Any changes in the location of the Grizzly® equipment or i the/its ownership thereof during the warranty period must be intimated in writing to the company or its authorized dealer within ten days before the change. Failure to do so will absolve the company from the obligation under this warranty.

b) Further, in the case of shifting for the continuation of the Warranty, the Grizzly® equipment has to be inspected by the company or its authorized representative before shifting from the original location and before using it at the new location. The inspection free levied by the company or its authorized representative as well as the cost of rectification of any damage in transit, detected in the above inspection, shall be borne by the purchaser/owner, if at the time of restarting, the Grizzly® equipment is found to be in working order, this warranty shall continue to be in force for the remaining period of the warranty.

c) Damage to the Grizzly® equipment or any part thereof caused during shifting or transportation is not covered by this warranty.

13) None of the company representative or authorized dealer is authorized to alter/amend any terms and conditions of this warranty policy. Only the management of the company is authorized to do so. The decision of the company will be final and binding to the purchaser.

14) This warranty policy shall be governed by and construed in accordance with the laws of India and the courts in Rajkot shall have exclusive jurisdiction.

15) This warranty is given in lieu of all other guarantees and condition expressed or implied by law or by the any person purporting to act on behalf of the company and excludes every condition, warranty or guarantee not herein expressly set out.

Note: The parts/material that are not covered by this warranty are as follows:

1. Blades
2. Universal joint cross
3. Paint
4. Bearings
5. Rubber parts
6. Gaskets
7. Fasteners
8. Fabrication
9. Chains & sprockets
10. Tines

12. SPARE PARTS

All repairs and replacements on the machine must be performed only by using original spare parts, which must be obtained from the Manufacturer or your Dealer.

This section contains the information needed to identify the parts of SGA series Slasher that may be ordered to Manufacturer.

When request spare parts to Manufacturer, always give following indications:

- type of machine;
- machine serial number;
- description and p/number of the spare parts;
- Quantities.

NOTE

For identification of p/numbers and description of safety decals refer to the Section Safety labels.

For identification of p/numbers and description of PTO driveline parts, refer to the manual of the driveshaft Manufacturer.

The Manufacturer reserves the right to substitute a required part with an equivalent part, if applicable.

