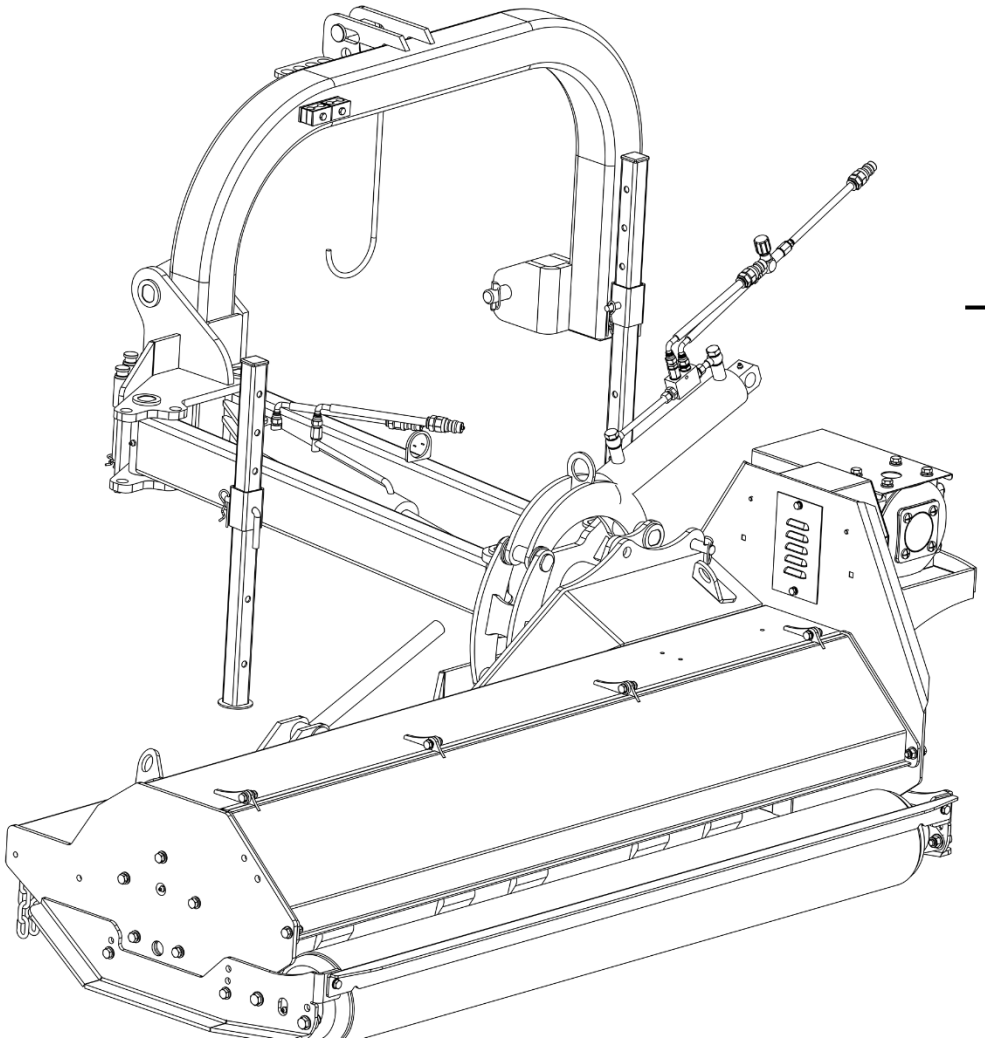
MATENG

Flail Mower

OPERATOR'S MANUAL

ME-VS58A
ME-VS58OSA
ME-VS64A
ME-VS64OSA
ME-VS72OSA



Please carefully read this manual and follow all the instructions. Failure to comply with the warnings and precautions may result in serious injury or death.

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Content

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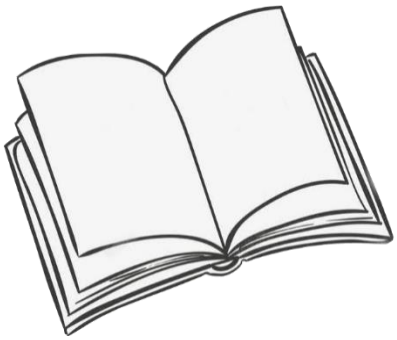
SAFETY PRECAUTIONS

Listed below are common practices that may or may not be applicable to the products described in this manual.

Safety First



Careful operation is your best assurance against an accident.
Please be fully aware that you are responsible for the safe operation and maintenance of your implement. You must ensure that you and anyone else who is going to operate, maintain or work around the implement is familiar with the operating and maintenance procedures and related safe information contained in this manual.
This manual is prepared to guide you through all essential operations related to this implement and alert you to all good safety practices that should be strictly followed.
Please constantly bear in mind that good safety practices not only protect you but also the people around you. Incorporate these practices an inseparable part into your safety program. Make sure that who operates this equipment is familiar with the recommended operating and maintenance procedures and follows all the safety precautions. Most accidents can be prevented. Do not risk injury of death by ignoring good safety practices.

- Thoroughly read and understand the "Safety Labels" section. Read all instructions noted on them.
- Do not operate the equipment while under the influence of drugs or alcohol, as they impair your ability to safely and properly operate the equipment.
- The operator should be familiar with all functions of the tractor and attached implement, and be able to handle emergencies quickly.
- Make sure all guards and shields appropriate for the operation are in place and secured before operating the implement.
- Keep all bystanders away from equipment and work area. Start tractor from the driver's seat with hydraulic controls in neutral.
- Operate tractor and controls from the driver's seat only.
- Never dismount from a moving tractor or leave tractor unattended with engine running.
- Do not allow anyone to stand between the implement and tractor while backing up to the implement.

- Keep hands, feet, and clothing away from power-driven parts.
- While transporting and operating equipment, watch out for objects overhead and along the sides such as fences, trees, buildings, wires, etc.
- Do not turn tractor so tight as to cause hitched implement to ride up on the tractor's rear wheel.
- Store implement in a safe and secure area where children normally do not play. When needed, secure implement against falling with support blocks.

Safety Alert Symbol

The SAFETY ALERT SYMBOL indicates there is a potential hazard to personal safety and extra precaution must be taken. When you see this symbol, be alert and carefully read the message that follows it. 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.

Be Aware of Signal Words

A signal word designates a degree or level of hazard seriousness. They are:

⚠ **DANGER**: Indicates a hazardous situation that, if not avoided, will result in death or serious injury.

⚠ **WARNING**: Indicates a hazardous situation that, if not avoided, could result in death or serious injury.

⚠ **CAUTION**: Indicates a hazardous situation that, if not avoided, may result in minor or moderate injury.

Be Aware of Special Notices

Special notices are intended to point out important and helpful information that should be followed. They are:

ATTENTION: Indicates that equipment or property damage could result if instructions are not followed.

NOTE: Indicates supplementary explanations that will be helpful when using the equipment.

Safety for Children

Tragedy can occur if the operator is not alert to the presence of children, Children generally are attracted to implements and their work.

- Never assume children will remain where you last saw them.

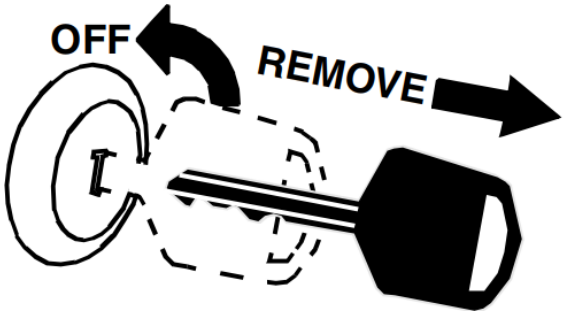
- Keep children out of the work area and under the watchful eye of a responsible adult.
- Be alert and shut the implement and tractor down if children enter the work area.
- Never carry children on the tractor or implement. There is not a safe place for them to ride. They may fall off and be run over or interfere with the control of the power machine.
- Never allow children to operate the power machine, even under adult supervision.
- Never allow children to play on the power machine or implement.

Operation Safety

Use extra caution when backing up. Before the tractor starts to move, look down and behind to make sure the area is safety and clear.

Tractor Shutdown Safety

If engaged, disengage power take-off.
Park on solid, level ground and lower implement to ground or onto support blocks.



- Put tractor in park or set park brake.
- Turn off engine and remove ignition key to prevent unauthorized starting.
- Relieve all hydraulic pressure to auxiliary hydraulic lines.
- Wait for all components to stop before leaving operator's seat.
- Use steps, grab-handles and anti-slip surfaces when stepping on or off the tractor.
- If engaged, disengage power take-off.
- Park on solid, level ground and lower implement to ground or onto support blocks.
- Put tractor in park or set park brake.
- Turn off engine and remove ignition key to prevent unauthorized starting.
- Relieve all hydraulic pressure to auxiliary hydraulic lines.
- Wait for all components to stop before leaving operator's seat.
- Use steps, grab-handles and anti-slip surfaces when stepping on and off the tractor.

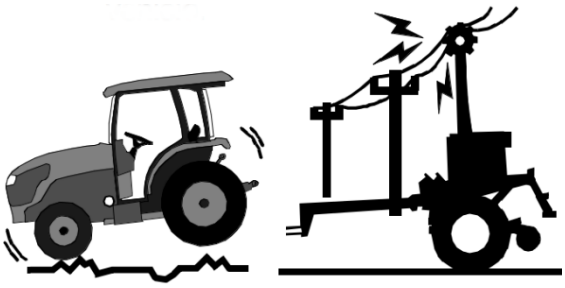
Use A Safety Chain

A safety chain will help control drawn machinery should it separate from the tractor drawbar.

Use a chain with the strength rating equal to or greater than the gross weight of the towed implement.

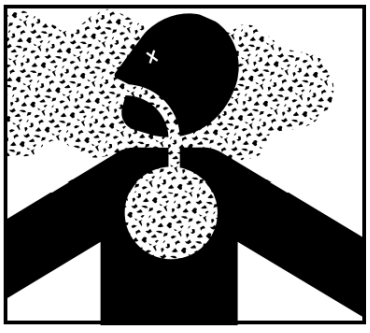
- Attach the chain to the tractor drawbar support or other specified anchor location. Allow only enough slack in the chain to permit turning.
- Always hitch the implement to the machine towing it. Do not use the safety chain to tow the implement.

Transport Safely



- Comply with federal, state, and local laws.
- Avoid contact with any overhead utility lines or electrically charged conductors.
- Engage park brake when stopped on an incline.
- Maximum transport speed for an implement is 30 km/h. DO NOT EXCEED.
- Never travel at a speed which does not allow adequate control of steering and stopping. Some rough terrains require a slower speed. Sudden braking can cause a towed load to swerve and upset.
- Do not tow an implement that, when fully loaded, weights more than 1.5 times the weight of towing vehicle.

Avoid Crystalline Silica (Quartz) Dust



Because crystalline silica is a basic component of sand and granite, many activities at construction sites produce dust containing crystalline silica. Trenching, sawing, and boring of material containing crystalline silica can produce dust containing crystalline silica particles. This dust can cause serious injury to the lungs (silicosis). There are guidelines which should be followed if crystalline silica (quartz) is present in the dust.

- Be aware of and follow OSHA (or other local, State, or Federal) guidelines for exposure to airborne

crystalline silica.

- Know the work operations where exposure to crystalline silica may occur.
- Participate in air monitoring or training programs offered by the employer.
- Be aware of and use optional equipment controls such as water sprays, local exhaust ventilation, and enclosed cabs with positive pressure air conditioning if the machine has such equipment. Otherwise respirators shall be worn.
- Where respirators are required, wear a respirator approved for protection against crystalline silica containing dust. Do not alter respirator in any way. Workers who use tight-fitting respirators can not have beards/ mustaches which interfere with the respirator seal to the face.
- If possible, change into disposable or washable work clothes at the work site; shower and change into clean clothing before leaving the work site.
- Do not eat, drink, use tobacco products, or apply cosmetics in areas where there is dust containing crystalline silica.
- Store food, drink, and personal belongings away from the work area.
- Wash hands and face before eating, drinking, smoking, or applying cosmetics after leaving the exposure area.

Avoid Contact Blades

Keep away from rotating blades to avoid death or serious injury from blade contact.

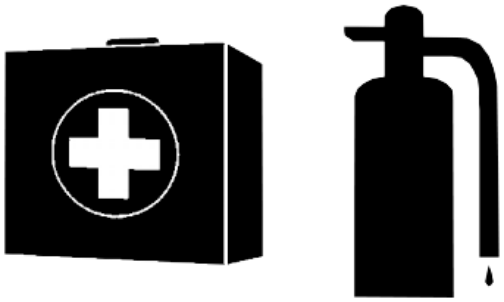
- Stay away and keep hands, feet and body away from rotating blades, drivelines and parts until all moving elements have stopped.
- Do not put hands or feet under mower hood.
- Stop rotating blades disengage PTO and wait for blade to stop rotating before raising mower hood or swings.
- Stop look and listen before approaching the mower to make sure all rotating motion has stopped.
- If a material blockage occurs in the inlet or discharge areas of the mower, shut down tractor engine, disengage the PTO and wait for all rotating motions to stop. Place the tractor in park position, engage the parking brake and remove the key before leaving the operator’s seat. Clear the blockage before processing with mowing. Be sure to keep feet and hands clear of the mower blades. If you raise the mower or swing to access the blockage, engage the swing lock up latch and securely block up the mower before placing any parts of the body beneath the mower.

Maintenance Safety

- Good maintenance is your responsibility. Poor maintenance is an invitation to trouble.
- Follow good shop practices.
- Keep service area clean and dry.
- Be sure electrical outlets and tools are properly grounded.
- Use adequate light for the job at hand.
- Make sure there is plenty of ventilation. Never operate the engine of the tractor in a closed area. The exhaust gas may cause healthy problem.
- Before maintenance, shut off the tractor (See Tractor Shutdown Procedure).
- Allow equipment to cool before maintenance operation.
- Never work under the machine unless it is secured by a mechanical stand.
- Use personal protection devices such as safety goggles, hand gloves and hearing protectors, when performing any service or maintenance work. Use heavy gloves when handling blades.
- Only use original parts for service and maintenance.
- A fire extinguisher and first aid kit should be kept readily accessible while performing maintenance on this equipment.
- Periodically tighten all bolts, nuts and screws and check that all pins are properly installed to ensure unit is in a safe condition.
- Do not weld or torch on galvanized metal as it will release toxic fumes.
- Always make sure any material and waste products from the repair and maintenance of the implement are properly collected and disposed.
- Disconnect battery (If the implement has the battery) ground cable (-) before servicing or adjusting electrical systems or before welding on implement.
- Do not grease or oil implement while it is in operation.
- Do not work under any hydraulically supported equipment. It can settle, suddenly leak down, or be lowered accidentally. If it is necessary to work under the equipment, securely support it with stands or suitable blocking beforehand.
- When completing a maintenance or service function, make sure all safety shields and devices are installed before placing machine in service.

Preparation Before Maintenance

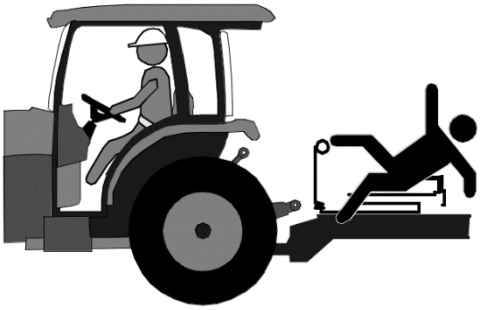
- Be prepared if a fire starts.
- Keep a first aid kit and fire extinguisher handy.
- Keep emergency numbers for ambulance, hospital and fire department near the working area.



Personal Protective Equipment

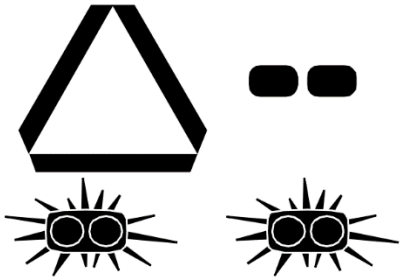
- Wear protective clothing and equipment appropriate for the job such as safety shoes, safety, glasses, hard hat, dust mask, and ear plugs.
- Clothing should fit snug without fringes and pull strings to avoid entanglement with moving parts.
- Prolonged exposure to loud noise can cause hearing impairment or hearing loss. Wear suitable hearing protection such as earmuffs or earplugs.
- Operating a machine safely requires the operator's full attention. Avoid wearing headphones while operating equipment.

Keep Riders Off Machinery



- Never carry riders on the tractor or implement.
- Riders obstruct operator's view and interfere with the control of the power machine.
- Riders can be struck by objects or thrown from the equipment.
- Never use the tractor or implement to lift or transport riders.

Safety Lights and Devices



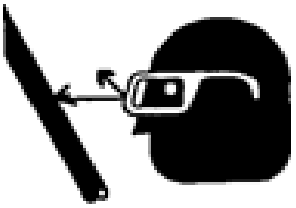
- A slow moving power machine can create a hazard when driven on public roads. They are difficult to see, especially at night.
- Flashing warning lights and turn signals are recommended whenever driving on public roads.
- For tractors and other agriculture equipment, a Slow Moving Vehicle (SMV) sign is required when traveling on public roads.

Seat Belt and ROPS

- We recommends the use of a CAB or roll-over-protective structures (ROPS) and seat belt in almost all power machines. Combination of a CAB or ROPS and seat belt will reduce the risk of serious injury or death if the power machine should be upset.
- If ROPS is in the locked-up position, fasten seat belt snugly and securely to help protect against serious injury or death from falling and machine overturn.

Hydraulic System Safety

- Escaping fluid under pressure will penetrate the skin or eyes causing serious injury.
- Relieve all residual pressure before disconnecting hydraulic lines or performing work on the hydraulic system.
- Make sure all hydraulic fluid connections are properly tightened/torqued and all hydraulic hoses and lines are in good condition before applying pressure to the system.
- Use a piece of paper or cardboard, NOT BODY PARTS, to check for suspected leaks.



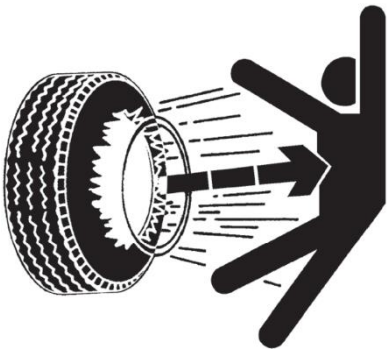
- Wear proper hand and eye protection when searching for a high pressure hydraulic leak. Use a piece of wood or cardboard as a backstop instead of hands to isolate and identify a leak.
- DO NOT DELAY. If an accident occurs, seek immediate

emergency medical care or gangrene may result.

Handle Chemicals Properly

- Protective clothing should be worn.
- Handle all chemicals with care.
- Follow instructions on container label.
- Agricultural chemicals can be dangerous. Improper use can seriously injure persons, animals, plants, soil, and property.
- Inhaling smoke from any type of chemical fire can be a serious health hazard.
- Store or dispose of unused chemicals as specified by the chemical manufacturer.

Tire Maintenance Safety



- Tire changing can be dangerous and must be performed by trained personnel using the correct tools and equipment.
- Always properly match the wheel size to the properly sized tire.
- Always maintain correct tire pressure. Do not inflate tires above recommended pressures shown in the Operator's Manual.
- When inflating tires, use a clip-on chuck and extension hose long enough to allow you to stand to one side and NOT in front of or over the tire assembly. Use a safety cage if available.
- Securely support the implement when changing a wheel.
- When removing and installing wheels, use wheel handling equipment adequate for the weight involved.
- Make sure wheel bolts have been tightened to the specified torque.

Storage and Disposal Safety

Storage Safety

1. Store the machine in an area away from human activity. Do keep the machine out of the children's reach. Do not permit children to play on or around the stored machine.
2. Store the machine in a dry, level area.

3. Clean grease and oil as required and protect it from the elements.

Disposal Safety

1. Improper disposal of oil or other waste may be hazardous to the environment.
2. When oil is emptied from the machine, it must be poured into a leak-proof container suitable for oil. It is not permissible to store oil in a container used for food or drink, in order to avoid the oil being consumed by mistake and causing serious injury. It is prohibited to spill oil on the ground, or pour it into a drain or anywhere leading to a water source.
3. Discarded oil, fuel, coolant, brake fluid, filters and batteries may not be thrown away or emptied in just any way. Contact your local authority for further information.

Safety Labels

Your implement comes equipped with all safety labels in place. They were designed to help you safely operate your implement. Read and follow their directions.

1. Keep all safety labels clean and legible.
2. Replace all damaged or missing labels.
3. When ordering new components make sure the correct safety labels are included in the request.
4. Refer to steps below for proper label placement.

a) Clean surface area where label is to be placed.

b) Spray soapy water onto the cleaned area.

c) Peel backing from label and press label firmly onto the surface.

d) Squeeze out air bubbles with edge of a card or with a similar type of straight edge.