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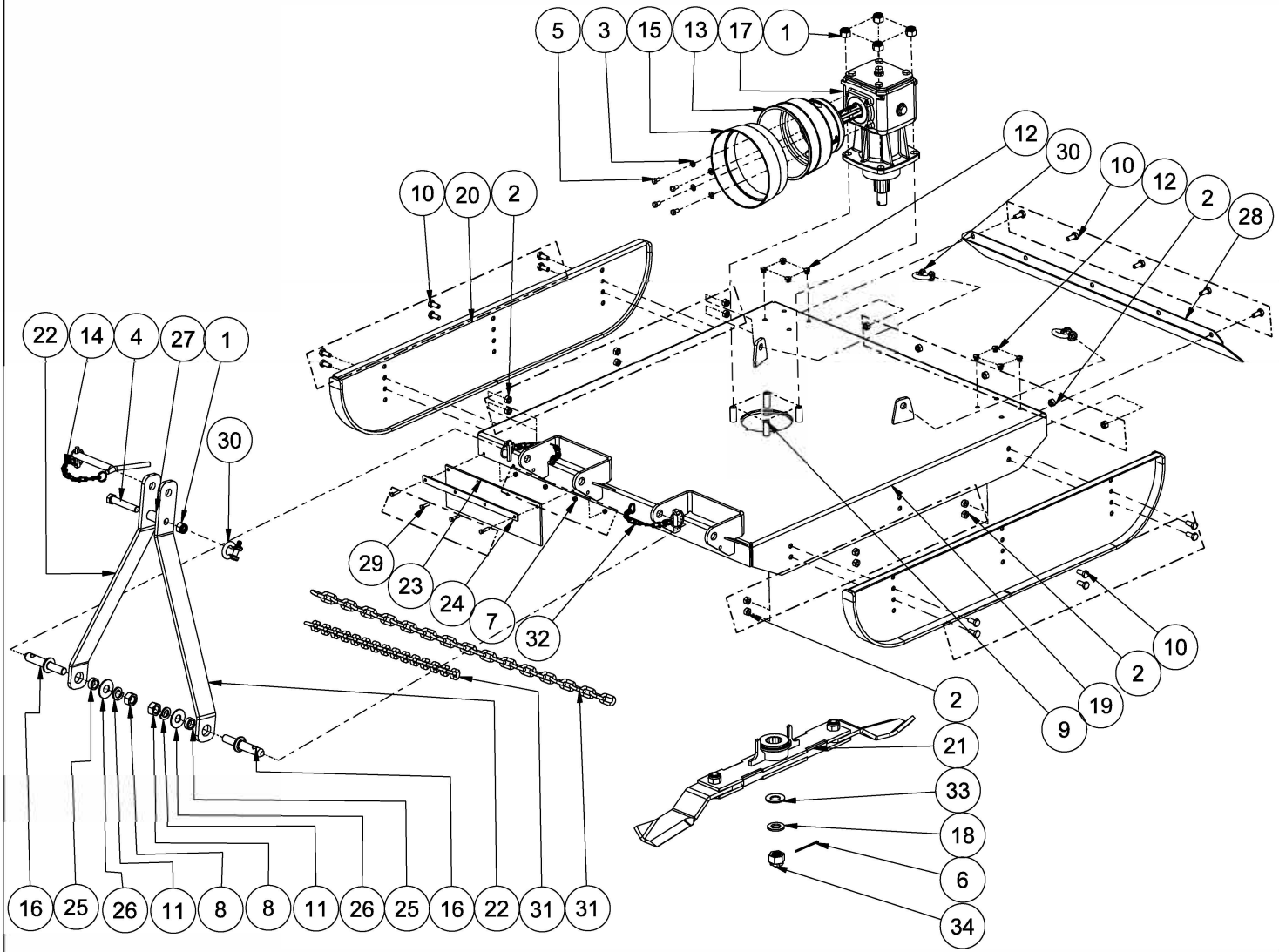
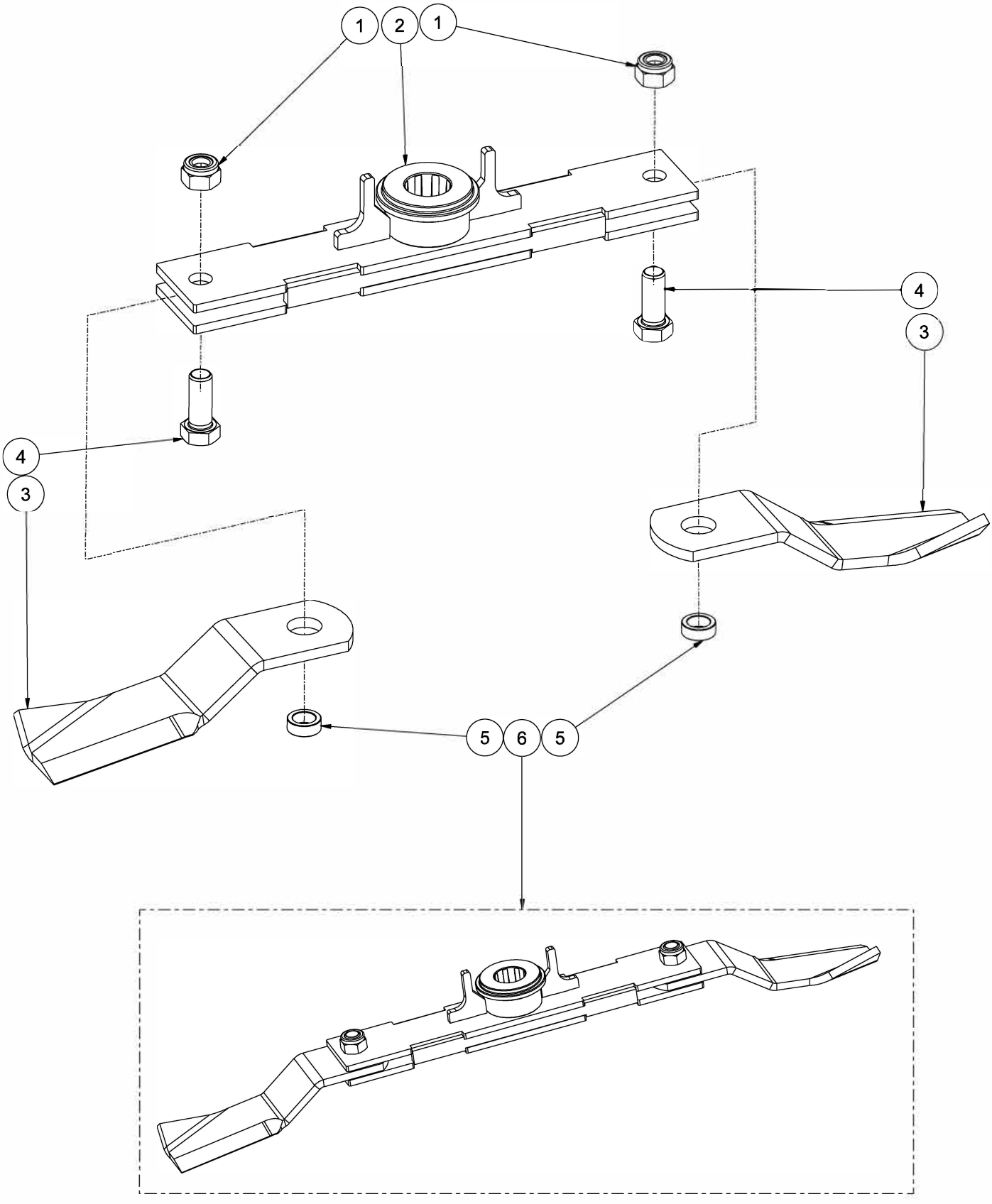
MAIN MACHINE ASSEMBLY PARTS