Labels Location

Labels locations below are common practices of the machine that may or may not be applicable to the products described in this manual

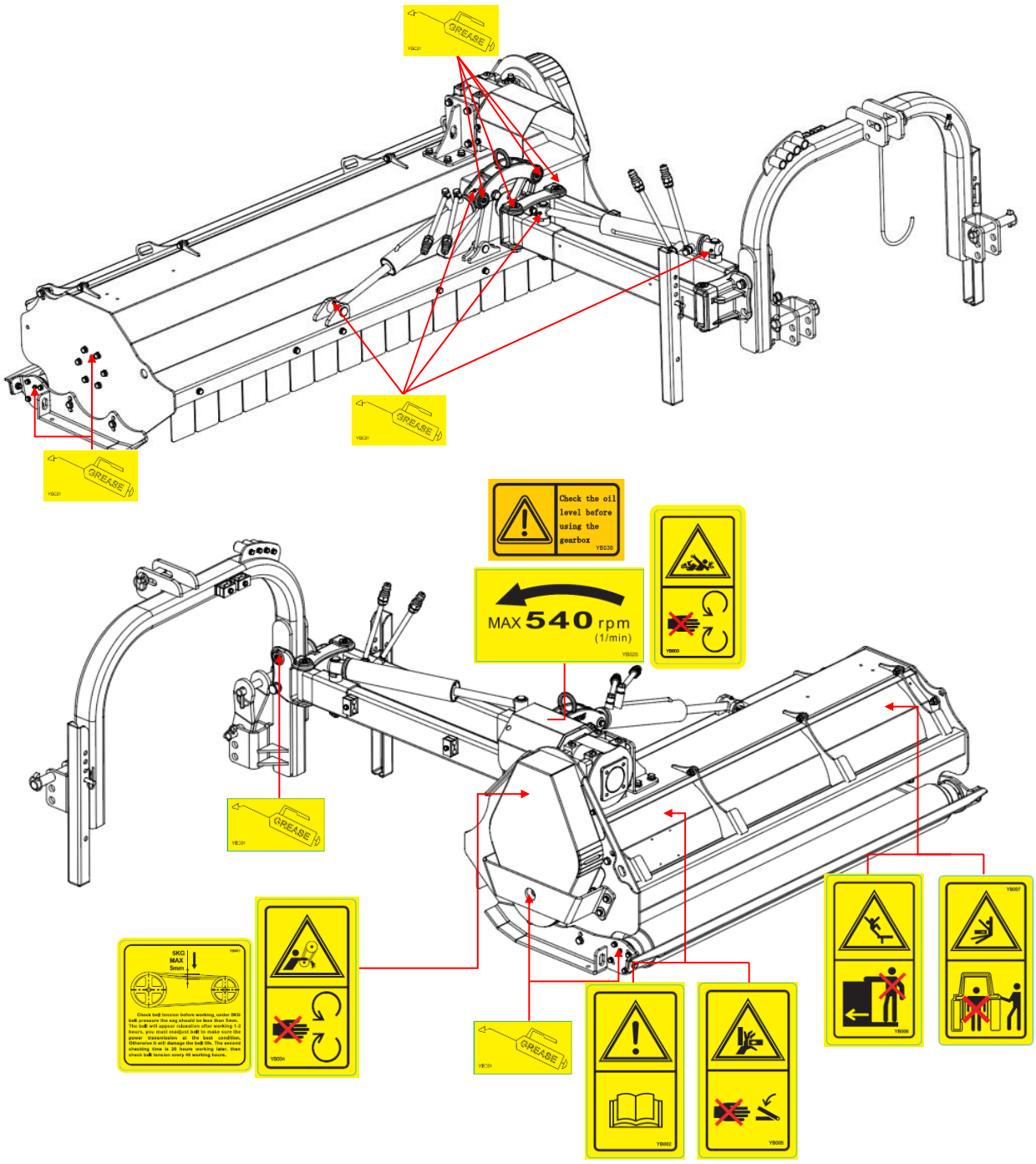


Figure 1

PRODUCT INTRODUCTION

Listed figure is common mower of machine that may or may not be applicable to the products described in this manual.

See Figure 2

Mowers are used for pasture clipping, crop residue shredding, heavy brush cutting, waterways, right-of -ways, roadside or highway mowing. Also, these mowers are used for cutting grass and other growth in public areas such as parks and cemeteries. Proper assembly, maintenance, and safe operating practices will help you get years of satisfactory use from this machine.

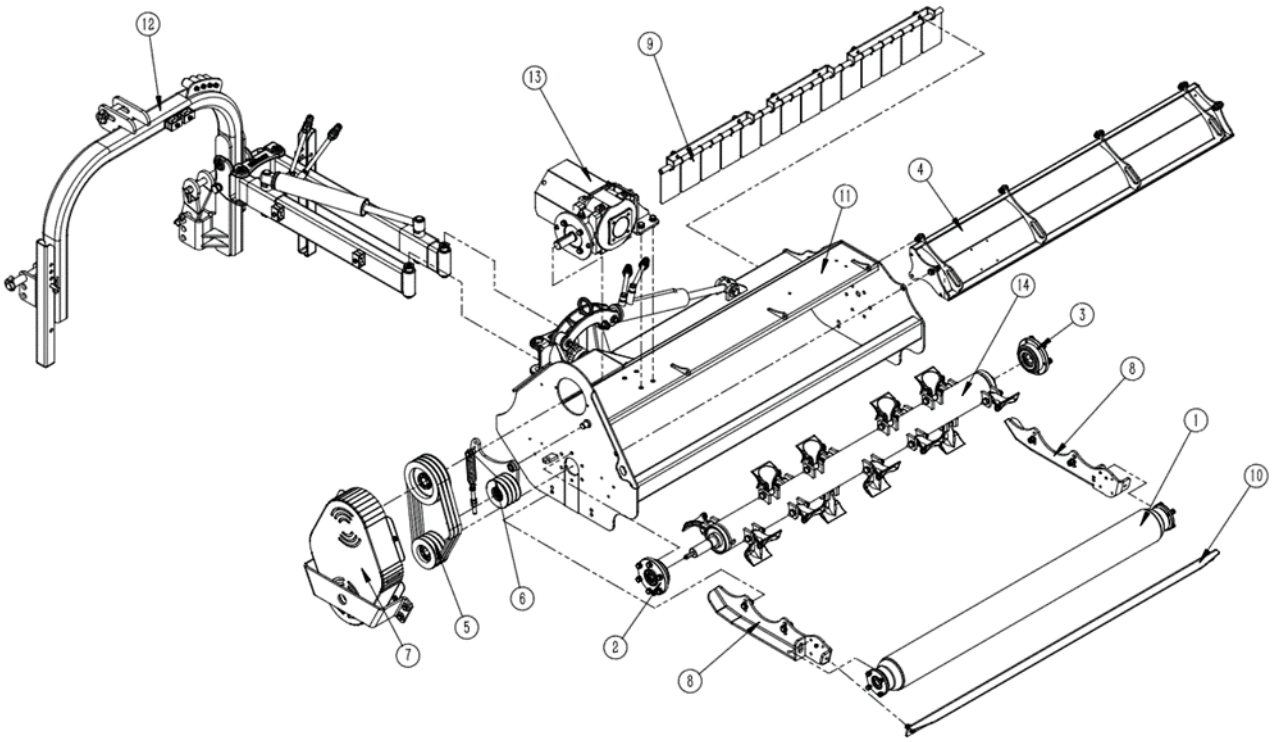


Figure 2

Main parts name and function list:

Item	Name	Functional Description
1	Roller assembly	As the mower moves forward, the rotating Roller rolls the grass close to the ground, and the cut material is then flattened over the field. Roller has three adjustable height from which it adapts to different grass heights, see **Adjusting Roller/Skid Height**.
2/3	Blade shaft bearing seat	Adjust the center between blade shaft and bearing seat automatically via self-aligning ball bearing when the mower moves to make sure the blade shaft runs normally.
4	Rear cover	Easy to maintenance the blades in the hood.
5	Side driveline assembly	Transfer power generated by the engine to blade shaft and roller.
6	Tightening assembly	Adjusting pulley tension
7	Side shield assembly	Protect the people or objects from harm of side driveline.
8	Skid shoes	Support the flail mower when it is parked
9	Protection component	Prevent the material from being thrown out.
10	Scraper assembly	When working, remove the soil bonded on the roller to ensure the height of stubble when mowing
11	Hood assembly	Protecting people from harm during cutting procedure.
12	Hitch assembly	Hitch the implement to tractor via three-points hitch frame. Top and bottom hitch points float up and down which allows the mower to float over uneven terrain.
13	Gearbox drive assembly	Connect the motor shaft to the gearbox. It is used to increase the output torque or change the speed (RPM) of the motor.

Item	Name	Functional Description
14	Ordinary axle + hammer blade	Cut the grass. There are two blade types (Hammer or Y-type blades) available.

Technical Date

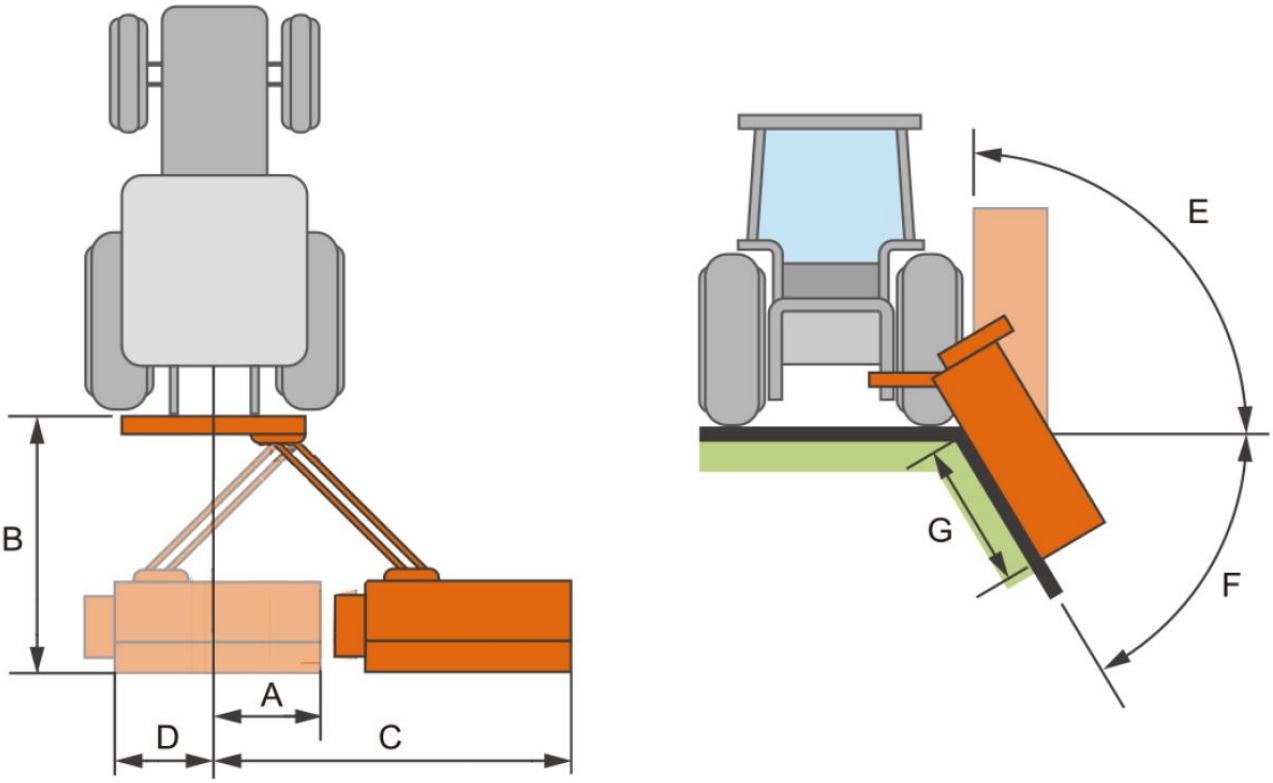
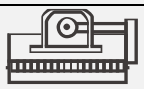
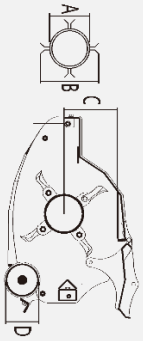


Figure 3

Implement specification table:

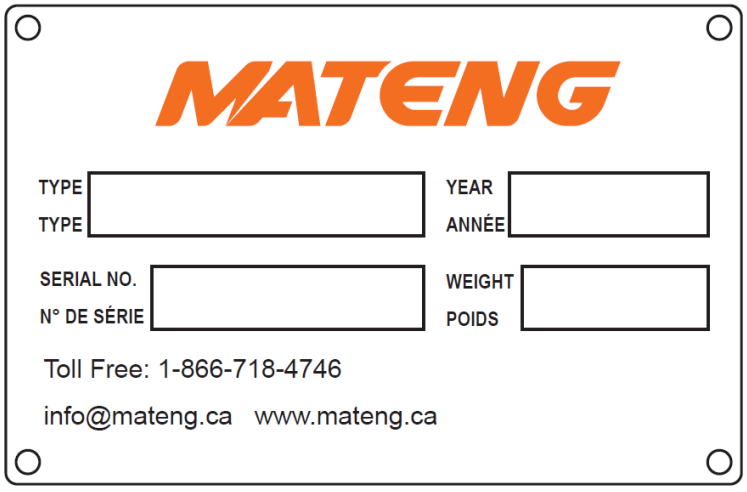
Model		ME-VS58A	ME-VS58OSA	ME-VS64A	ME-VS64OSA	ME-VS72A	ME-VS72OSA
A	cm	96.4	125.4	116.4	145.4	136.4	165.4
B		140					
C		207.9	236.9	227.9	256.9	247.9	276.9
D		48.6	19.6	48.6	19.6	48.6	19.6
E		90°					
F		50°					

Model		ME-VS58A	ME-VS58OSA	ME-VS64A	ME-VS64OSA	ME-VS72A	ME-VS72OSA
G		93.7	122.7	113.7	142.7	133.7	162.7
	cm	145		165		185	
	HP	50					
		45-70					
	RPM	2160					
	A (mm)	Φ108*8					
	B (mm)	348					
	C(mm)	208					
	D(mm)	Φ127×6					
	Hood thickness Side panel thickness mm	5/6					
	V (m/s)	39					
	Openable maintenance door	YES					
	N	18		20		22	
	N	36+18		40+20		44+22	
	PTO (rpm)	540					

Model		ME-VS58A	ME-VS58OSA	ME-VS64A	ME-VS64OSA	ME-VS72A	ME-VS72OSA
	CAT.	**CAT. I / CAT.Ⅱ**					
	N	**3**					
	Kg	**401**	**404**	**419**	**422**	**437**	**440**

Implement Identification

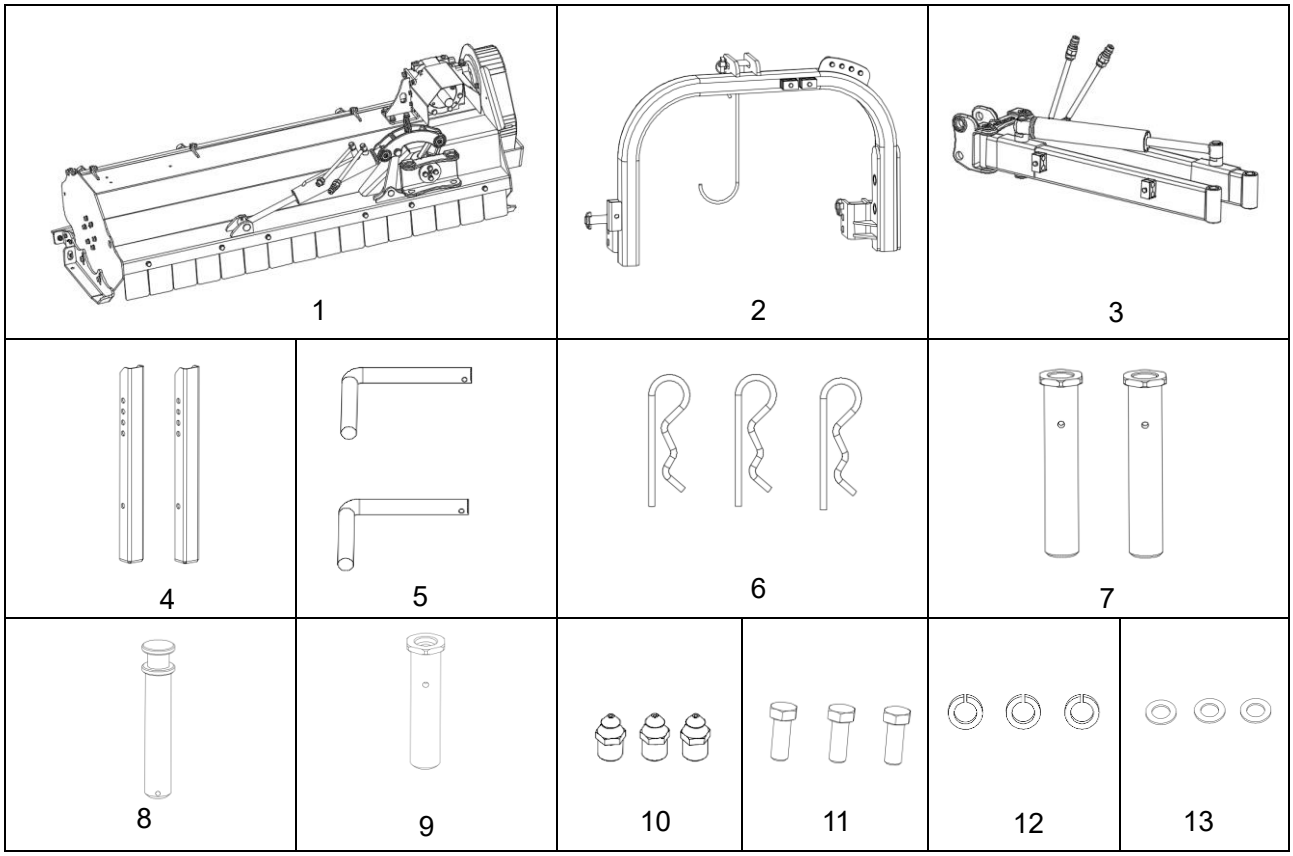
The identification nameplate is affixed to the frame of each implement. It contains the “CE” certification brand and information about (CE is only for European region, implement identification below is for reference): the Manufacturer, Type, Serial Number, Model Number, Weight. The nameplate (Shown in the below) is for reference only and is based on the real thing.



UNPACKING

After unpacking, please check the components shown in Figure 4. If you have any problem, please contact us freely.

ME-VS58



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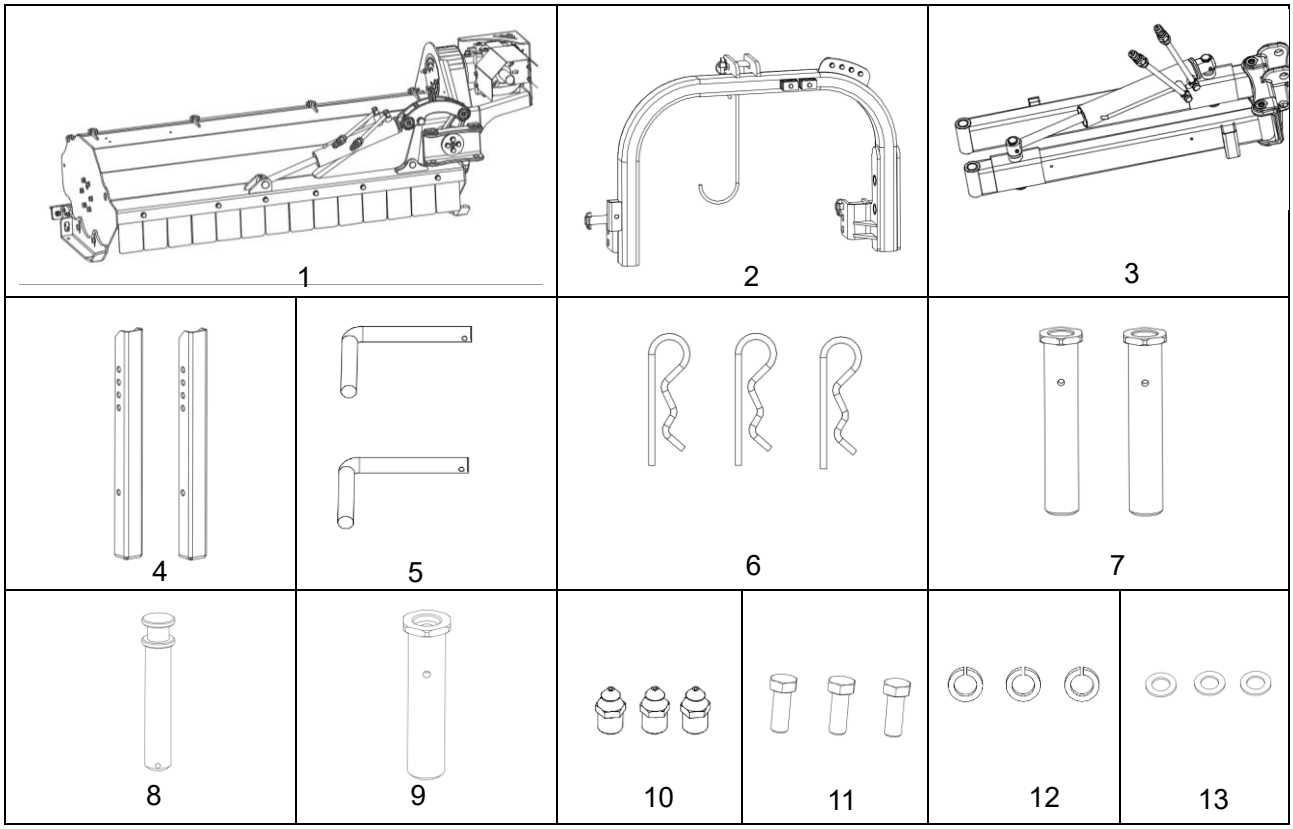


All numbers are not part numbers in the drawings. For correct part numbers, see explosive diagram.

	Specification	Description	Qty	Packing method
1		Main frame assembly	1	single pack
2		Suspension assembly	1	single pack
3		Swing arm assembly	1	single pack
4		foot assembly	2	single pack
5		footrest pin	2	Bale
6		R pin	3	Bale
7	G02001A18000-001	swing pin	2	Bale
8	G02001A18000-003	safety pin	1	Bale
9	G02001A18000-002	retaining pin	1	Bale
10	Din71412-G1_8-A	Straight-through pressure-filled oil cups	3	Bale
11	GB_T5783-M16×30-8.8-EP-Zn	Full Threaded Hexagonal Bolts	3	Bale
12	GB_T93-16-EP_Zn	Standard spring washers	3	Bale
13	GB_T95-16-EP_Zn	Plain washer	3	Bale

No	Description	Specification	Conditions of Use	QTY
1	Open end wrench		M16/Mning	2
2	Hex key		M16 fastening	1
3	hammer			1
4	Torque wrench	10-220N.m	Measuring torque	1
5	Wind gun	1280t	Match the corresponding sleeve instead of the wrench to tighten the bolt	1

ASSEMBLY & SET-UP

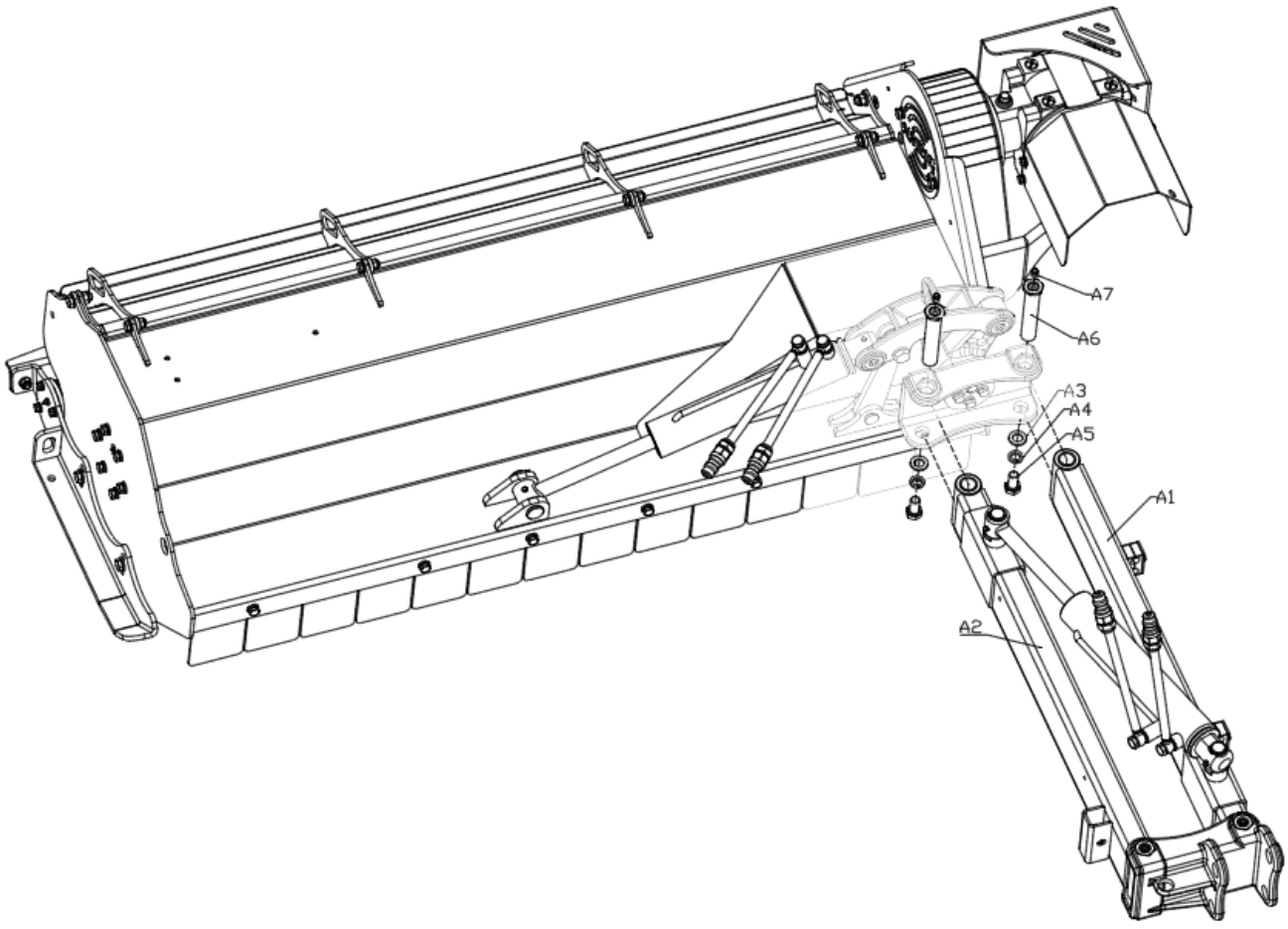
Installation of Swing Assembly

1. Install the connecting tube on the swinging square tube (A1/A2) into the opening of the tilting rack.

2. Align the holes on the right side of the tilting frame, pass the oscillating pin (A6) from top to bottom, and install the straight-through press-fit oil cup (A7) on the top end of the pin.

3. Insert full thread hexagon bolts (A5), standard type spring washers (A4), plain washers (A3).

4. Apply correct torque, for all fasteners.



Installation of Suspension assembly

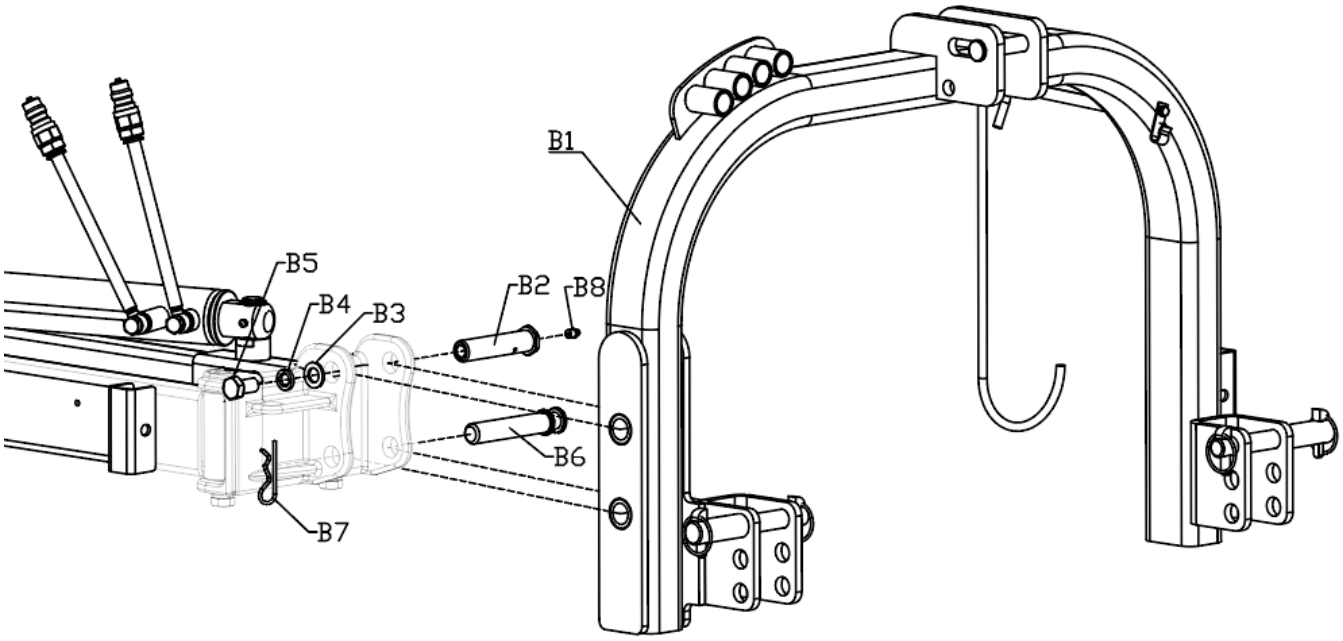
1. Attach the suspension assembly (B1) to the lifting bracket on the swingarm assembly

2. Align the two fixing sleeves on the suspension with the holes in the lifting frame and pass the fixing pin (B2) from right to left through the holes in the upper part of the suspension.

3. Installation of a straight-through press-fit oil cup (B8) on the retaining pin

4. Insert full thread hexagon bolts (B5), standard type spring washers (B4), plain washers (B3).

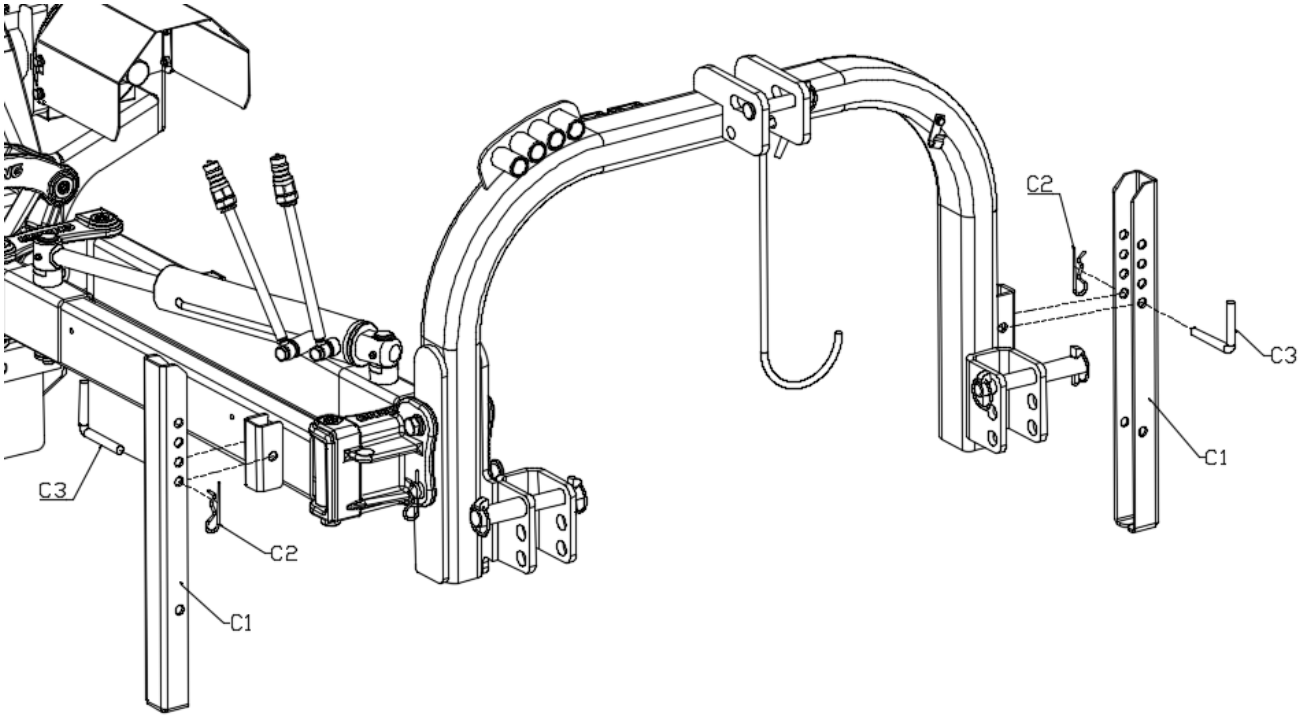
5. Pass a safety pin (B6) from right to left through the hole in the fixing sleeve below the suspension, and pass the other end through the fixing with an R pin (B7).



Installation of Leg Assembly

1. Attach a spacer tube to the spacer plate on the side of the swing arm assembly, align the bottom most hole, pass the spacer pin (C1) from left to right, and secure the other end with the R pin (C2) and L (C3) pin. Same mounting for the other leg

2. Apply correct torque, for all fasteners.



Tractor Shutdown

The following are basic tractor shutdown procedures. Follow these procedures and any additional shutdown procedures provided in your tractor Operator's Manual before leaving the operator's seat.

1. Reduce engine speed and disengage power take-off if engaged.
2. Park tractor and implement on level, solid ground.
3. Lower implement to ground or onto non-concrete support blocks.

NOTE: Due to the over running clutch, the rotor blades will continue to spin after the driveline stops.

4. Put tractor in park or set park brake, turn off engine, and remove switch key to prevent unauthorized starting.
5. Relieve all hydraulic pressure to auxiliary hydraulic lines.
6. Wait for all components to come to a complete stop before leaving the operator's seat.
7. Use steps, grab-handles and anti-slip surfaces when stepping on or off the tractor.

Tractor Hook-up

⚠WARNING

- A crushing hazard exists while hooking-up and unhooking the implement. Keep people and animals away while approaching the implement or pulling away from the implement. Do not operate hydraulic controls while a person or an animal is nearby.
- Always follow "Tractor Shutdown Procedure" to power off.
- Tractor horsepower and hitch category should be within the required range. The lower 3-Point arms must be stabilized to prevent side-to-side movement.

Note:

- There are one pair of extra hitch pins delivered at your disposal.

See Figure 6

1. Be certain tractor drawbar does not interfere. Move drawbar ahead or remove if required.
2. Remove all hitch pins and linchpins.
3. Attach tractor's top center link and lower arms with 3-point hitch correspondingly and secure with pins accordingly.

4. The upper clevis has slots to compensate for uneven ground and to keep the roller in contact with the ground. After setting the work height, adjust the length of the top center link until hitch pin is close to the rear of the slot to ensure that the mower will work correctly.
5. The lower arms of a 3-point hitch for an offset/vertical mower has one end longer than the other to accommodate the offset design of the mower. This allows the mower to reach areas that a center-mounted mower cannot, such as along fence lines or ditches.

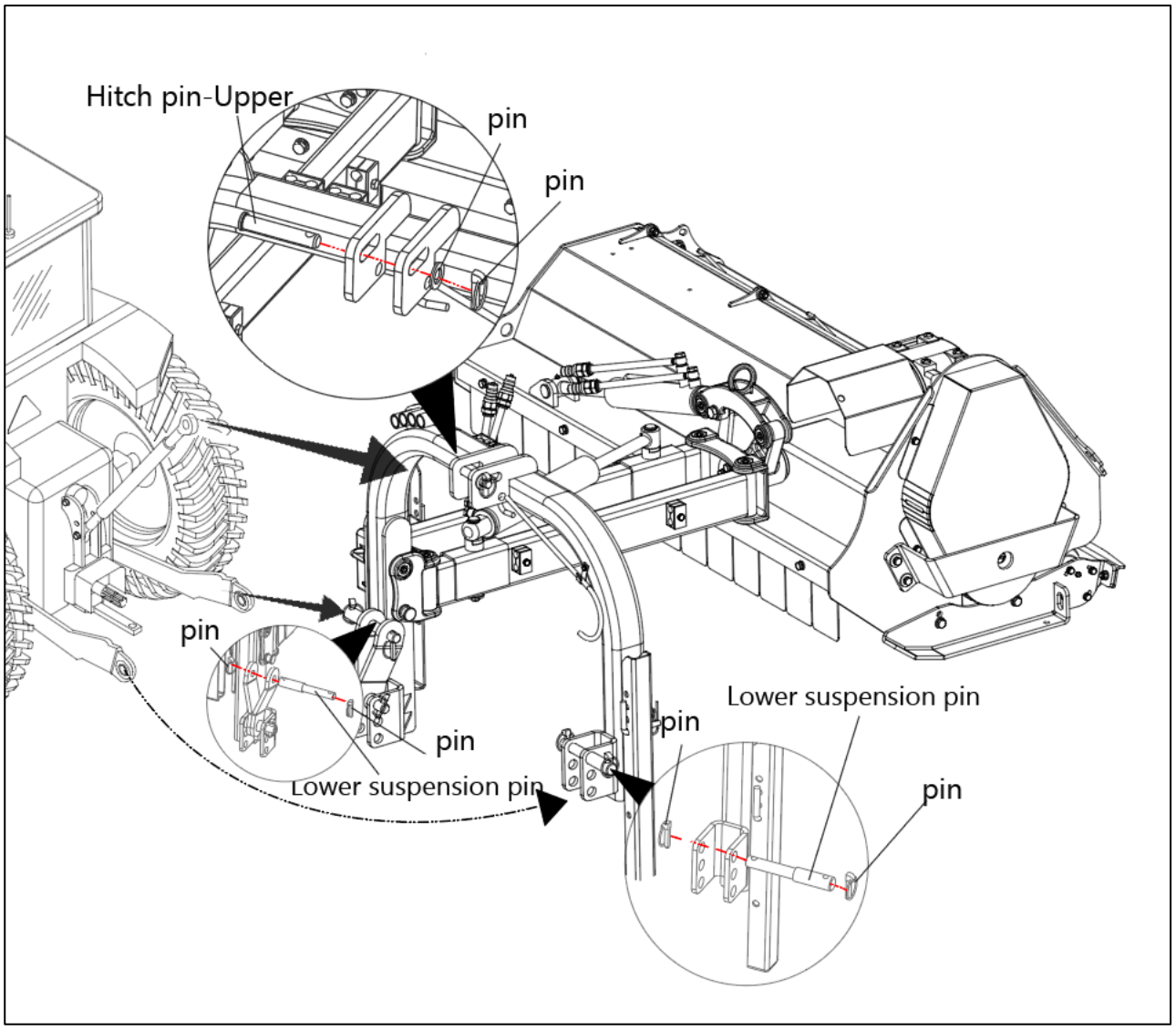


Figure 4

Driveline Installation

Listed below are common practices that may or may not be applicable to the products described in this manual.

Note: There are 3 types of PTO shafts available.

DANGER

- Do not engage tractor PTO while hooking-up and unhooking the prop shaft or stand near a rotating prop shaft. A person's body and/or clothing may get entangled to cause severe injury.
- Do not use a power take-off adapter. The adapter will increase strain on the tractor's power take-off shaft causing possible damage to shaft and driveline. It will also defeat the purpose of the tractor's power take-off shield.
- Make certain driveline yokes are securely fastened at each end. A loose yoke can work free

See Figure 7

Type A shaft has interchangeable ends for installation;

Type B shaft shall have the end where safety pin locates connected with the implement;

Type C shaft shall have end where the clutch locates connected with the implement.'

Type D shaft shall have end where the wide angle joint locates connected with the tractor.

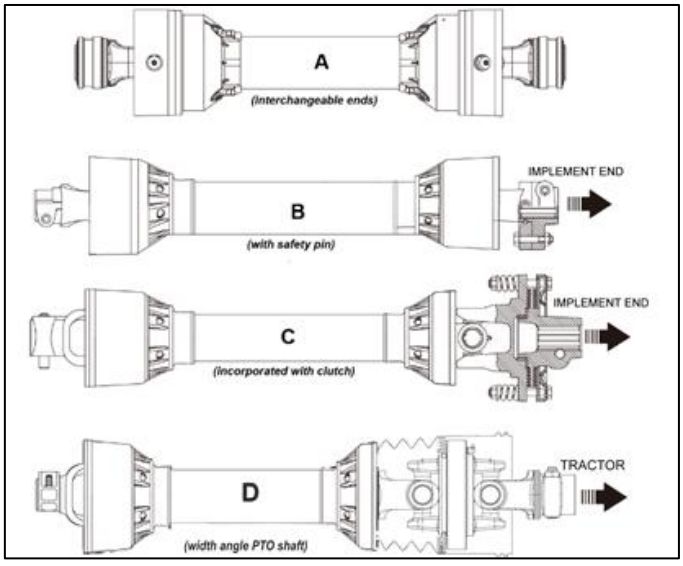


Figure 7

1. Park tractor on a level surface. Slowly engage tractor 3-Point lift lever to raise Mowers until gearbox shaft is in line (level) with tractor PTO shaft.
2. Support Mowers deck at this height with support jacks or blocks to keep Mowers from drifting down.
3. Place gear selector in park, set park brake, shut tractor off, and remove switch key.
4. Slide inner yoke (implement end) of driveline onto the gearbox. Secure driveline with yoke locking device.
5. Slide outer yoke of driveline over the tractor PTO shaft. Secure driveline with yoke locking device
6. If the driveline is too long and does not fit between tractor and gearbox, skip to **Customize Driveline** to shorten the driveline.
7. The driveline should now be moved back and forth to ensure secured connection at both ends. Reattach any end that is loose. Go to **Driveline Length Check** to ensure proper accommodation.
8. Hook driveline safety chain on the tractor end of driveline to the tractor. Re-latch safety chain to the driveline shield.
9. Hook driveline safety chain on the Mowers end of driveline to the Mowers frame. Re-latch safety chain to the driveline shield.

Driveline Length Check

Before operating the Mower, 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 Mower is attached with.

Maximum compressed position

The power take-off shaft and gearbox input shaft must be aligned and level with each other when checking driveline minimum length. A driveline that is too long can damage tractor and implement.

See Figure 6

Hold inner and outer drivelines parallel to each other as shown and measure distance *L1:*

1. If ***L1*** is less than 1” (2.5 cm), skip to Customize Driveline to shorten the driveline.
2. If ***L1*** is greater than or equal to 1” (2.5 cm), skip to Maximum Extended Position below.

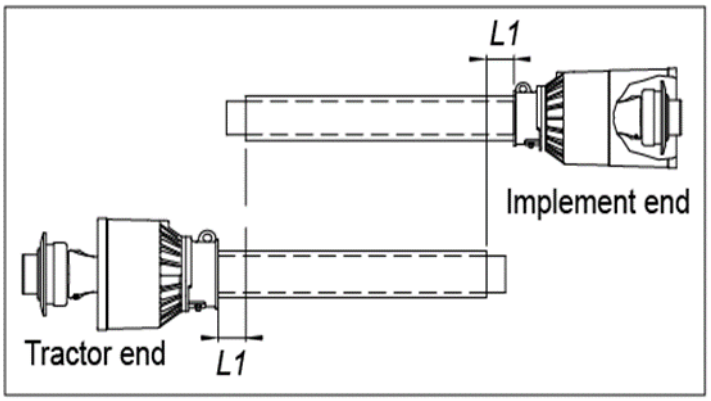


Figure 5

Maximum Extended Position

See Figure 7

The driveline maximum allowable length must, when fully extended, have a minimum overlap (***L2***) of profile tubes by not less than 1/3 the free length with both inner and outer profile tubes being of equal length.

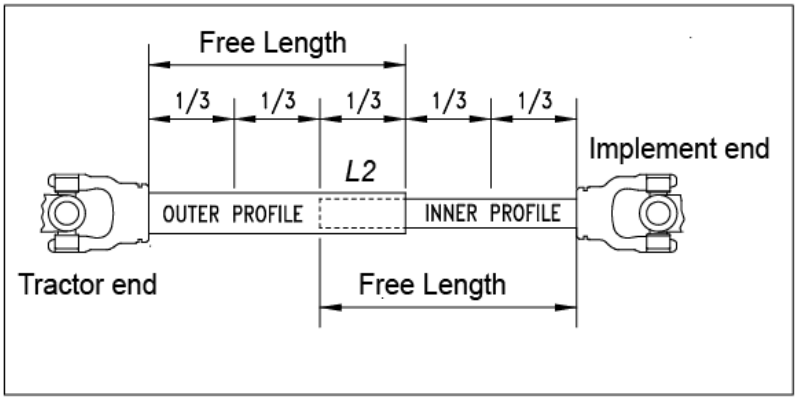


Figure 6

Customize Driveline

See Figure 8

1. Un-hook driveline from tractor PTO shaft and pull outer and inner drivelines apart.
2. Re-attach outer driveline to tractor PTO shaft. Pull on inner and outer drivelines to be sure universal joints are properly secured.
3. Hold inner and outer drivelines parallel to each other:

a. Measure 1" (2.5 cm) ("***L1***" dimension) back from outer driveline universal joint shield and make a mark at this location on the inner driveline shield.

b. Measure 1"(2.5 cm) (“***L1***” dimension) back from the inner driveline universal joint shield and make a mark at this location on the outer driveline shield.

4. Remove driveline from tractor and gearbox shafts.
5. Measure from end of inner shield to scribed mark (“X” dimension). Cut off inner shield at the mark. Cut same amount off the inner shaft (“X1” dimension).
6. Measure from end of outer shield to scribed mark (“Y” dimension). Cut off outer shield at the mark. Cut same amount off the outer shaft (“Y1” dimension).
7. Remove all burrs and cuttings.
8. Apply multi-purpose grease to the inside of the outer shaft and reassemble the driveline.