MAIN MACHINE ASSEMBLY PARTS

Sr. No.	Part No.	Description	Qty.
1	1231	NYLOCK NUT M16X2.0 (DIN-982)	5
2	1298	NYLOCK NUT M10X1.50 (DIN-982) - GA 1.0	17
		NYLOCK NUT M10X1.50 (DIN-982) - GA 1.2	
		NYLOCK NUT M10X1.50 (DIN-982) - GA 1.45	22
3	8064	PLAIN WASHER 8MM (BS-4320)	4
4	11073	HEX BOLT M16X2.00X90(IS1364-1)(8.8)(ZP)	1
5	8190	HEX BOLT M8X1.25X15(IS1364-2)(8.8)(ZP)	4
6	14137	COTTER PIN (DIA 4 X 70)	1
7	19140	NYLOCK NUT M6X1.00 (DIN-982)	4
8	24242	HEX NUT M20X2.50(DIN934)(8)(ZP)	2
9	20116	HEX BOLT M16X2.00X50(IS1364-2)(10.9)(ZP)	4
10	17270	HEX BOLT M10X1.50X25(DIN933)(8.8)(ZP) - GA 1.0	17
		HEX BOLT M10X1.50X25(DIN933)(8.8)(ZP) - GA 1.2	
		HEX BOLT M10X1.50X25(DIN933)(8.8)(ZP) - GA 1.45	22
11	25548	SPRING WASHER M20.00(IS 3063) ZP	2
12	17675	PLASTIC CAP M12 X 1.75	8
13	17788	PTO SHAFT GUARD PLASTIC	1
14	36029	HITCH PIN Ø19 WITH HANDLE	1
15	36067	PTO GUARD CONE	1
16	30536006	SPINDLE Ø22	2
17	30636484	GEAR BOX ASSEMBLY 1.00	1
	30637621	GEAR BOX ASSEMBLY 1.20 - GA 1.45	
18	30636490	WASHER 44 X 25 X 4	1
19	30636498	MAIN FRAME COMP 1.0	1
	30636499	MAIN FRAME COMP 1.2	
	30636500	MAIN FRAME COMP 1.45	
20	30636517	DEPTH SKID COMP 1.0	2
	30636518	DEPTH SKID COMP 1.2	
	30636519	DEPTH SKID COMP 1.45	
21	30636526	BLADE ASSEMBLY 1.0	1
	30636527	BLADE ASSEMBLY 1.2	
	30636528	BLADE ASSEMBLY 1.45	
22	30636545	FRAME HITCHING STRIP	2
23	30636546	BASE PLATE GUARD	1
24	30636547	GUARD STRIP	1
25	30636548	SPACER 20.2X30X11	2
26	30636549	PLAIN WASHER 20X50X3mm (GA)(ZP)	2
27	30636550	SPACER 16.1X25X50	1
28	30636551	BACK FLAP 1.0	1
	30636552	BACK FLAP 1.2	
	30636553	BACK FLAP 1.45	
29	30636554	HEX BOLT M6X1.00X25(8.8)(DIN 933)(ZP)	4
30	30636555	SCHAKLE Ø12 - GA 1.0 / GA 1.2	3
		SCHAKLE Ø12 - GA 1.0 / GA 1.2	
	30636556	SCHAKLE Ø16 - GA 1.45	
31	30636557	CHAIN Ø7.5X27X48.80XLENGTH 1040 - GA 1.0	2
	30636558	CHAIN Ø7.5X27X48.80XLENGTH 1275 - GA 1.2	
	30637313	CHAIN Ø10X35.20X 61XLENGTH 1260 - GA 1.45	
32	30537841	LINCH PIN D10 X 55 WITH LINK	2
33	30638551	SPRING DISC WASHER 25.4 X 50 X 3	1
34	30641502	CASTLE NUT M24 X 2	1