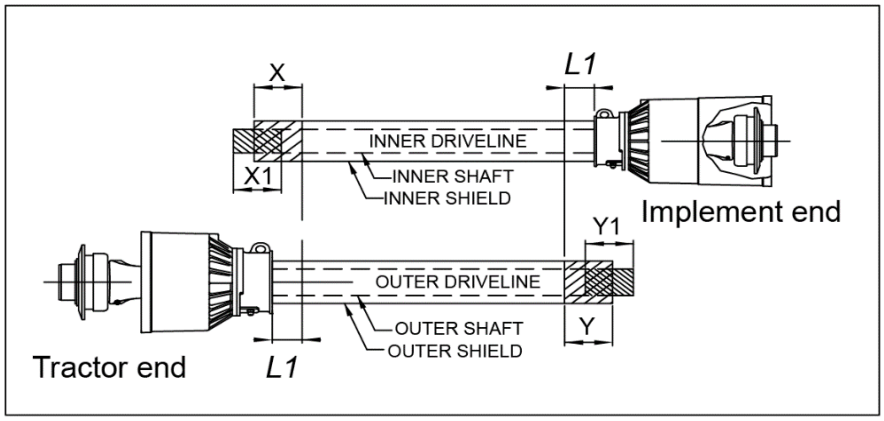


Figure 7

Driveline Interference Check

See Figure 11

Lowly engage tractor 3-Point control lever to lower Mowers while checking for sufficient tongue clearance. Move tongue ahead, aside, or remove if required.

1. Raise and lower implement to find maximum extended driveline length. Check to make certain the driveline does not exceed the maximum allowable length and 25° up or down.
2. If needed, set tractor 3-Point lift height to keep driveline from exceeding the maximum allowable length and 25° up or down.

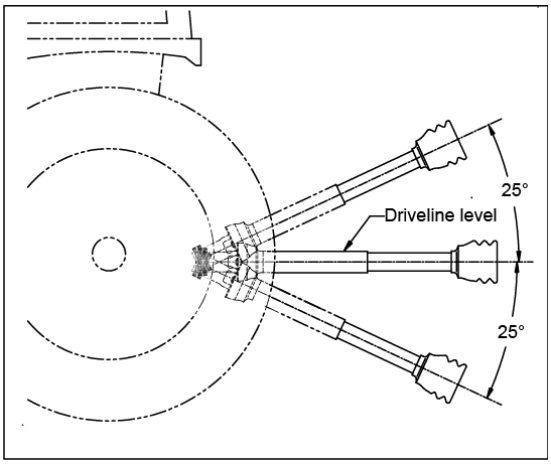


Figure 8

See Figure 10

Slowly and carefully fully extend lateral cylinder and then extend and retract incline cylinder to ensure the PTO shaft does not interfere with lateral joint.

When the mower is used in combination with certain tractors and in extreme conditions, PTO shaft may come into contact with the top of lateral joint. This may occur in the following conditions when the mower is at maximum lateral adjustment

- When the mower is inclined
- When the tractor lift is use

In these conditions, take particular care to prevent the movements of the driveline from causing the shaft itself to come into contact with the structure as the mower approaches its maximum permitted travel. Contact may cause severe damage to the driveline and the mower and is dangerous.

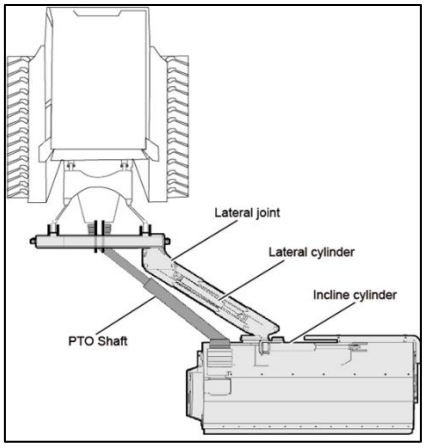


Figure 9

OPERATION

General Operating Instructions

Now that you have familiarized yourself with the Operator's Manual, completed the Operators Checklist, properly attached your Mowers to your tractor, made the right offset or center adjustments, and preset your Crushing height, you're almost ready to begin using the mower.

It's now time to do a running operational safety check. If at any time during this safety check you detect a malfunction in either the Mowers or tractor shut the tractor off immediately, remove the key, and make necessary repairs or adjustments before continuing on.

Make sure the tractor's park brake is engaged, the tractor's PTO is disengaged, and the Mowers is resting on the ground. Start the tractor and then back the tractor throttle off till the engine is at low idle. With the tractor's rear hydraulic lift control lever, raise the Mowers to transport position making sure that the PTO shaft is not in a bind and does not come in contact with the Mowers frame. Lower the unit to Crushing position and, with the tractor still at low idle, engage the PTO. If everything is running smoothly at this point increase the engine rpm until the tractor's engine reaches full PTO operating speed which will be 540 rpm. Slowly raise the cutter to transport height to make sure the driveline does not bind or chatter. Then return the engine to low idle, disengage PTO, and position the adjustable stops on the tractor's hydraulic lift lever control console so the cutter can be consistently returned to the same Crushing and transport height.

You should now be ready to move to the Crushing site to begin working. You should have inspected and should only be Crushing in an area you are familiar with which is relatively free of debris and unseen objects. Never assume an area is clear. In the event you do strike an object, stop the tractor and Mowers immediately to inspect the rotor and make any necessary repairs before resuming operation. It pays to inspect a new area and to develop a plan before cutting.

Recommended working speed is less than 4 mph and you will need to maintain tractor PTO speed to produce a clean cut so make a tractor gear and range selection that will maintain this combination. Generally the quality of cut of will be better at lower ground speeds and crushing denser ground cover or heavier brush may create the need to slow down. Always cut downward on slopes and avoid crossing the face of steep slopes. Avoid sharp drops and cross diagonally through dips to prevent hanging up the tractor and Mowers. Slow down in turns and avoid sharp turns if at all possible. Remember to look back often.

Now you're prepared and well briefed so let's begin Cutting. Reduce the tractor's engine rpm, make sure the Mowers is on the ground and in Crushing position, engage the PTO, raise the engine rpm to the appropriate PTO speed, and begin working. Operators must plan a head and choose a Crushing route that allows safe turns. Try increasing or decreasing ground speed to determine the effect on quality of cut.

! CAUTION

Engage parking brake, shut off tractor, remove key, and disengage PTO before making any adjustments!

! CAUTION

Ensure Mowers with special supports if it is necessary to lift Mowers off the ground to make adjustments! If not supported, the Mowers could fall causing serious injury to those present.

Checklist before Operation

⚠CAUTION

Hazard control and accident prevention are dependent upon the awareness, concern, prudence, and proper training involved in the operation, transport, storage, and maintenance of the mower. Therefore, it is absolutely essential that no one operates the machine without first having read, fully understood, and become totally familiar with the Operator's Manual. Make sure all operators have completed the Checklist below.

Before operating the machine, the following steps should be inspected carefully:

1. Before starting up the machine, check and lubricate all grease points, on the machine and drive shaft. Check the oil level in the gearbox. Add as required.
2. Use only an agricultural tractor with horsepower within limits of the implement.
3. Check that the machine is properly attached to the tractor. Be sure retainers are used on the mounting pins.
4. Be sure extra weights are mounted on the front of the tractor, if required.
5. Check that the tractor PTO shaft turns freely and that the machine driving shaft can telescope easily.
6. Check the blades. Be sure they are not damaged or broken and swing freely in their mount. Repair or replace as required.
7. Check and tighten the blade bolts.
8. Check for entangled material in all rotating parts. Remove this material.

9. Install and secure all guards, hook and covers before starting.
10. Before installing the PTO ensure the engine is stopped and the PTO shaft is in safe working order.
11. All other people shall leave the area before connecting the driving power from the tractor.
12. Before cleaning, repairing and lubricating the machine, stop the motor and take the key away with you.
13. When the PTO shaft is not connected with the tractor, support it through the frame to protect it from lying in the dirt.
14. Don’t approach the machine when it is operating.

Levelling the Mower

Levelling adjustments are made at the tractor’s 3-Point lower arms and top center link.

1. Park tractor and Mowers on a flat level surface.
2. Raise Mowers with the tractor’s Hydraulic 3-Point lift slowly until the unit is about 1 to 2" above the ground.
3. Ensure that the lower arms are stabilized to prevent excessive side movement.
4. Place a spirit level on the top cover running from left to right and adjust one of the lower 3-Point arms up or down until the Mowers is level from left to right.
5. Adjust tractor’s top center link to place the upper hitch pin vertically above or slightly behind the lower hitch pins.
6. Slowly operate the tractor's 3-Point hydraulic control up and down to check for clearance between the tires, frame, drawbar.

Adjusting Lateral Position

If the mower has the lateral oil cylinder (named swing arm) or guide rail, the steps below user need to perform, otherwise does not.

See Figure 11

Note: Adjusting the lateral position must be carried out with the implement raised off the ground to avoid damaging the implement.

1. Stop forward travel with the tractor, place transmission in park or in neutral and set the park brake, reduce throttle speed to an idle, disengage power take-off, and raise the mower off the ground.

2. Extend the lateral cylinder to adjust the mower to the right or retract the lateral cylinder to adjust the mower to the left.
3. Once adjusted to the desired position, lower mower to the cutting height.
4. With engine speed at idle, engage PTO. Increase engine throttle to 540 power take-off speed.
5. Place transmission in appropriate gear range and begin traveling forward.

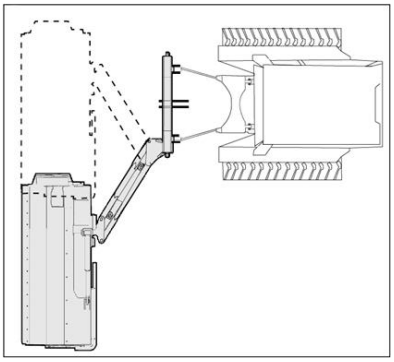


Figure 10

Adjusting Incline Angle

If the mower has the lateral oil cylinder (named rollover arm), the steps below user need to perform, otherwise does not.

See Figure 12

The incline angle of the flail head is adjustable to suit the job at hand. The incline angle may be rotated from -50° to +90° (angle range is reference) relative to the horizontal. Simply use the tractor control lever connected to the inclined cylinder to set the flail head to the preferred angle. The flail head should only be adjusted to follow the terrain.

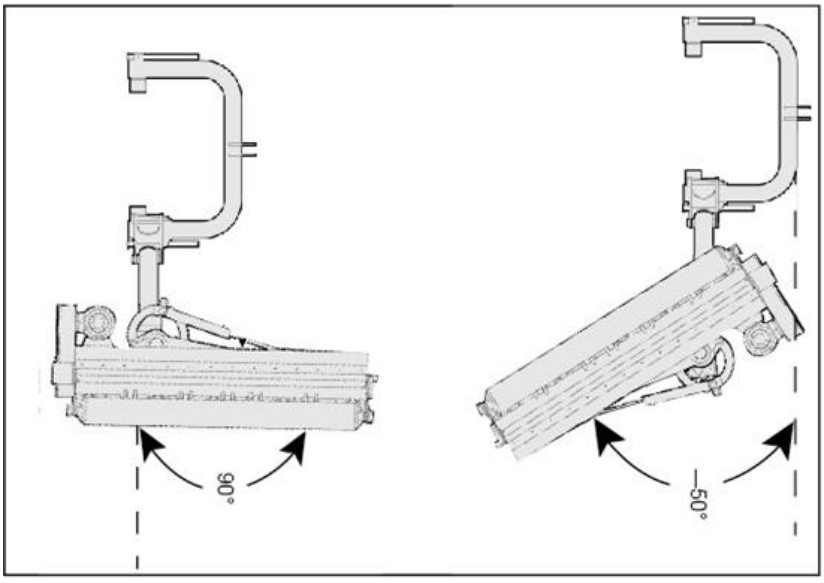


Figure 11

Adjusting Roller/Skid Height

⚠CAUTION

The roller must be adjusted into the same position on both sides.

The blades must never be less than 1" (2.5 cm) from the ground.

The skid shoes must be at least 3/4" (2 cm) off the ground when in operation.

See Figure 13

There are three optional locations for roller height adjustment indicated in the figure as ①②③.

1. Park tractor and implement on a flat, level surface.
2. Lower tractor lift arms to bring the roller in contact with the ground and make sure the flail head is parallel with the ground.
3. Shut tractor down according to procedures mentioned in tractor manual.
4. Raise and secure the implement with solid and firm support blocks.
5. Untighten and remove the height adjustment bolt as well as associated washers and nuts;
6. Adjust roller to the desired height by choosing one of the three locations;
7. Secure the bolts with removed washers and nuts;
8. Accordingly adjust the skid shoe by untightening the bolts as well as associated washers and nuts.
9. Inspect blades to make sure they do not touch the ground. Blades that come in contact with the ground will wear quickly. If necessary, readjust cutting height to keep blades from touching the ground.

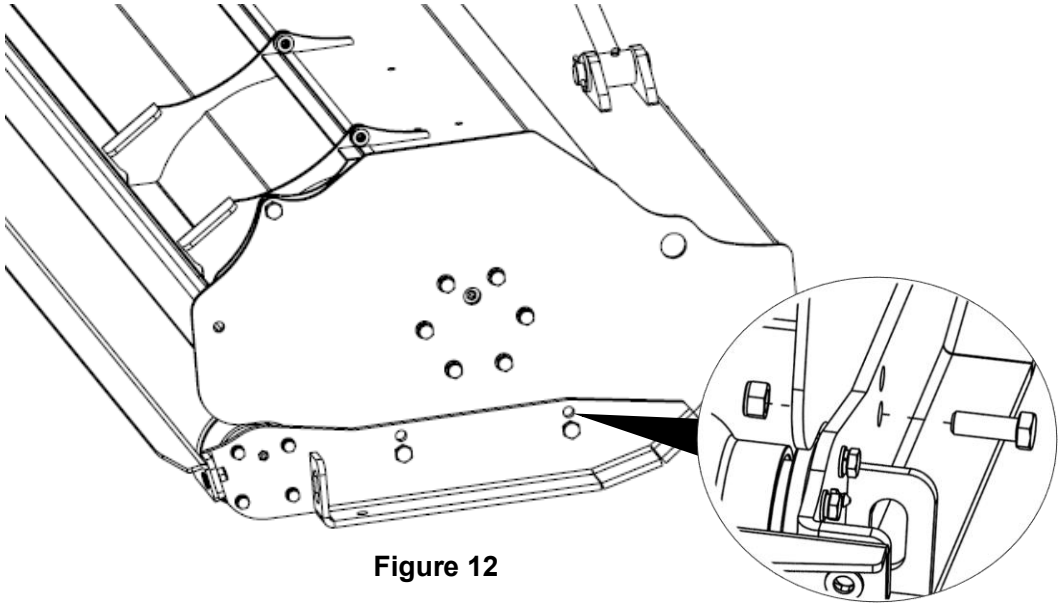


Figure 12

Adjusting the Belt

⚠CAUTION

- Always shut tractor down before servicing, adjusting, cleaning, or maintaining this implement
- Always wear appropriate PPE, such as gloves, safety glasses, and hearing protection to protect yourself from any potential hazards.
- Block the mower securely in place to prevent any movement during the adjustment process.
- Excessive tension on the belt may lead to premature failure of belt and drive components. Excessive tension on the belt may also lead to a safety hazard to the operator or bystanders.
- The Belt tension should be checked after the first 20 hours of use and every 40 hours thereafter.

See Figure 14

Belt tension adjustment steps:

1. Loosen the bolts, common washers to remove the belt guard;
2. Loosen the Hexagon Nuts (1 and 2), bolt (3), locknut (4)
3. The tension spring hangs in place, there are three holes to choose from.
4. Tighten the bolt, nuts
5. Put back the belt guard by tightening the removed bolts and washers.

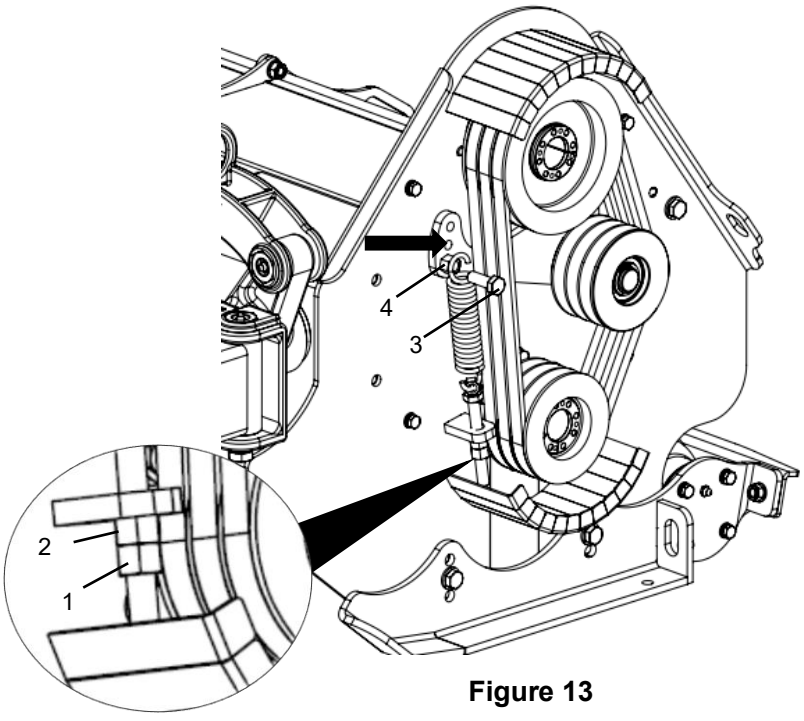


Figure 13

Starting the Machine

WARNING

- The flail mower must only be in the working position while moving forward and must be raised when backing-up. Operating the flail mower in the working position while backing-up can seriously damage the flail mower.
- Never use the flail mower with the tractor straddling a ditch.
- Only operate the flail mower inclined when in the lateral extended configuration. When the mower is in the center configuration, only operate it horizontally.
- Make sure that there are no persons or animals in the vicinity.

DANGER

To avoid tractor overturning hazard

- Never allow the tractor to take the weight of the flail mower when working on inclined surfaces (ditches, slopes etc.), as the combined weight of the tractor and flail mower may cause the tractor to overturn.
- Lightweight tractors with rear attached implements may need weights added to the front to maintain steering control.
- Consult your tractor Operator's Manual to determine proper weight requirements and maximum weight limitations.
- Survey any incline surface the tractor will be traveling on for holes and low depressions in the ground that the tractor wheel can drop into suddenly causing the tractor to overturn unexpectedly. Avoid such drop-offs.

Inspection Before Starting

Before starting the machine, check and adjust the following items:

1. Drive belt tension.
2. Gearbox oil level.
3. Grease nipples on bearings and PTO shaft.
4. All bolts, nuts and screws.

Operation the Machine

See Figure 15

The incline cylinder must always be set to not float before raising the head off the ground. Mow while traveling forward only. Do not back-up while mowing. To back-up, follow the procedure below:

1. Stop traveling forward, disengage power take-off, set the incline cylinder to not float, and raise the mower off the ground.
2. Back-up with the mower above ground.
3. Lower the mower to the working position, set the incline cylinder to float if desired, engage power take-off, and continue mowing while traveling forward.

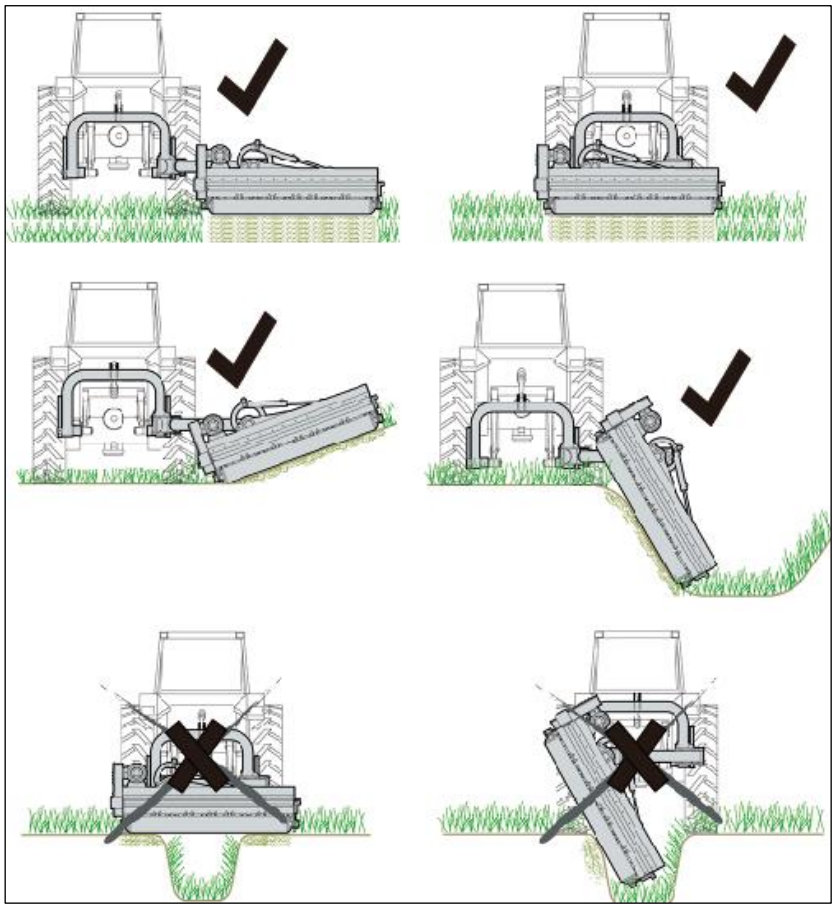


Figure 14

Note: if you have any problem during operation, please contact us freely!

SERVICE AND MAINTENANCE

General Service

The period recommended is based on normal operating conditions. Severe or unusual conditions may require more frequent service.

Each 4 hours of work:

Check and tighten nuts and bolts.

Grease with lithium based grease when it is indicated by the symbol GREASE.

After 50 hours of work:

Check and fill the gearbox to the required level, using oil type SAE EP 90W.

Gearbox Maintenance

The oil should be drained out and replaced after the first 50 hours of operation. Then the oil should be changed every 250 hours.

Drain oil from the gearbox thoroughly. Check and clean it. Fill with new gear oil up to the dedicated oil level.

The draining procedure is as follows: remove the draining bolt under the gear box, so that the oil drains off. After the oil is drained out, put the plug back and fill with gear oil up to the dedicated oil level.

PTO Shaft Maintenance

It is recommended to lubricate the PTO shaft with multi-purpose grease after every 8 to 10 hours of use during heavy use. The PTO shaft is designed to telescope to allow for dimensional changes as the machine goes through its operating range. A tubular guard encloses the driving components and is designed to turn relative to the driving components. The shaft should telescope easily and the guard turn freely on the shaft at all times. Annual disassembly, cleaning and lubrication is recommended to insure that all components function as intended. To maintain the shaft, follow this procedure:

1. Remove the shaft from the machine.
2. Pull shaft apart.
3. Use a screwdriver to pry the tabs out of the sleeves on each end.
4. Pull the shaft out of the plastic tubular guard.
5. Use a solvent to clean the male and female portions of the telescoping ends.

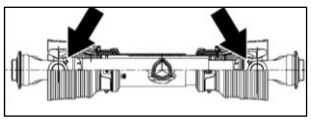
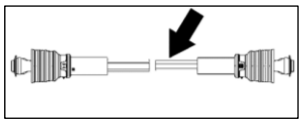
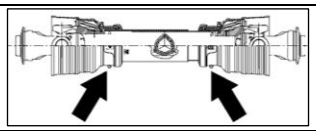
6. Apply a light coat of grease to each end.
7. Clean the grooves on each end where the tabs are located. Clean each tab also.
8. Apply a light coat of grease to each groove.
9. Insert the shaft into its respective guard and align the slots with the groove.
10. Insert the tabs through the slots and seat in the groove.
11. Check that each guard turns freely on the shaft.
12. Assemble the shaft.
13. Check that the shaft telescopes easily.
14. Replace any components that are damaged or worn.
15. Install the shaft on the machine.

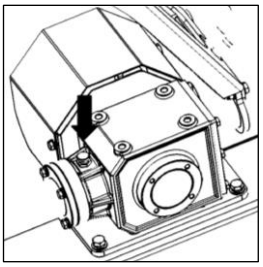
Lubrication Parts

Lubrication legend list:

Name	Multi-purpose spray lube	Multi-purpose grease lube	Multi-purpose oil lube	Intervals in hours at which lubrication is required
Image				

Lubrication parts list:

Interval	Type	Name	Parts Image	Remark
	 Multi-purpose Grease	**Driveline Shaft U-Joints**		Quantity - 4 to 8 Pumps
		Driveline Profiles		Quantity - Clean & coat inner profile tube of driveline with a light film of grease and then reassemble.
		Inner Tube Bearings		Quantity - As Required

Interval	Type	Name	Parts Image	Remark
As Required	 SAE EP 90W Gear Lube	**Gearbox**		Add visual to the center of the gear oil Reinstall plugs and tighten. **Do not overfill!** Should your gearbox require service, take it to your Manufacturer dealer.
25 Hours	 Multi-purpose Grease	**Other parts**	If the GREASE labels () are posted on the machine, you need to lubricate it regularly. Recommend lubrication interval is 25hours.	

Tightening Torque

Please follow the table below to identify the torque value as required.

Torque Values Chart for Common Bolt Sizes													
	Bolt Head Identification							Bolt Head Identification					
Bolt Size (inches)	Grade 2		Grade 5		Grade 8		**Bolt Size** (Metric)	Class 5.8		Class 8.8		Class 10.9	
in-tpi [1]	N · m [2]	ft-lb [3]	N · m	ft-lb	N · m	ft-lb	mm x pitch [4]	N · m	ft-lb	N · m	ft-lb	N · m	ft-lb
1/4" - 20	7.4	5.6	11	8	16	12	M 5 X 0.8	4	3	6	5	9	7
1/4" - 28	8.5	6	13	10	18	14	M 6 X 1	7	5	11	8	15	11
5/16" - 18	15	11	24	17	33	25	M 8 X 1.25	17	12	26	19	36	27
5/16" - 24	17	13	26	19	37	27	M 8 X 1	18	13	28	21	39	29
3/8" - 16	27	20	42	31	59	44	M10 X 1.5	33	24	52	39	72	53
3/8" - 24	31	22	47	35	67	49	M10 X 0.75	39	29	61	45	85	62
7/16" - 14	43	32	67	49	95	70	M12 X 1.75	58	42	91	67	125	93
7/16" - 20	49	36	75	55	105	78	M12 X 1.5	60	44	95	70	130	97
1/2" - 13	66	49	105	76	145	105	M12 X 1	90	66	105	77	145	105
1/2" - 20	75	55	115	85	165	120	M14 X 2	92	68	145	105	200	150
9/16" - 12	95	70	150	110	210	155	M14 X 1.5	99	73	155	115	215	160
9/16" - 18	105	79	165	120	235	170	M16 X 2	145	105	225	165	315	230
5/8" - 11	130	97	205	150	285	210	M16 X 1.5	155	115	240	180	335	245
5/8" - 18	150	110	230	170	325	240	M18 X 2.5	195	145	310	230	405	300
3/4" - 10	235	170	360	265	510	375	M18 X 1.5	220	165	350	260	485	355
3/4" - 16	260	190	405	295	570	420	M20 X 2.5	280	205	440	325	610	450
7/8" - 9	225	165	585	430	820	605	M20 X 1.5	310	230	650	480	900	665
7/8" - 14	250	185	640	475	905	670	M24 X 3	480	355	760	560	1050	780
1" - 8	340	250	875	645	1230	910	M24 X 2	525	390	830	610	1150	845
1" - 12	370	275	955	705	1350	995	M30 X 3.5	960	705	1510	1120	2100	1550
1-1/8" - 7	480	355	1080	795	1750	1290	M30 X 2	1060	785	1680	1240	2320	1710
1-1/8" - 12	540	395	1210	890	1960	1440	M36 X 3.5	1730	1270	2650	1950	3660	2700
1-1/4" - 7	680	500	1520	1120	2460	1820	M36 X 2	1880	1380	2960	2190	4100	3220
1-1/4" - 12	750	555	1680	1240	2730	2010	[1] in-tpi = nominal thread diameter in inches-threads per inch						
1-3/8" - 6	890	655	1990	1470	3230	2380	[2] N· m = newton-meters						
1-3/8" - 12	1010	745	2270	1670	3680	2710	[3] ft-lb= foot pounds						
1-1/2" - 6	1180	870	2640	1950	4290	3160	[4] mm x pitch = nominal thread diameter in millimeters x thread pitch						
1-1/2" - 12	1330	980	2970	2190	4820	3560							
Torque tolerance + 0%, -15% of torquing values. Unless otherwise specified use torque values listed above. All locknuts or lubricated fasteners: Use 75% of torque value. (i.e. 1/2"-13 GR5 = 76 ft-lb; 75% of 76 or .75 x 76 = 57 ft-lb)													

- This chart is an approximate estimate of torque values.
- Always tighten hardware to these values unless a different torque value or tightening procedure is listed for a specific application.
- Fasteners must always be replaced with the same grades as specified in the manual.
- Always use the proper tool for tightening hardware; SAE for SAE hardware and Metric for Metric hardware.
- Make sure that fastener threads are clean and that you properly start thread engagement.

Replacing the Blade

Frequently check rotor blades to make sure they are in good working condition and properly secured to the rotor.

Replace worn or damaged parts with new blades.

IMPORTANT:

- Make sure that the replacement of blade with other same weight. This will be a balance of rotor spinning.
- Recommend blade is the original factory accessories.

The blade have a Crushing edge on both the leading and trailing edges.

When the leading edge wears out, turn existing pair of blade around 180 ° and reinstall. Replaced blades should be the same length as original parts to maintain rotor balance.

Hammer blades replacement steps (See Figure 16):

1. Remove locknut (#3), hexagon head bolt (#1).
2. Remove existing blade (#2)
3. Install a new blade.
4. Tighten locknut with correct torque.

Y type blades replacement steps (See Figure 20):

1. Remove locknut (#3), hexagon head bolt (/2), spacer (#1).
2. Remove the existing blade (#4、5).
3. Install a new blade.
4. Install blade with bolt, washers, spring washer and locknut, refer to **Figure 17**.
5. Tighten locknut with correct torque.

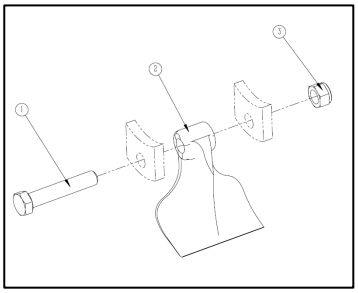


Figure 15

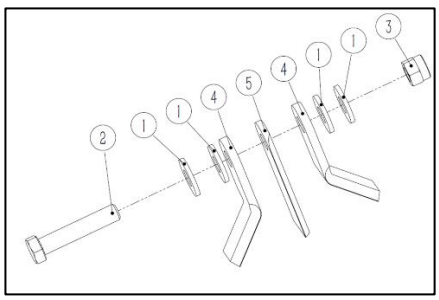


Figure 16

Note: If the images shown in the above figure are different from the machine, please check **EXPLODED VIEW AND PARTS LIST**.

STORAGE AND TRANSPORT

Storage

Before storage the implement, you should following the steps below:

1. Remove any dirt and grease that may have accumulated on the mower and moving parts. Scrape off compacted dirt from under the hood. Clean the machine inside and out so as to avoid corrosion.
2. Check rotor, blades, blade mounts, and blade bolts for wear and replace if necessary.
3. Don't spray water on the rolling bearing if you clean the machine with high pressure sprayer.
4. Check and clean the universal joint, driving belt press roller, or replace them if they are not in good condition. Lubricate wherever needed.
5. Recoat the parts rubbed and damaged for anti-corrosion.
6. Store the machine in a dry, level area.

Transport

⚠WARNING

- Always disengage power take-off before raising mower to transport position.
- When traveling on roadways, travel in such a way that other vehicles may pass you safely. Always use LED lights, clean reflectors, and a slow moving vehicle sign that is visible from the back to warn operators in other vehicles of your presence.
- Always comply with all federal, state, and local laws.

Before transport the implement, you should following the steps below:

1. When raising mower to transport position, be sure driveline does not contact tractor or mower. If needed, adjust and set tractor 3-point lift height to limit mower movement and to protect driveline.
2. Be sure to reduce tractor ground speed when turning, leaving enough clearance so that the mower does not contact obstacles such as buildings, trees, fences, etc.
3. Select a safe ground travel speed when transporting from one area to another. When traveling on roadways, transport in such a way that faster moving vehicles may pass safely.
4. When traveling over rough or hilly terrain, shift tractor to a lower gear.

TROUBLESHOOTING

Listed general troubleshooting is the common malfunction that may or may not be application to the described in this manual. If you have any problem not covered in the list, please contact us for technical supporting.

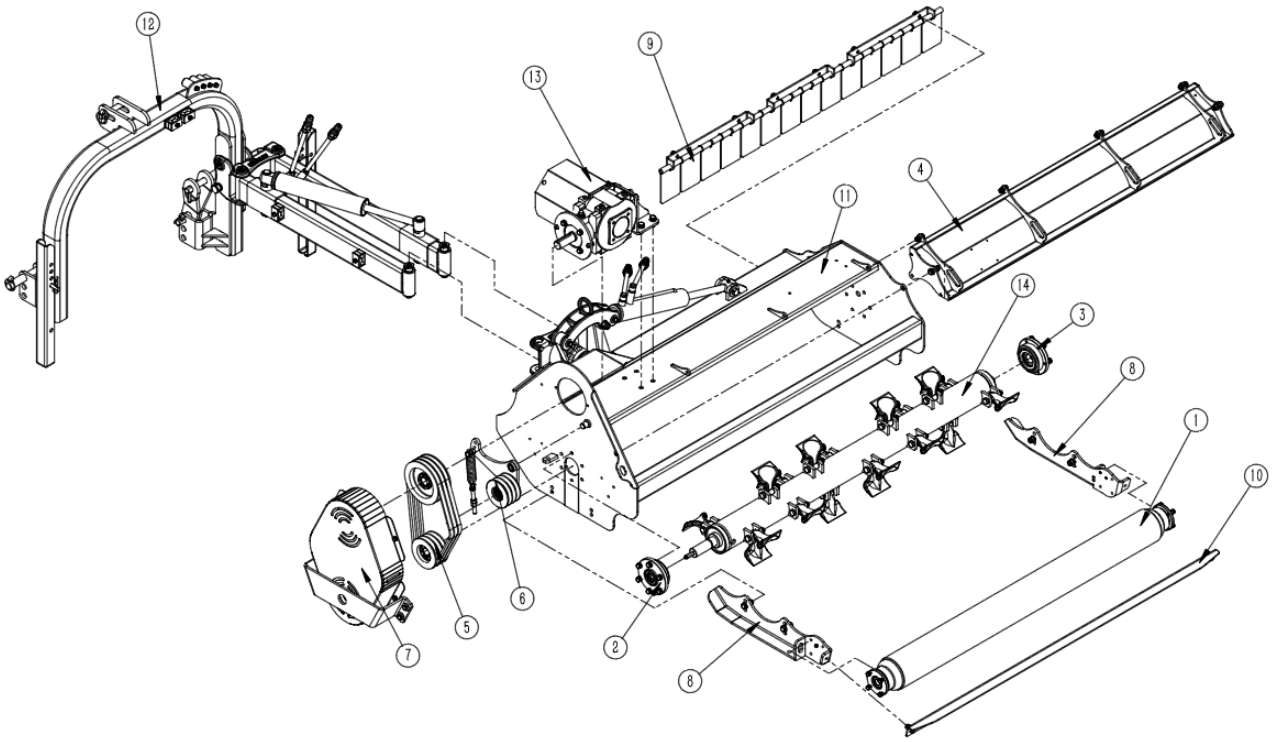
General troubleshooting list:

Malfunction	Possible Cause	Solution
Belt slippage	Blades touch the ground	Adjust the skids or roller correctly
	Belts worn	Replace a new belts
	Belt is not tensioned correctly	Correct belt tension, see **Adjusting the Belt**
	Belt tensioner is damaged	Replace a new one
	Clogging	Clean the machine to remove accumulated debris.
Belt failure	Incorrect belt alignment	Align the belts.
	Belt tensioner spring has lost its memory or is broken	Replace belt tensioner spring and belts.
Significant machine vibration	Worn blades	Replace the blades
	Missing blades	
	Broken blades	
	Worn rotor support bearings	Replace the bearings
	Rotor fouled with debris	Clean rotor
	Loose parts	Tighten bolts and fasteners
	Incorrect power take-off speed	Select correct tractor power take-off speed
Excessively rapid blade wear	Blades touching the ground	Check and, if necessary, adjust cut height.
Blades tear rather than cut, shredded material not distributed evenly	Ground speed too high	Reduce the speed
	Cut height too low	Adjust cut height
	Excessive build-up of material under the flail head	Clean the flail head

Malfunction	Possible Cause	Solution
	Clogging	Clean the machine to remove accumulated debris
Roller does not turn easily	Insufficient greasing	Grease as indicated
	Roller casing bearings worn	Replace the bearings
	Roller or mounts damaged or bent	Replace damaged parts
Excessive driveline noise	Insufficient greasing	Apply grease as indicated in the Maintenance section
	Worn trunnion bearing	Replace bearings
	Exceeds 25 degrees	Do not exceed 25 degrees
Driveline wear	Insufficient greasing	Apply grease as indicated in the Maintenance section
	Operating angle incorrect	Reduce the operating angle
	Overloading	Avoid overloading and do not start the machine when loaded
Breakage or deformation of the driveline	Overloading	Avoid overloading and do not start the machine when loaded
	Operating angle incorrect	Reduce the operating angle
Unit overheating	Not enough oil in the unit	Check seals and gaskets and replace any that are damaged
		Top off the oil
	Incorrect oil type	Replace with the prescribed type of oil
	Excessive oil	Restore correct oil level
	Overloading	Observe the prescribed speed and power conditions
Lateral adjustment and/or inclination angle adjustment functions not working correctly	Hoses connected incorrectly to tractor remotes	Connect correctly
	Remotes or hydraulic pump on tractor faulty	Check and repair if necessary
	Oil leakage	Check connections and tighten correctly if necessary
		Check hydraulic hoses and replace if necessary

EXPLODED VIEW AND PARTS LIST

MACHINE ASSEMBLY

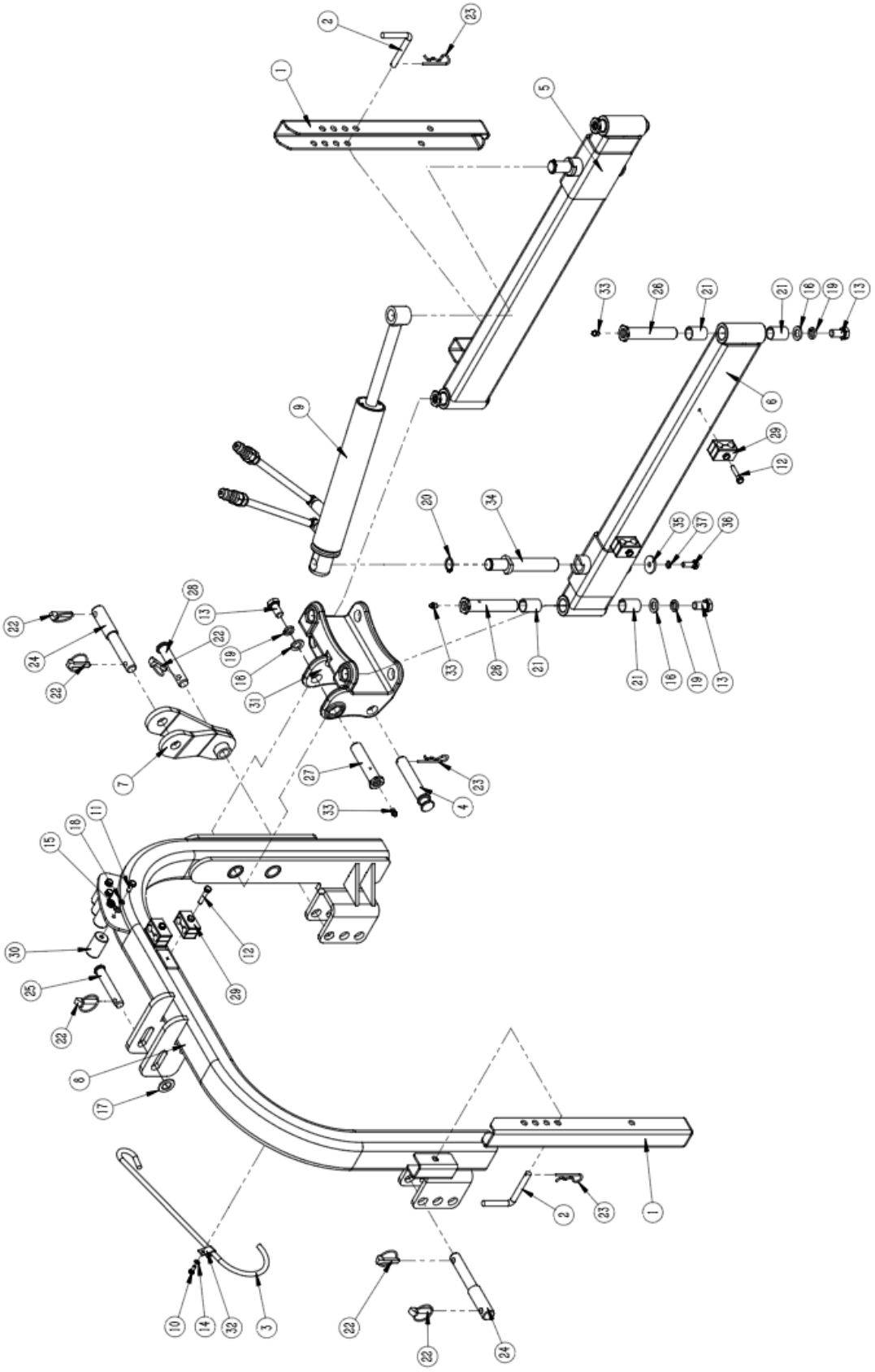


Machine assembly parts name list:

POS.	COD.	Specification	Description	58/Qty	64/Qty	72/Qty
1	2060104900	F01001A03000-000	Roller assembly	1	-	-
1	2060104901	F01002A03000-000	Roller assembly	-	1	-
1	2060104902	F01003A03000-000	Roller assembly	-	-	1
2	2060104903	F01001A04000-000	Bearing seat assembly	1	1	1
3	2060104904	F01001A05000-000	Bearing seat assembly	1	1	1
4	2060104905	F01001A06000-000	Covering plate assembly	1	-	-
4	2060104906	F01002A06000-000	Covering plate assembly	-	1	-
4	2060104907	F01003A06000-000	Covering plate assembly	-	-	1
5	2060104910	F01001A09000-000	Side drive assembly	1	1	1

6	2060104911	F01001A10000-000	Tightening assembly	1	1	1
7	2060104912	F01001A11000-000	Side cover assembly	1	1	1
8	2060104914	F01001A14000-000	Skid plate assembly	1	1	1
9	2060104915	F01001A15000-000	Protective assembly	1	-	-
9	2060104916	F01002A15000-000	Protective assembly	-	1	-
9	2060104917	F01003A15000-000	Protective assembly	-	-	1
10	2060104918	F01001A17000-000	Scraper assembly	1	-	-
10	2060104919	F01002A17000-000	Scraper assembly	-	1	-
10	2060104920	F01003A17000-000	Scraper assembly	-	-	1
11	2060105207	R01001A01000-000	Panel hood assembly	1	-	-
11	2060105208	R01002A01000-000	Panel hood assembly	-	1	-
11	2060105209	R01003A01000-000	Panel hood assembly	-	-	1
12	2060107237	R01001D08000-000	Suspension assembly	1	1	1
13	2060107040	R01001D06000-000	Gear box assembly	1	1	1
14	2090000110	F01002A02000-000	Axle assembly	1	1	1