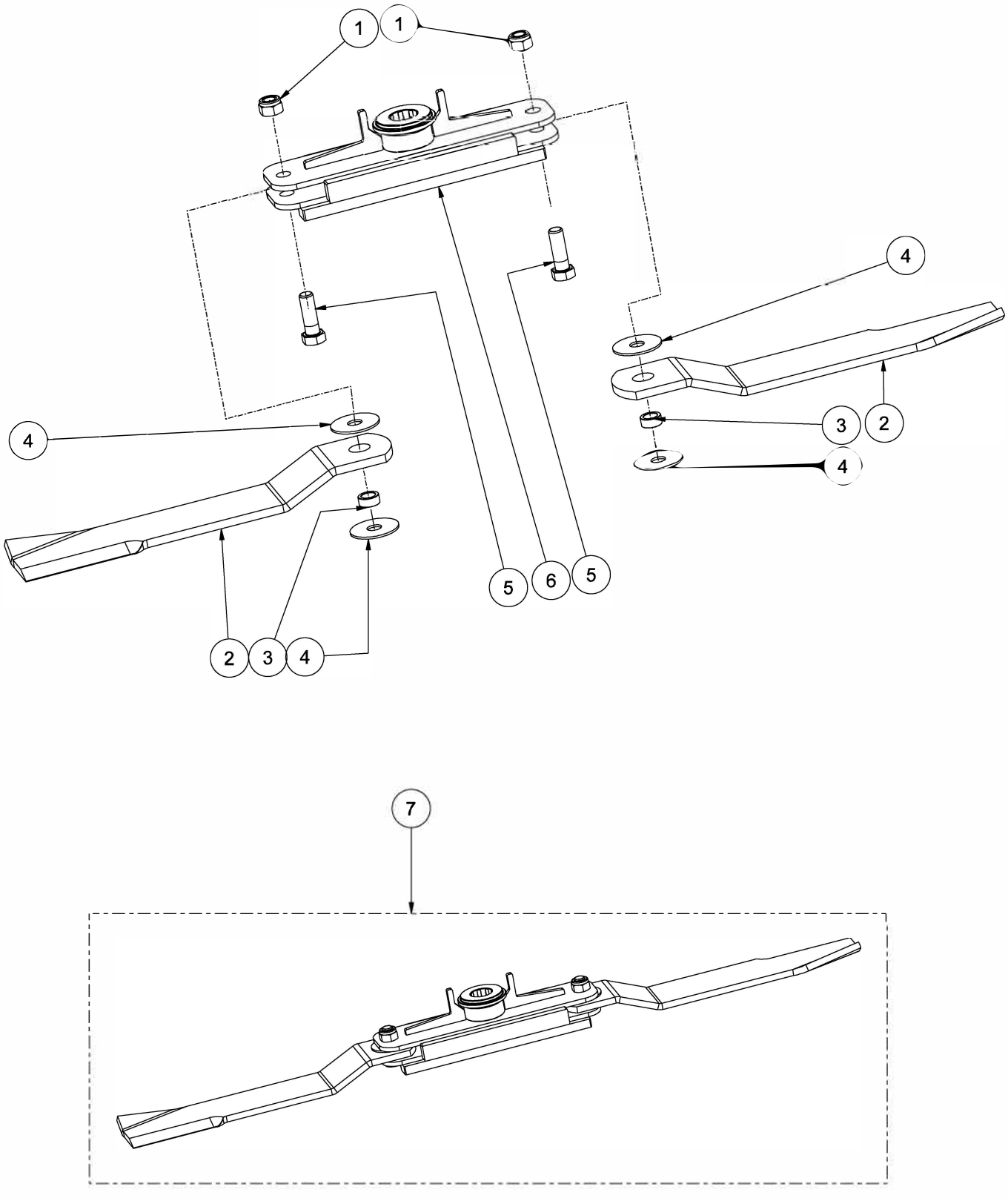
BLADE ASSEMBLY 1.0 / 1.2 PARTS



BLADE ASSEMBLY 1.0 / 1.2 PARTS

Sr. No.	Part No.	Description	Qty.
1	31009	NYLOCK NUT M20 X 2.5 (DIN-985)	2
2	30636529	BLADE SUPPORT COMP GA 1.2 / GA 1.45	1
3	30636537	BLADE 1.0	2
	30636538	BLADE 1.2	
4	30636543	HEX BOLT M20X2.5X50(8.8)(DIN 933)(ZP)	2
5	30636548	SPACER 20.2X30X11	2
6	30636526	BLADE ASSEMBLY 1.0	1
	30636527	BLADE ASSEMBLY 1.2	