SUSPENSION ASSEMBLY

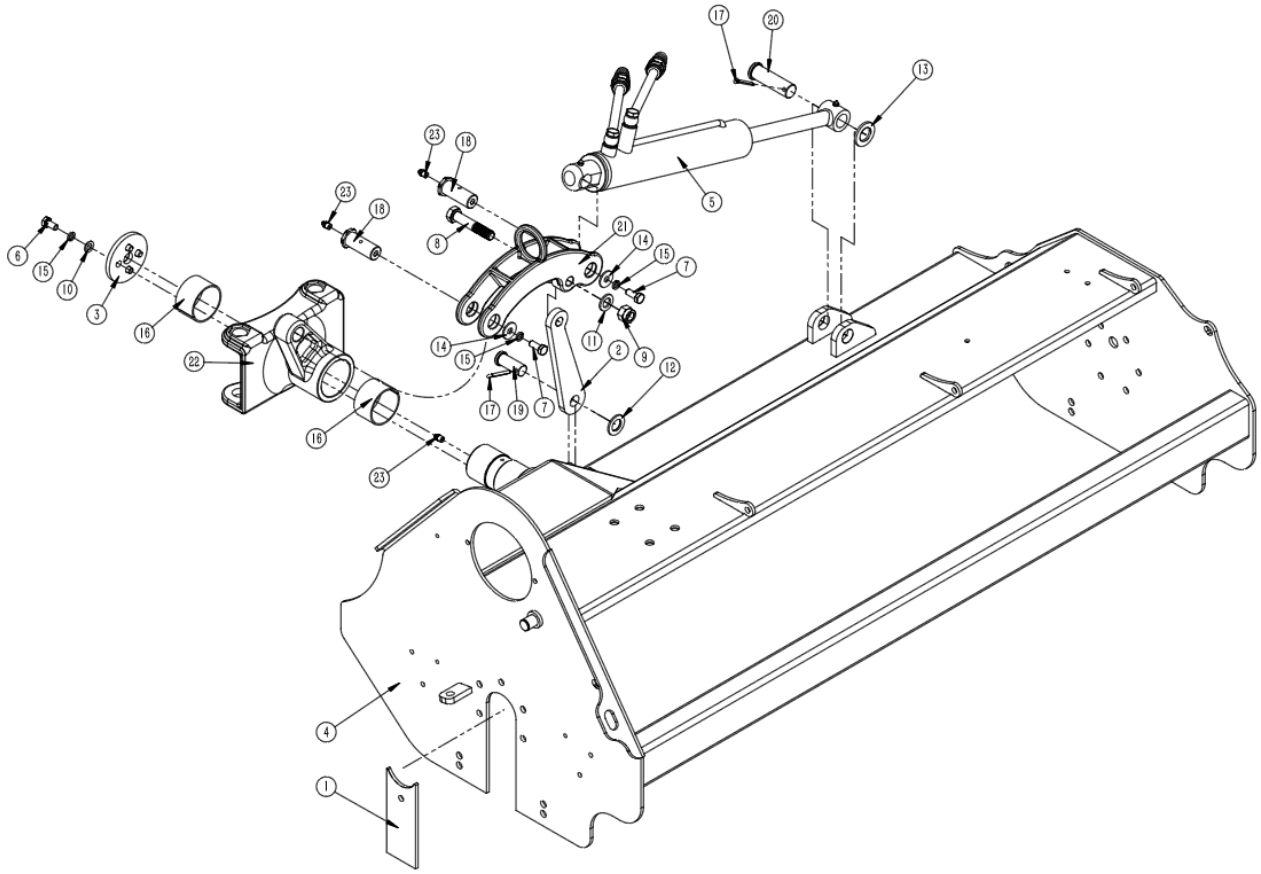


suspension assembly parts name list:

POS.	COD.	Specification	Description	Qty
1	2000000139	R01001A08000-001	Raker	2
2	2010000017	G01001A16000-001	Raker pin	2
3	2010000028	W01006A01000-002	PTO shaft hook	1
4	2010000045	G02001A18000-003	Pin	1
5	2020000388	R01001A08100-000	Swing square pipe-L	1
6	2020000389	R01001A08200-000	Swing square pipe-R	1
7	2020006413	R02034A09200-000	Welded parts of lower suspension limit plate	1
8	2020007160	R01001B08300-000	Weldment	1
9	2060204904	R01001A08400-000	Hydraulic components	1
10	3040100005	GB/T5783-M6×16-8.8-EP•Zn	Full-thread hexagon bolts	1
11	3040100022	GB/T5783-M8×20-8.8-EP•Zn	Full-thread hexagon bolts	4
12	3040100027	GB/T5783-M8×40-8.8-EP•Zn	Full-thread hexagon bolts	4
13	3040100104	GB/T5783-M16×30-8.8-EP•Zn	Full-thread hexagon bolts	5
14	3080100003	GB/T95-6-EP•Zn	Plain washer	1
15	3080100004	GB/T95-8-EP•Zn	Plain washer	4
16	3080100009	GB/T95-16-EP•Zn	Plain washer	5
17	3080100011	GB/T95-20-EP•Zn	Plain washer	1
18	3080500007	GB/T93-8-EP•Zn	Spring washer	4
19	3080500011	GB/T93-16-EP•Zn	Spring washer	5
20	3080700016	GB/T894-25-A	Retaining rings for shaft	2
21	3100900004	SF-2-25×28×40	Bushings	8
22	3120400007	GB/T4329-12-EP•Zn	Safety pin	6
23	3120400008	Din11024-4-EP•Zn	R Pin	3
24	3120500008	MT95005	Pin	2
25	3120500009	MT95003	Pin	1
26	3120500012	G02001A18000-001	Pin	4
27	3120500016	G02001A18000-002	Pin	1
28	3120500633	MT95030	Pin	1
29	3210100005	2-Φ16	Pipe Clamp	4
30	3210500035	LSQ-S1 MDC-1/2M	Rubber	4
31	3220300014	G02001A18300-001	Lifting connector	1

32	3220400602	G02001A12000-001	Spring clasp	1
33	3170400005	DIN71412-A G1/8 304	Grease nipple	5
34	2010006261	R01001A08000-002	pin	2
35	2000006579	R01013A11000-006	washer	2
36	3040100045	GB/T5783-M10×30-8.8-EP•Zn	Full-thread hexagon bolts	2
37	3080500008	GB/T93-10-EP•Zn	Spring washer	2

HOOD ASSEMBLY

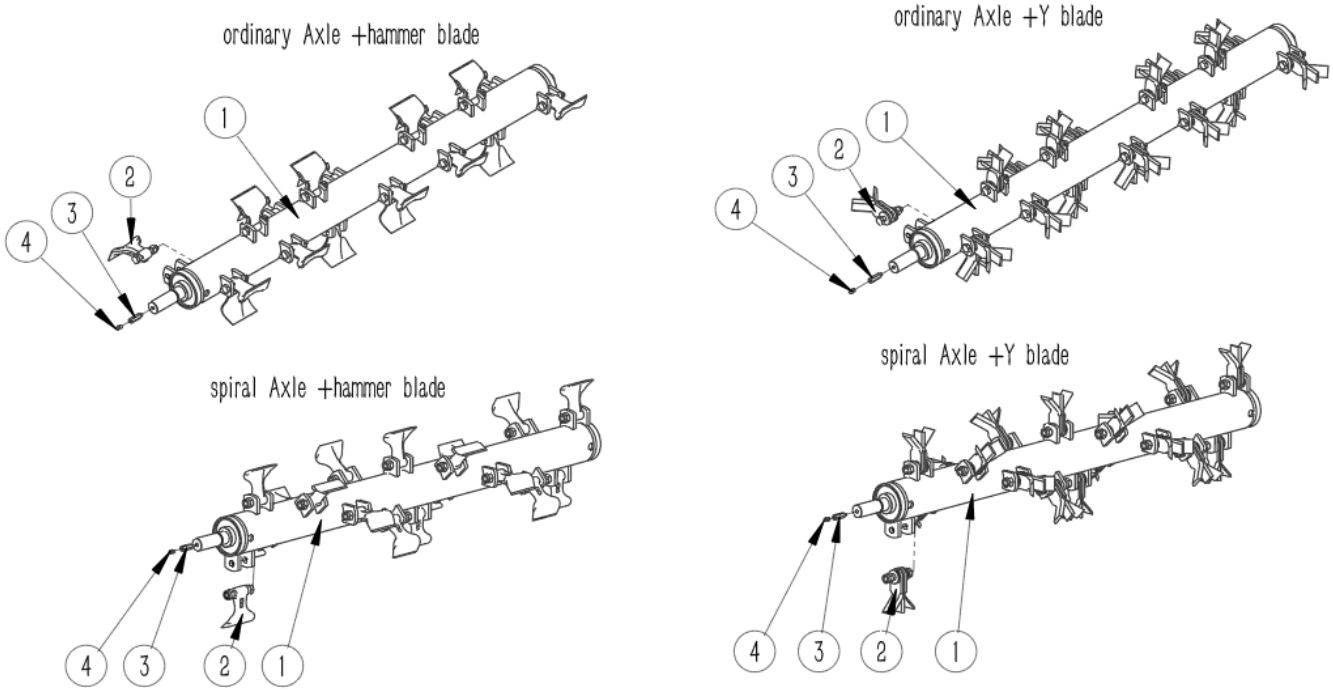


Hood assembly options list:

POS.	COD.	Specification	Description	58/Qty	64/Qty	72/Qty
1	2000000094	F01001A01000-001	Guard plate	1	1	1
2	2000000170	G02001A19000-003	Linkage plate	1	1	1
3	2000000171	G02001A19000-001	Limiting plate	1	1	1
4	2020001481	R01001A01100-000	Panel hood weldment	1	-	-
4	2020001479	R01002A01100-000	Panel hood weldment	-	1	-
4	2020001480	R01003A01100-000	Panel hood weldment	-	-	1
5	2060204894	R01001A01200-000	Hydraulic components	1	1	1
6	3040100041	GB/T5783-M10×20-8.8-EP•Zn	Full-thread hexagon bolts	4	4	4
7	3040100043	GB/T5783-M10×25-8.8-EP•Zn	Full-thread hexagon bolts	2	2	2
8	3040300059	GB/T5782-M16×85-8.8-EP•Zn	Hexagon head bolts	1	1	1
9	3050500009	GB/T889.1-M16-8-EP•Zn	Locknut	1	1	1
10	3080100006	GB/T95-10-EP•Zn	Plain washer	4	4	4

11	3080100009	GB/T95-16-EP•Zn	Plain washer	2	2	2
12	3080100011	GB/T95-20-EP•Zn	Plain washer	1	1	1
13	3080100013	GB/T95-24-EP•Zn	Plain washer	1	1	1
14	3080200009	GB/T96.2-10-EP•Zn	Large plain washer	2	2	2
15	3080500008	GB/T93-10-EP•Zn	Spring washer	6	6	6
16	3100900013	SF-2-63×68×40	Bushings	2	2	2
17	3120100107	GB/T91-5×40	Split pin	2	2	2
18	3120500013	G02001A19000-007	Pin	2	2	2
19	3120500014	G02001A19000-008	Pin	1	1	1
20	3120500015	G02001A19000-002	Pin	1	1	1
21	3220300012	G02001A19300-001	Overturning connecting bracket	1	1	1
22	3220300013	G02001A19200-001	Overturning bracket	1	1	1
23	3170400005	DIN71412-A G1/8 304	Grease nipple	3	3	3

ORDINARY AXLE + BLADES

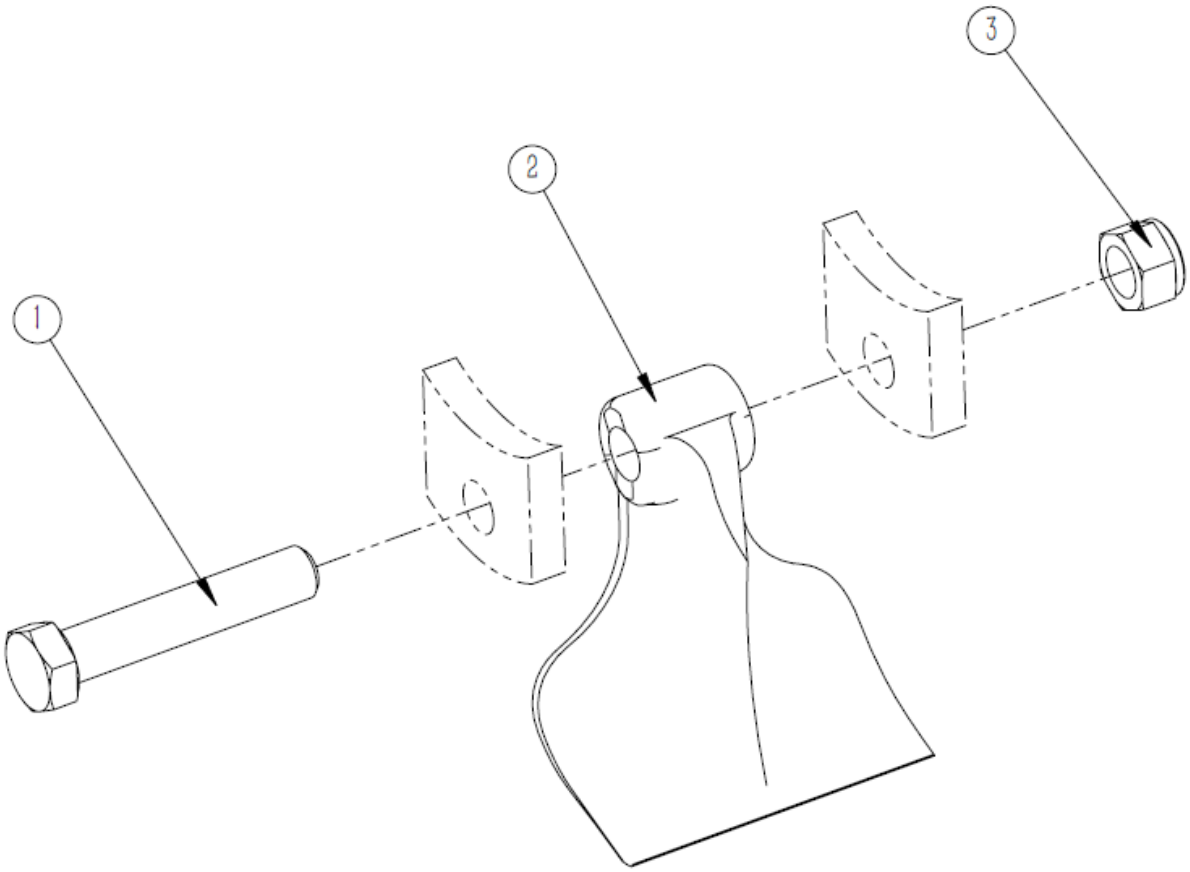


Ordinary axle + blades options list:

ME-VS58A			ME-VS64A		
POS.	**COD.**	**Description**	**POS.**	**COD.**	**Description**
1	2090000107	ordinary Axle +hammer blade	1	2090000110	ordinary Axle +hammer blade
2	2090000108	ordinary Axle +Y blade	2	2090000111	ordinary Axle +Y blade
3	2090000570	spiral Axle +hammer blade	3	2090000569	spiral Axle +hammer blade
4	2090004817	spiral Axle +Y blade	4	2090000579	spiral Axle +Y blade

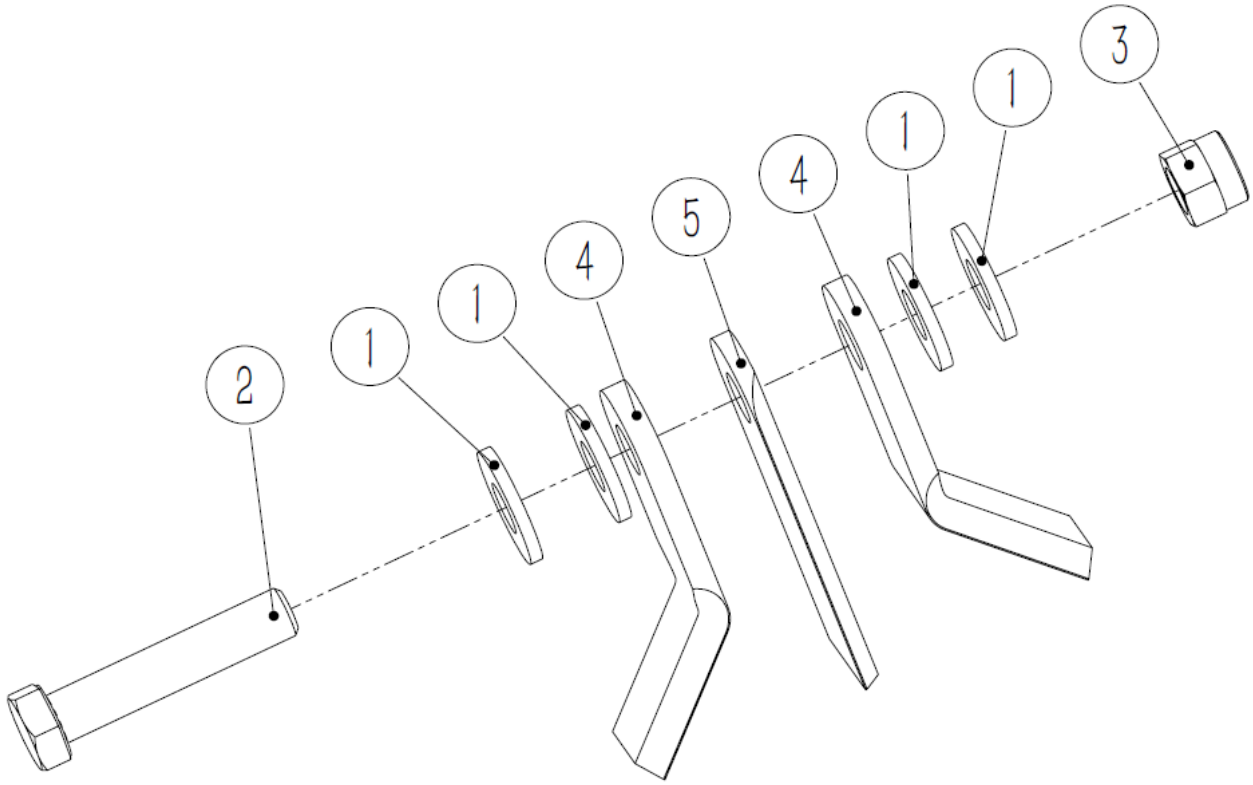
ME-VS72OSA		
POS	**COD.**	**Description**
1	2090000113	ordinary Axle +hammer blade
2	2090000114	ordinary Axle +Y blade
3	2090000571	spiral Axle +hammer blade
4	2090004818	spiral Axle +Y blade

BLADES ASSEMBLY



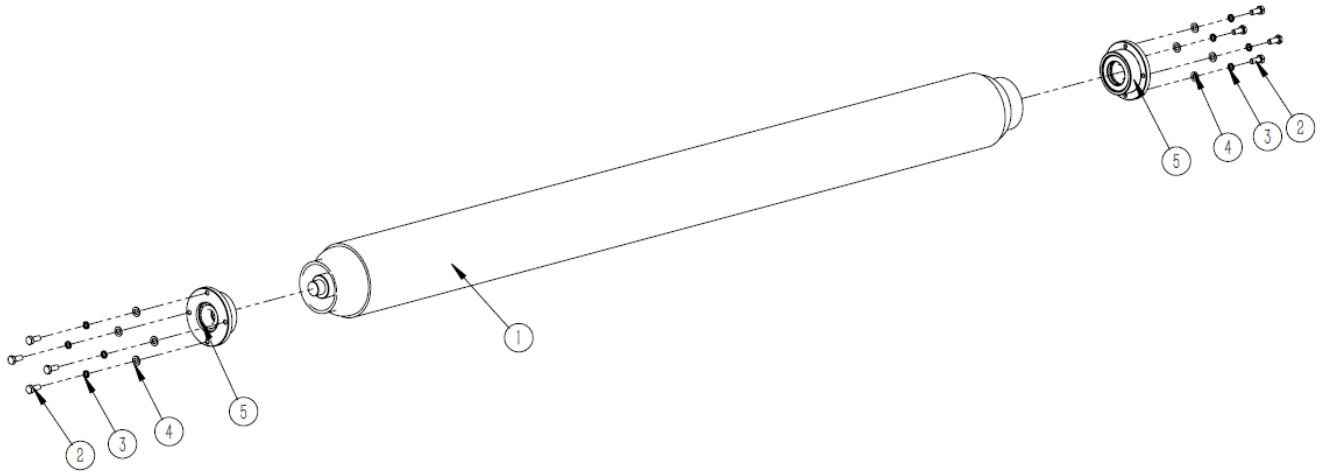
POS.	COD.	Specification	Description	Qty
1	3040300108	GB/T5782-M14×75-10.9-EP•Zn	Hexagon head bolts	1
2	3220100001	MT01002	Blade	1
3	3050500008	GB/T889.1-M14-8-EP•Zn	Locknut	1

BLADES ASSEMBLY



POS.	COD.	Specification	Description	Qty
1	2000000665	F01001D02200-001	Spacer	4
2	3040300058	GB/T5782-M16×80-8.8-O	Hexagon head bolts	1
3	3050500009	GB/T889.1-M16-8-EP•Zn	Locknut	1
4	3220100061	MT02004	Blade	2
5	3220100062	MT02005	Blade	1

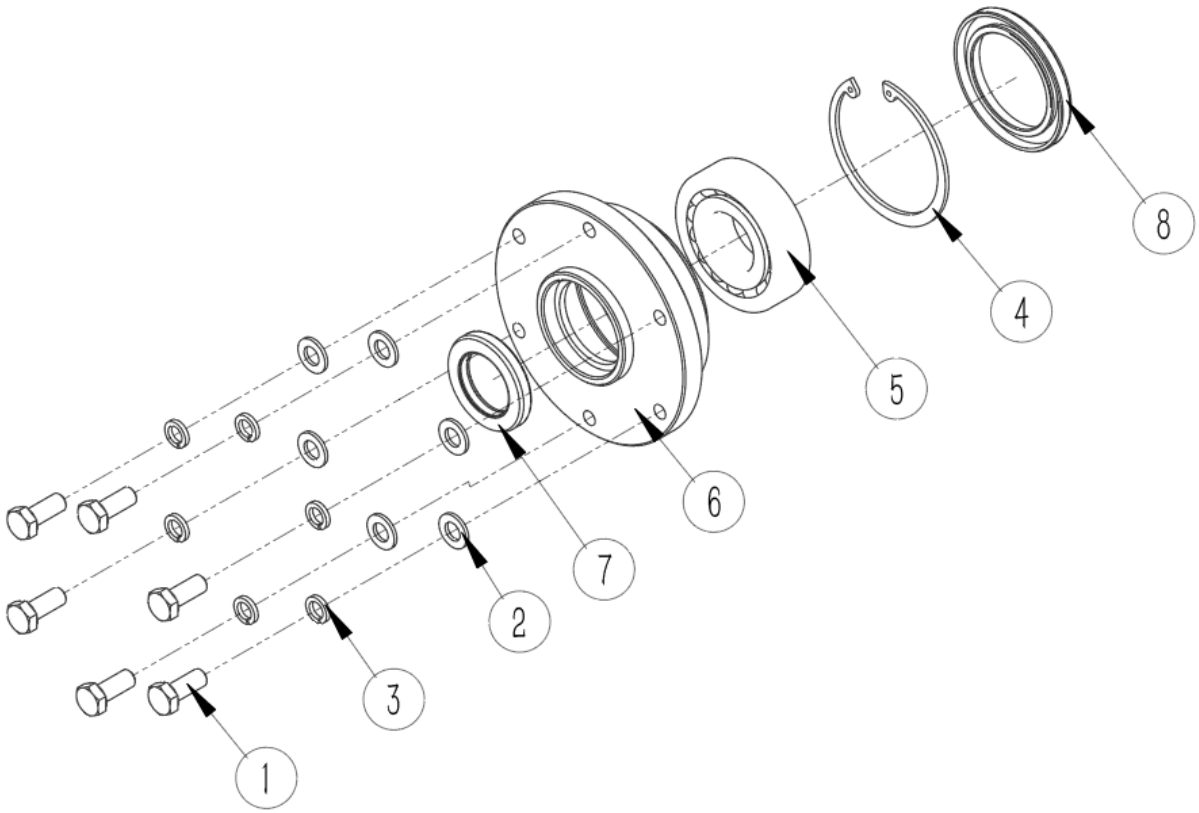
ROLLER ASSEMBLY



Roller assembly options list:

POS.	COD.	Specification	Description	58/Qty	64/Qty	72/Qty
1	2020001307	F01002A03100-000	Roller welded parts	1	-	-
1	2020001342	F01001A03100-000	Roller welded parts	-	1	-
1	2020001343	F01003A03100-000	Roller welded parts	-	-	1
2	3040100022	GB/T5783-M8×20-8.8-EP•Zn	Full-thread hexagon bolts	8	8	8
3	3080500007	GB/T93-8-EP•Zn	Spring washer	8	8	8
4	3080100004	GB/T95-8-EP•Zn	Plain washer	8	8	8
5	2060204809	F01001A03200-000	Bearing seat assembly	2	2	2

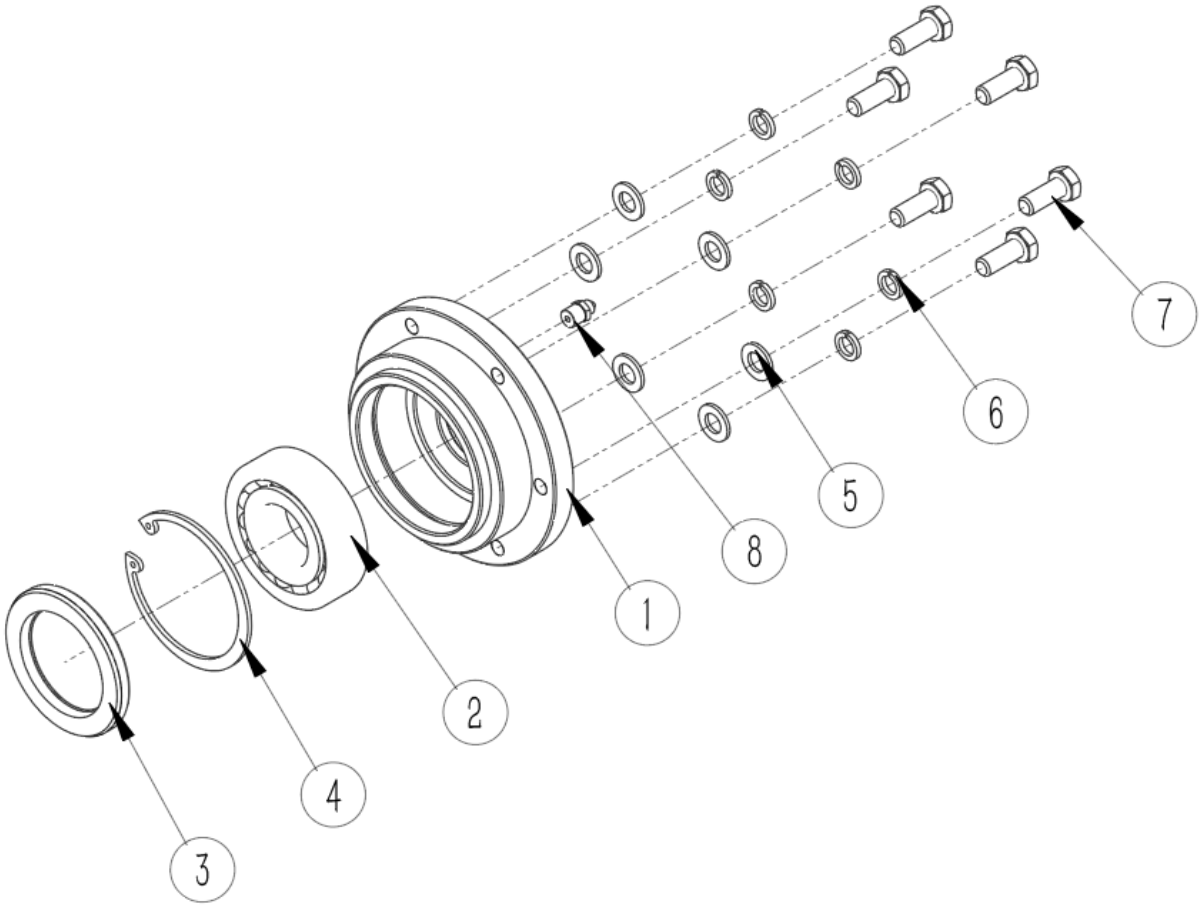
BLADE AXLE BEARING SEAT ASSEMBLY



Blade axle bearing seat assembly parts name list:

POS.	COD.	Specification	Description	Qty
1	3040100043	GB/T5783-M10×25-8.8-EP•Zn	Full-thread hexagon bolts	6
2	3080100006	GB/T95-10-EP•Zn	Plain washer	6
3	3080500008	GB/T93-10-EP•Zn	Spring washer	6
4	3080600046	GB/T893-80-A	Retaining rings for borP	1
5	3100200008	GB/T281-1307	Self-aligning ball bearing	1
6	3150100005	F01001A04000-001	Bearing seat	1
7	3170100008	GB/T13871.1-FB-35×55×8-NBR	shaft seal	1
8	3170100046	GB/T13871.1-FB-55×80×8-NBR	shaft seal	1

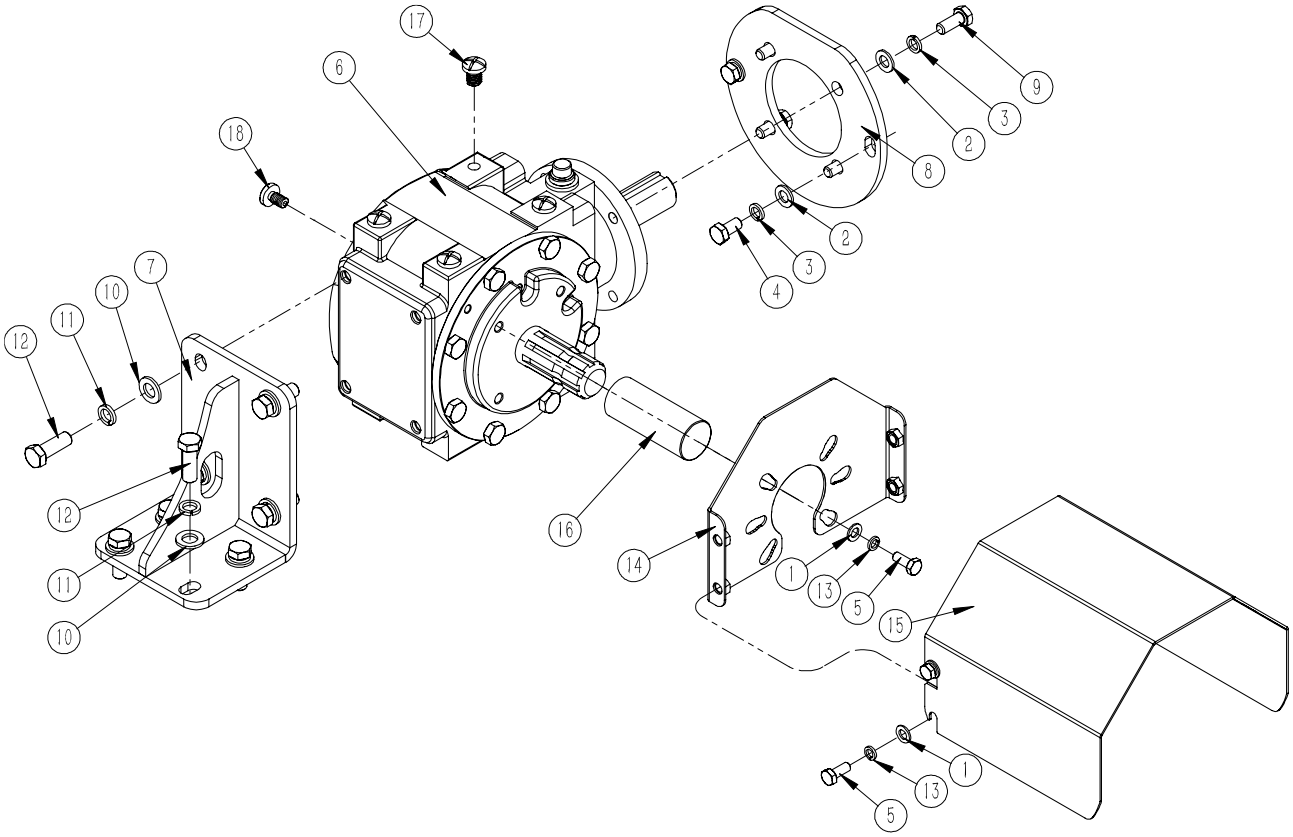
BLADE AXLE BEARING SEAT ASSEMBLY



Blade axle bearing seat assembly parts name list:

POS.	COD.	Specification	Description	Qty
1	3150100004	F01001A05000-001	Bearing seat	1
2	3100200008	GB/T281-1307	Self-aligning ball bearing	1
3	3170100046	GB/T13871.1-FB-55×80×8-NBR	shaft seal	1
4	3080600046	GB/T893-80-A	Retaining rings for borP	1
5	3080100006	GB/T95-10-EP•Zn	Plain washer	6
6	3080500008	GB/T93-10-EP•Zn	Spring washer	6
7	3040100043	GB/T5783-M10×25-8.8-EP•Zn	Full-thread hexagon bolts	6
8	3170400005	DIN71412-A G1/8 304	Grease nipple	1

GEARBOX DRIVE SHAFT ASSEMBLY

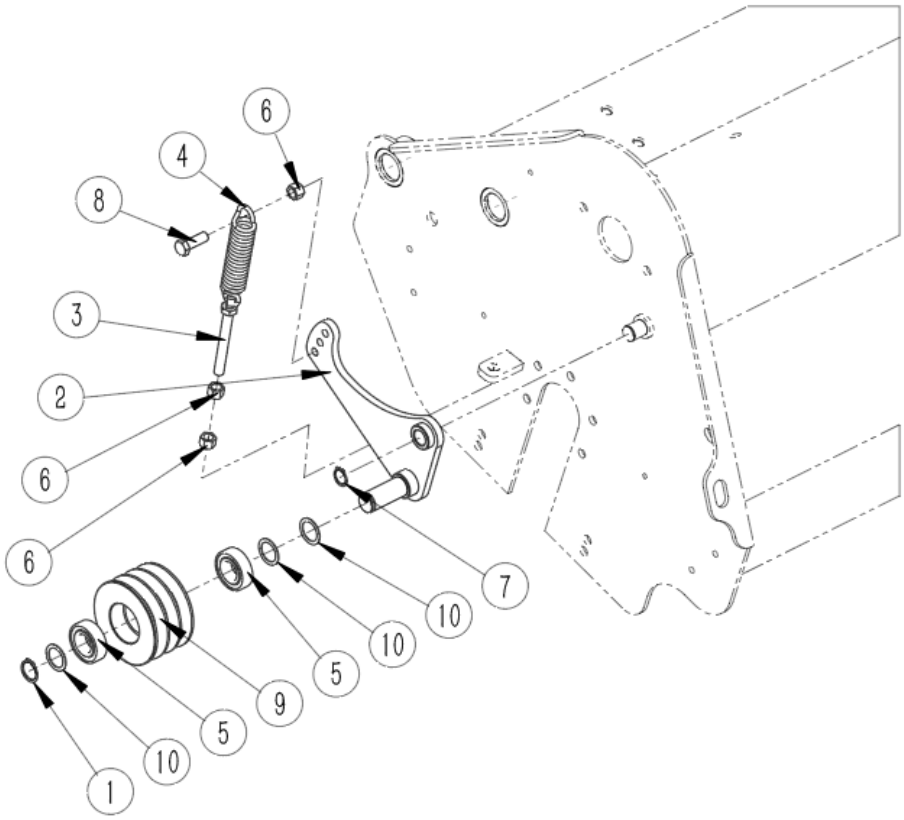


Gearbox drive shaft assembly parts name list:

POS.	COD.	Specification	Description	Qty
1	3080100004	GB/T95-8-EP•Zn	Plain washer	6
2	3080100006	GB/T95-10-EP•Zn	Plain washer	6
3	3080500008	GB/T93-10-EP•Zn	Spring washer	6
4	3040100041	GB/T5783-M10×20-8.8-EP•Zn	Full-thread hexagon bolts	2
5	3040100022	GB/T5783-M8×20-8.8-EP•Zn	Full-thread hexagon bolts	6
6	3160100693	KF050R300Z0200	Gear box	1
7	2020001482	R01001A06100-000	Gearbox base welding	1
8	2000000714	R01001A06000-001	Plate	1
9	3040100043	GB/T5783-M10×25-8.8-EP•Zn	Full-thread hexagon bolts	4
10	3080100007	GB/T95-12-EP•Zn	Plain washer	8
11	3080500009	GB/T93-12-EP•Zn	Spring washer	8
12	3040100069	GB/T5783-M12×35-8.8-EP•Zn	Full-thread hexagon bolts	8

13	3080500007	GB/T93-8-EP•Zn	Spring washer	6
14	2020001786	F01001A07100-000	Welding of shield bottom plate	1
15	2000000029	F01001A07000-001	PTO Guard	1
16	3210500603	Φ35×90	Rubber	1
17	3210200606	M12×16	Pipe Plug	4
18	3210200605	M10×16	Pipe Plug	4

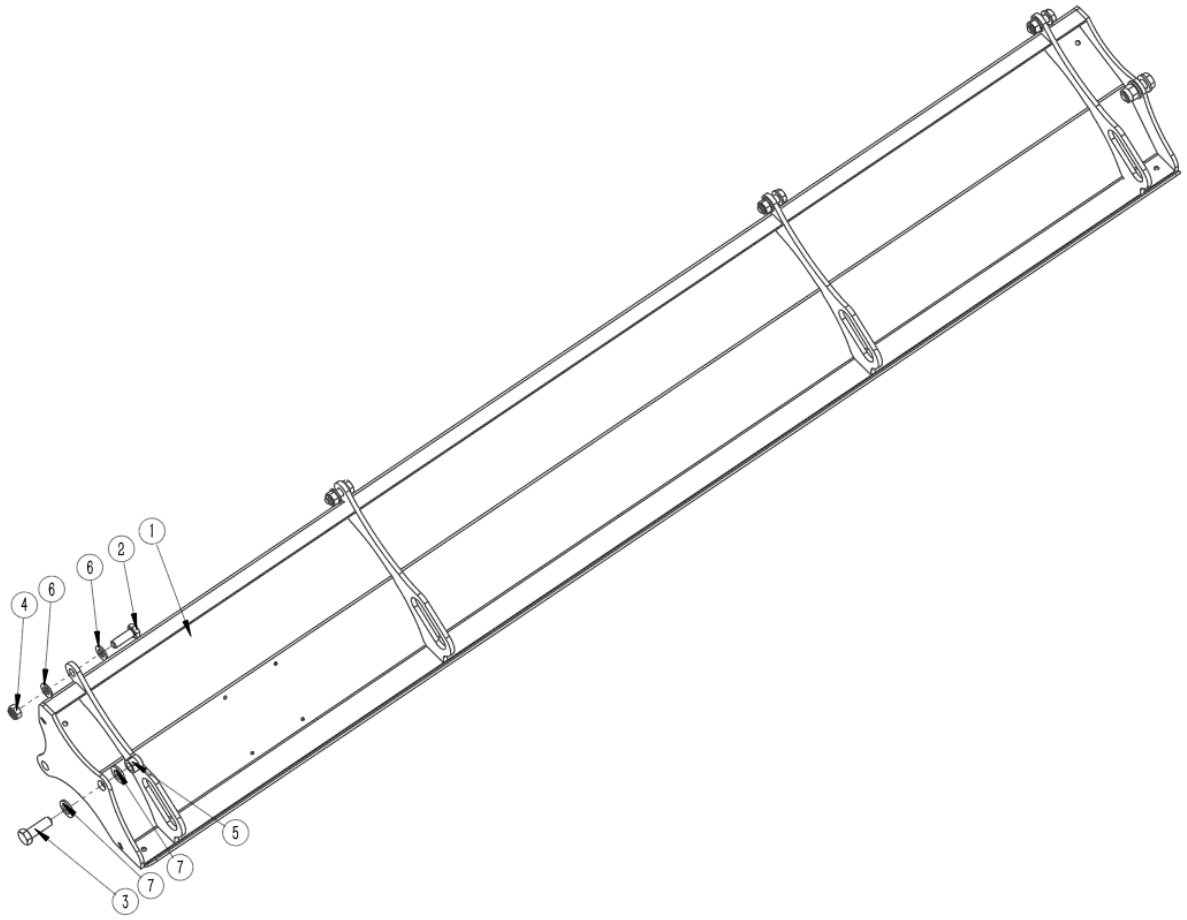
TIGHTENING ASSEMBLY



Gearbox drive shaft assembly options list:

POS.	COD.	Specification	Description	Qty
1	3080700016	GB/T894-25-A	Retaining rings for shaft	1
2	2020000229	F01001A10100-000	Welding of Tightening Plate	1
3	2020000072	F01001A10200-000	Adjusting screw weldment	1
4	3110100003	LⅠ-4.5×21×151×17-L-65Mn-EP•Zn	Tension spring	1
5	3100100072	GB/T276-6205-2RS	Deep groove ball bearing	2
6	3050100007	GB/T41-M12-5-EP•Zn	Hexagon Nuts	3
7	3080700012	GB/T894-20-A	Retaining rings for shaft	1
8	3040100069	GB/T5783-M12×35-8.8-EP•Zn	Full-thread hexagon bolts	1
9	2010005692	F01001A10100-004	tight wheel	1
10	2000006030	F01001A10100-005	plate	3

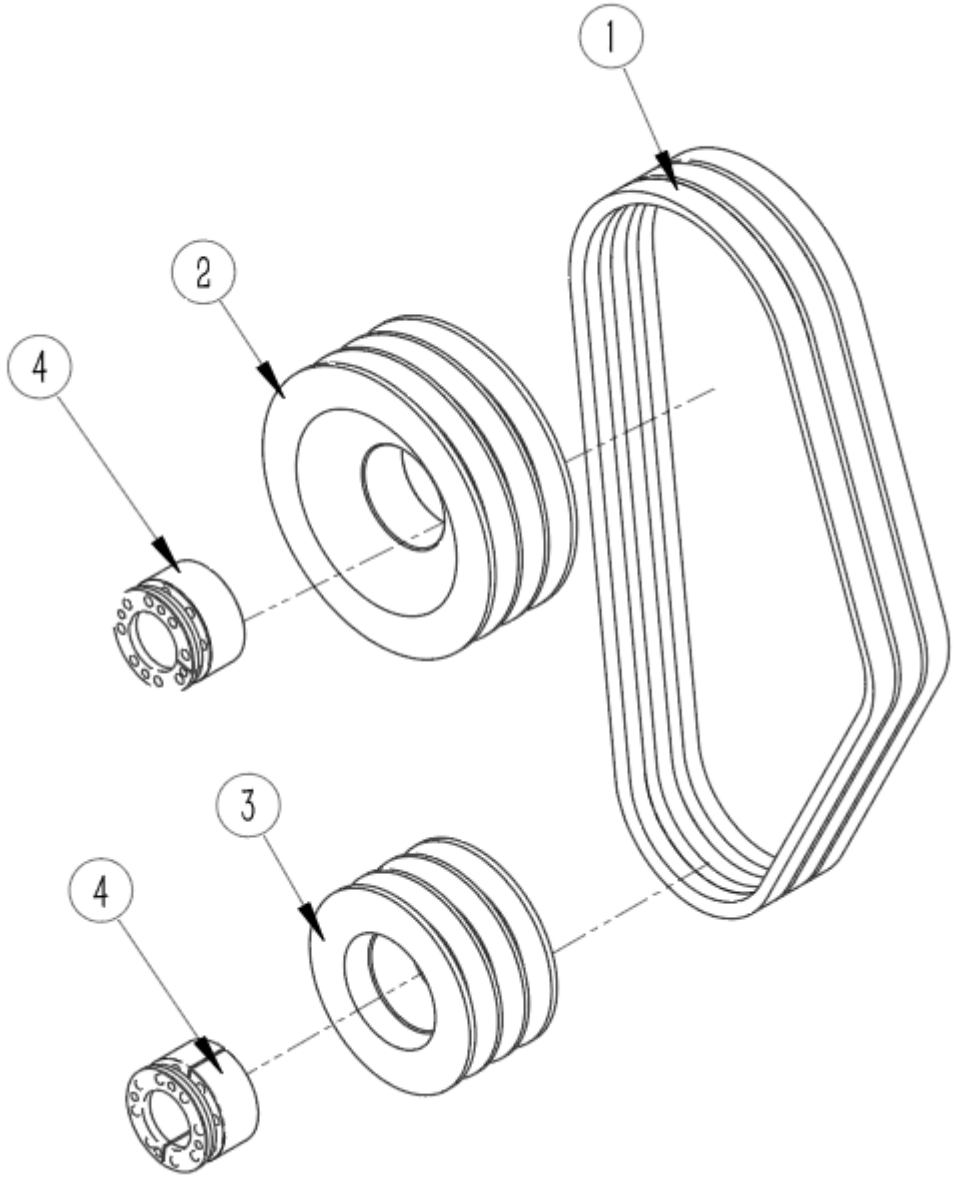
COVERING PLATE ASSEMBLY



Covering plate assembly options list:

POS.	COD.	Specification	Description	58/Qty	64/Qty	72/Qty
1	2020001306	F01001A06100-000	Covering plate weldment	1	-	-
1	2020001344	F01002A06100-000	Covering plate weldment	-	1	-
1	2020001345	F01003A06100-000	Covering plate weldment	-	-	1
2	3040100045	GB/T5783-M10×30-8.8-EP•Zn	Full-thread hexagon bolts	4	4	4
3	3040100069	GB/T5783-M12×35-8.8-EP•Zn	Full-thread hexagon bolts	2	2	2
4	3050500004	GB/T889.1-M10-8-EP•Zn	Locknut	4	4	4
5	3050500007	GB/T889.1-M12-8-EP•Zn	Locknut	2	2	2
6	3080100006	GB/T95-10-EP•Zn	Plain washer	8	8	8
7	3080100007	GB/T95-12-EP•Zn	Plain washer	4	4	4