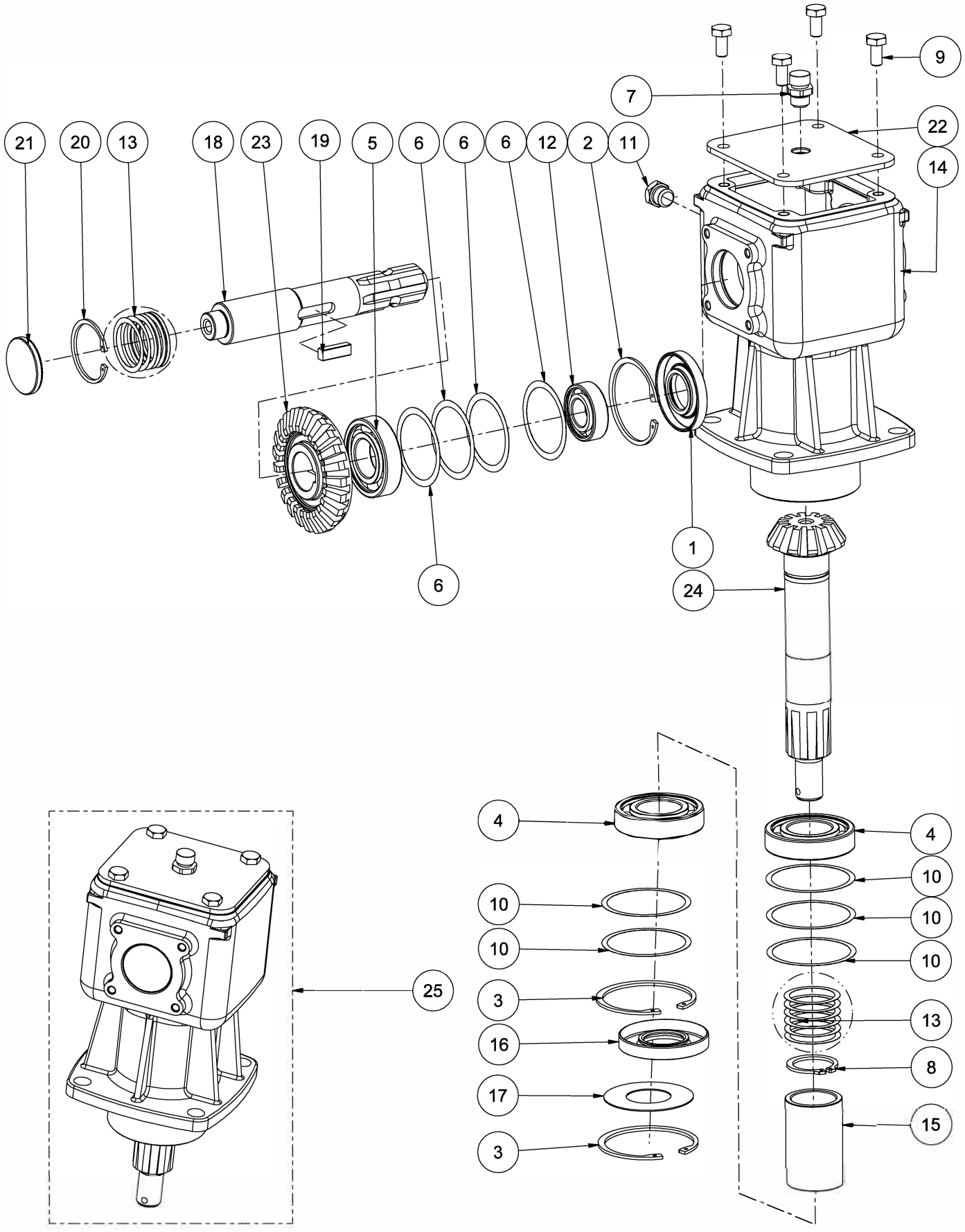
BLADE ASSEMBLY 1.45 PARTS



BLADE ASSEMBLY 1.45 PARTS

Sr. No.	Part No.	Description	Qty.
1	31009	NYLOCK NUT M20 X 2.5 (DIN-985)	2
2	30636539	BLADE 1.45	2
3	30636541	SPACER 20.25X29.8X12.8 1.45 (GA)(ZP)	2
4	30636542	SPACER 21X70X3mm 1.45 (GA)(ZP)	4
5	30636544	HEX BOLT M20X2.5X60(8.8)(DIN 933)(ZP)	2
6	30636559	BLADE SUPPORT COMP 1.45	1
7	30636528	BLADE ASSEMBLY 1.45	1

GEAR BOX ASSEMBLY PARTS



GEAR BOX ASSEMBLY PARTS

Sr. No.	Part No.	Description	Qty.
1	1001	OIL SEAL 35 X 72 X 10	1
2	1002	CIRCLIP INTERNAL 72mm	1
3	1130	CIRCLIP INTERNAL 80MM	2
4	7033	BEARING 6208	2
5	10143	BEARING 6207	1
6	4652	SHIM (DIA 72 X 60)(0.20MM)	4
7	17168	AIR BREATHER 3/8" BSP	1
8	25214	CIRCLIP EXTERNAL 40MM (HD)	1
9	17276	HEX BOLT M10X1.50X20(DIN933)(8.8)(ZP)	4
10	8391	SHIM (DIA 79.5 X 70)(0.20MM)	5
11	3419	3/8 BSP BOLT WITH O-RING	1
12	30629912	BALL BEARING 6205	1
13	35070	SHIM (DIA.50X40.5)(0.20MM)	13
14	30636485	GEAR BOX	1
15	30636487	BUSH OD51 X ID40 X 80	1
16	30636488	OIL SEAL 40 X 80 X 12	1
17	30636489	SHIM (DIA 80 X 40)(1.00MM)	1
18	30636492	INPUT SHAFT	1
19	30636493	KEY 10 X 8 X 30 (SQ)	1
20	30636494	CIRCLIP INTERNAL 52mm (HD)	1
21	30636495	OIL SEAL 52 X 6.5	1
22	30636497	GEAR BOX TOP PLATE	1
23	30637622	CROWN 23 TEETH	1
	30636491	CROWN 25 TEETH	
24	30637623	PINION SHAFT 12 TEETH	1
	30636486	PINION SHAFT 10 TEETH	
25	30636484	GEAR BOX ASSEMBLY 1.00	1
	30637621	GEAR BOX ASSEMBLY 1.20 / GA 1.45	

NOTES:

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Grizzly®
P.O. Box 799
Garner, NC 27529

Tel: 1-800-345-0169
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