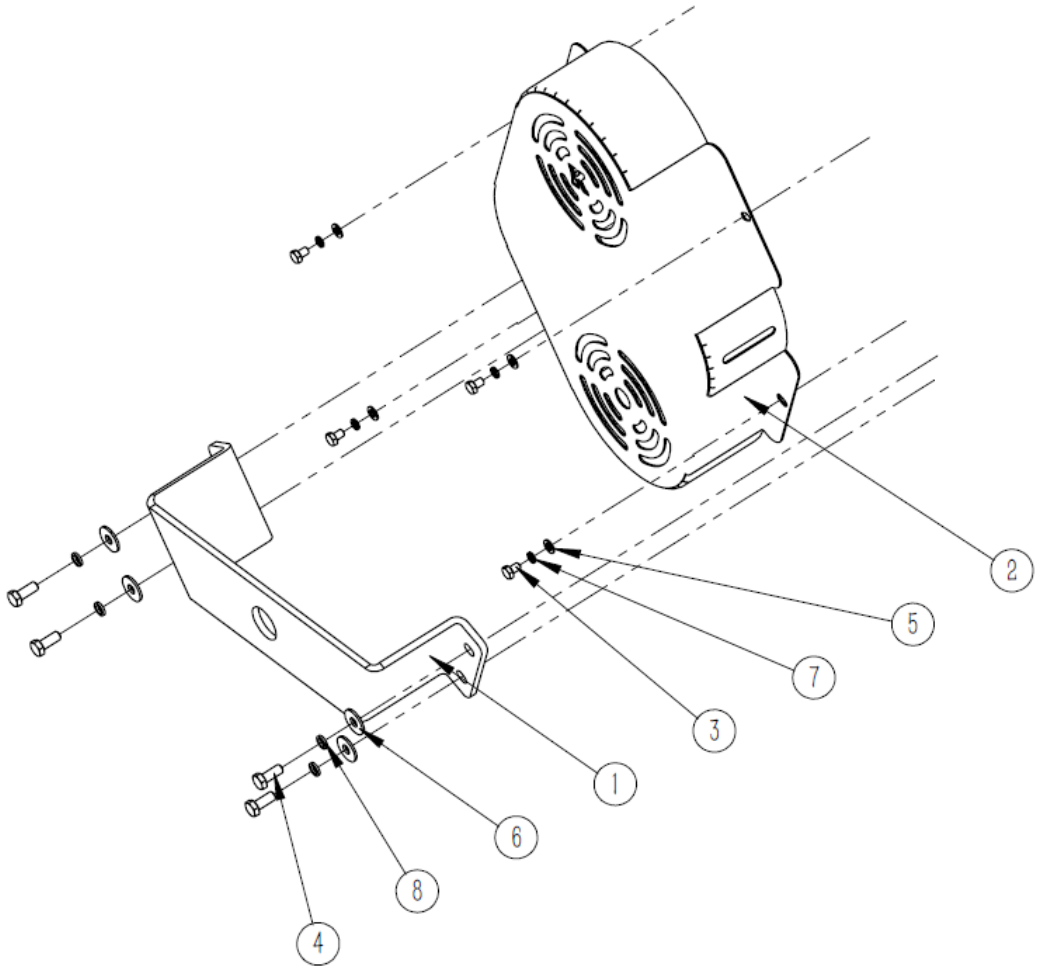
SIDE DRIVE ASSEMBLY



Side drive assembly options list:

POS.	COD.	Specification	Description	Qty
1	3160300005	GATES-XPB1065	GATES belt	3
2	3160400034	SPB163-3-1-60-HT200-O	Pulley	1
3	3160400036	SPB113-3-1-60-HT200-O	Pulley	1
4	3160500001	Z3A-35×60	Expanding sleeve	2

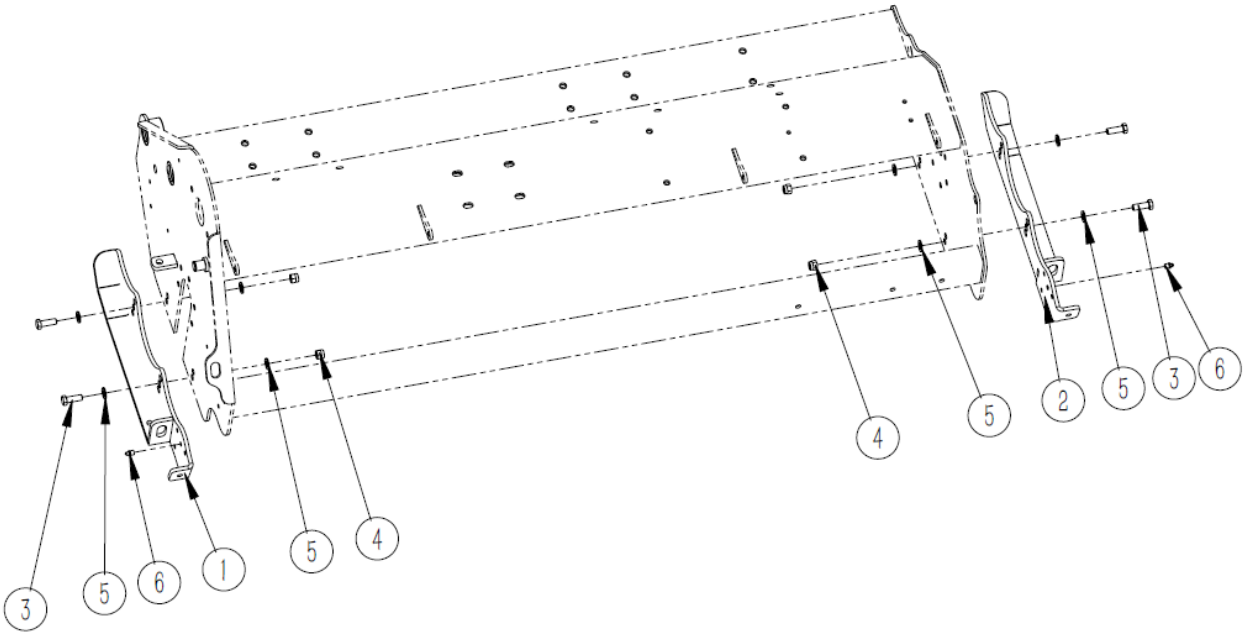
SIDE COVER ASSEMBLY



Side cover assembly options list:

POS.	COD.	Specification	Description	Qty
1	2000000100	F01001A11000-001	Protective plate	1
2	2020005017	F01001C11100-000	Pulley cover weldment	1
3	3040100020	GB/T5783-M8×12-8.8-EP•Zn	Full-thread hexagon bolts	4
4	3040100043	GB/T5783-M10×25-8.8-EP•Zn	Full-thread hexagon bolts	4
5	3080100004	GB/T95-8-EP•Zn	Plain washer	4
6	3080200009	GB/T96.2-10-EP•Zn	Large plain washer	4
7	3080500007	GB/T93-8-EP•Zn	Spring washer	4
8	3080500008	GB/T93-10-EP•Zn	Spring washer	4

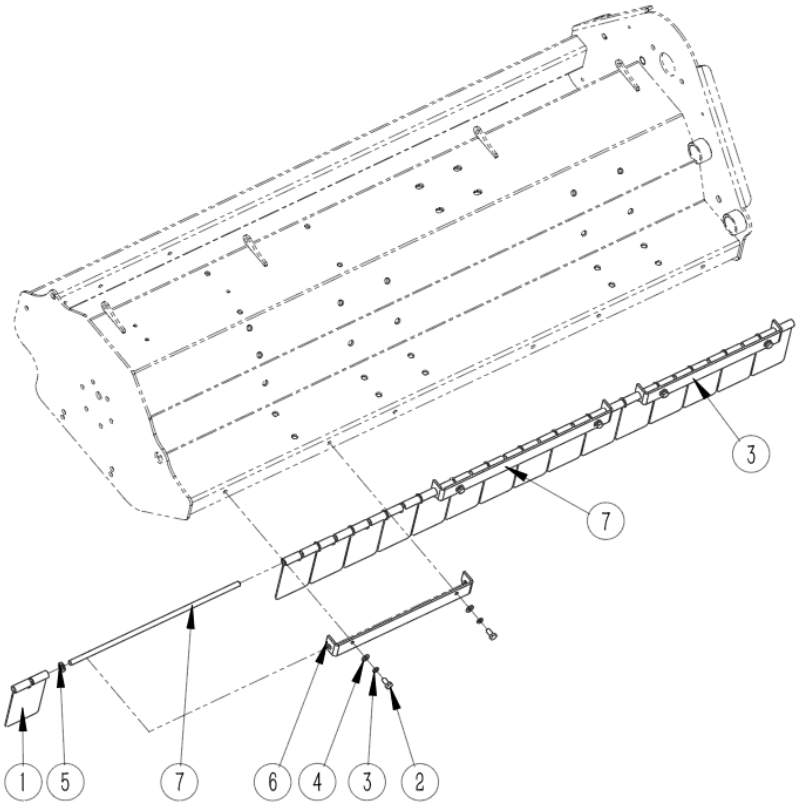
SKID PLATE ASSEMBLY



Skid plate assembly options list:

POS.	COD.	Specification	Description	Qty
1	2020004979	F01001A14100-000	Sliding plate weldment	1
2	2020004980	F01001A14200-000	Sliding plate weldment	1
3	3040100069	GB/T5783-M12×35-8.8-EP•Zn	Full-thread hexagon bolts	4
4	3050500007	GB/T889.1-M12-8-EP•Zn	Locknut	4
5	3080100007	GB/T95-12-EP•Zn	Plain washer	8
6	3170400005	DIN71412-A G1/8 304	Grease nipple	2

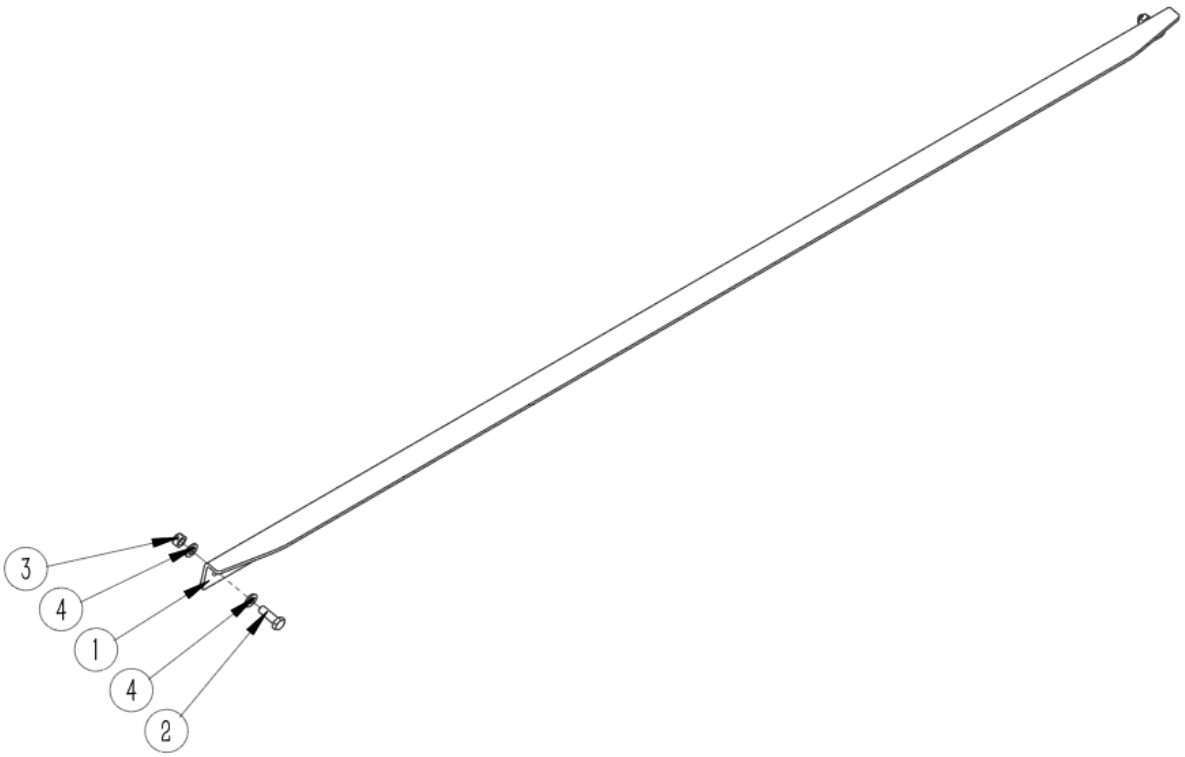
PROTECTIVE ASSEMBLY



Protective assembly options list:

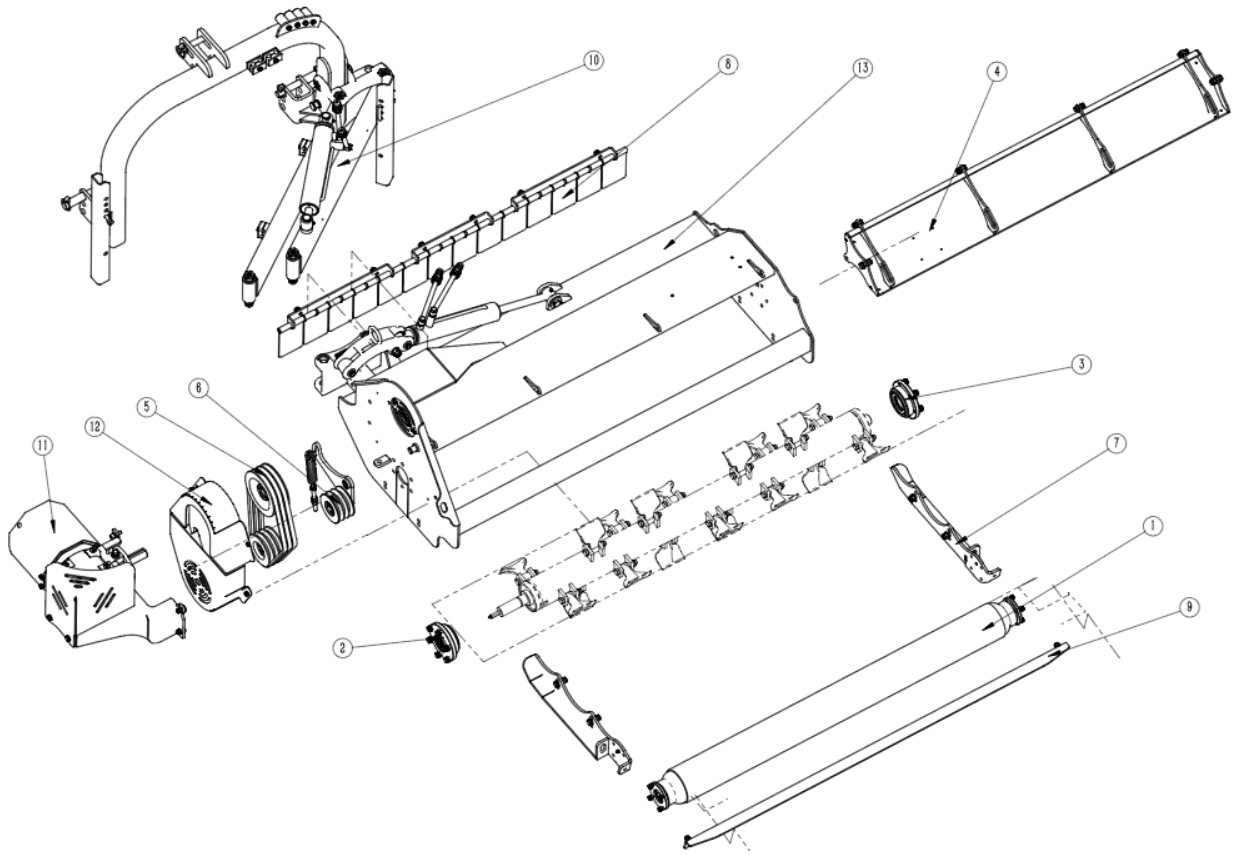
POS	COD.	Specification	Description	58/Qty	64/Qty	72/Qty
1	2000000628	F01001B15000-003	Notched baffle	14	16	18
2	3040100041	GB/T5783-M10×20-8.8-EP•Zn	Full-thread hexagon bolts	6	6	6
3	3080500008	GB/T93-10-EP•Zn	Spring washer	6	6	6
4	3080100006	GB/T95-10-EP•Zn	Plain washer	6	6	6
5	3080100007	GB/T95-12-EP•Zn	Plain washer	13	15	18
6	00000626	F01001B15000-001	Baffle fixture	2	2	-
	2000000627	F01001C15000-001	Baffle fixture	-	1	3
	2000000639	F01001A15000-001	Baffle fixture	1	-	-
7	2010000477	F01001B15000-002	Baffle shaft	2	2	-
	2010000478	F01001C15000-002	Baffle shaft	-	1	3
	2010000492	F01001A15000-002	Baffle shaft	1	-	-

SCRAPER ASSEMBLY



Scraper assembly options list:

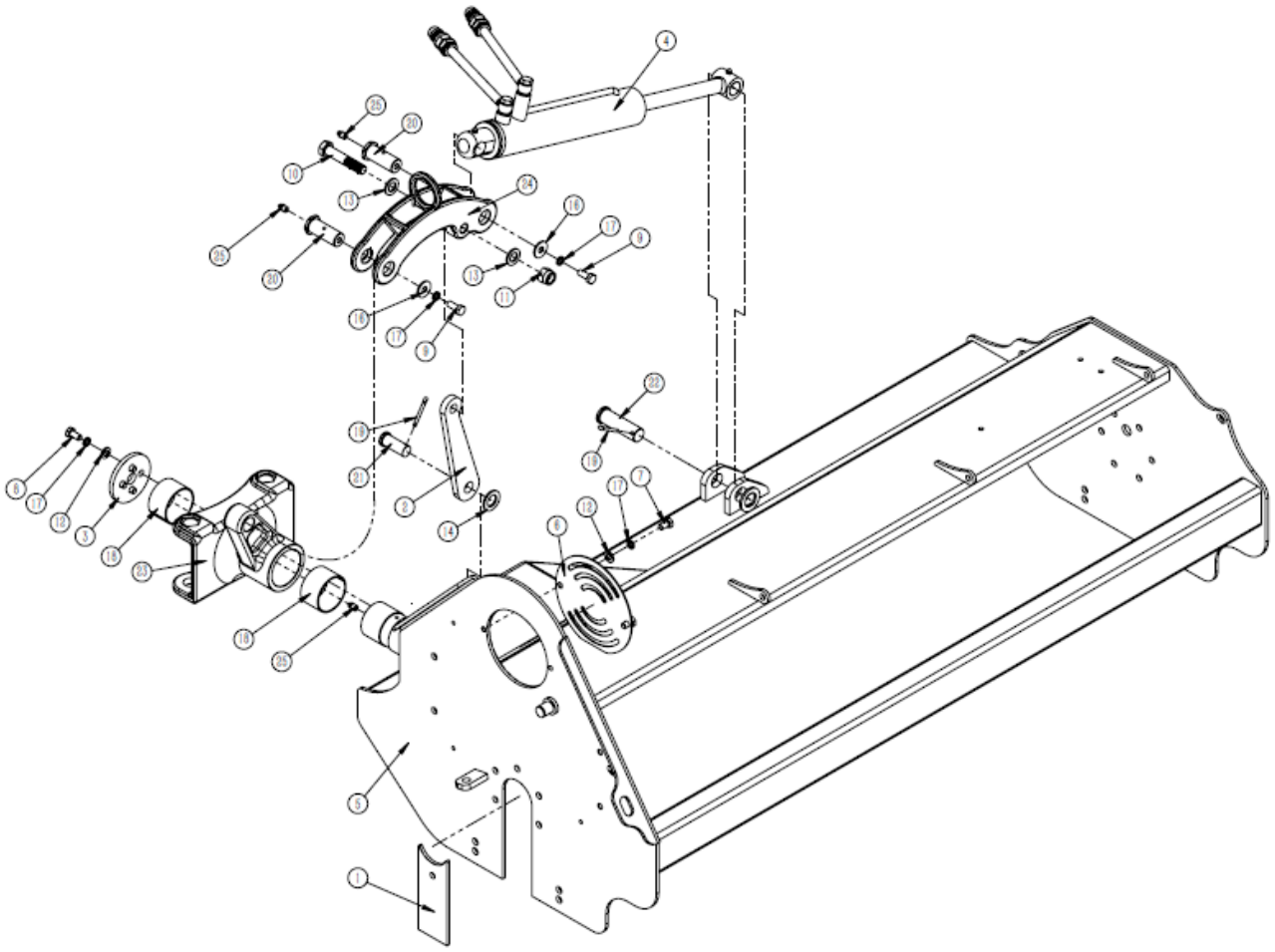
POS	COD.	Specification	Description	64/Qty	58/Qty	72/Qty
1	2000000624	F01002A17000-001	Scraper	1	-	-
1	2000000637	F01001A17000-001	Scraper	-	1	-
1	2000000638	F01003A17000-001	Scraper	-	-	1
2	3040100045	GB/T5783-M10×30-8.8-EP•Zn	Full-thread hexagon bolts	2	2	2
3	3050500004	GB/T889.1-M10-8-EP•Zn	Locknut	2	2	2
4	3080100006	GB/T95-10-EP•Zn	Plain washer	4	4	4



POS.	COD.	Specification	Description	58/Qty	64/Qty	72/Qty
1	2060104900	F01001A03000-000	Roller assembly	1	-	-
1	2060104901	F01002A03000-000	Roller assembly	-	1	-
1	2060104902	F01003A03000-000	Roller assembly	-	-	1
2	2060104903	F01001A04000-000	Bearing seat assembly	1	1	1
3	2060104904	F01001A05000-000	Bearing seat assembly	1	1	1
4	2060104905	F01001A06000-000	Covering plate assembly	1	-	-
4	2060104906	F01002A06000-000	Covering plate assembly	-	1	-
4	2060104907	F01003A06000-000	Covering plate assembly	-	-	1
5	2060104910	F01001A09000-000	Side drive assembly	1	1	1
6	2060104911	F01001A10000-000	Tightening assembly	1	1	1
7	2060104914	F01001A14000-000	Skid plate assembly	1	1	1

8	2060104915	F01001A15000-000	Protective assembly	1	-	-
8	2060104916	F01002A15000-000	Protective assembly	-	1	-
8	2060104917	F01003A15000-000	Protective assembly	-	-	1
9	2060104918	F01001A17000-000	Scraper assembly	1	-	-
9	2060104919	F01002A17000-000	Scraper assembly	-	1	-
9	2060104920	F01003A17000-000	Scraper assembly	-	-	1
10	2060105210	R01001A08000-000	Suspension assembly	1	1	1
11	2060107041	R01004C06000-000	Gear box assembly	1	1	1
12	2060105319	R01004A08000-000	Side shield assembly	1	1	1
13	2060105322	R01004A01000-000	Panel hood assembly	1	-	-
13	2060105321	R01005A01000-000	Panel hood assembly	-	1	-
13	2060105323	R01006A01000-000	Panel hood assembly	-	-	1

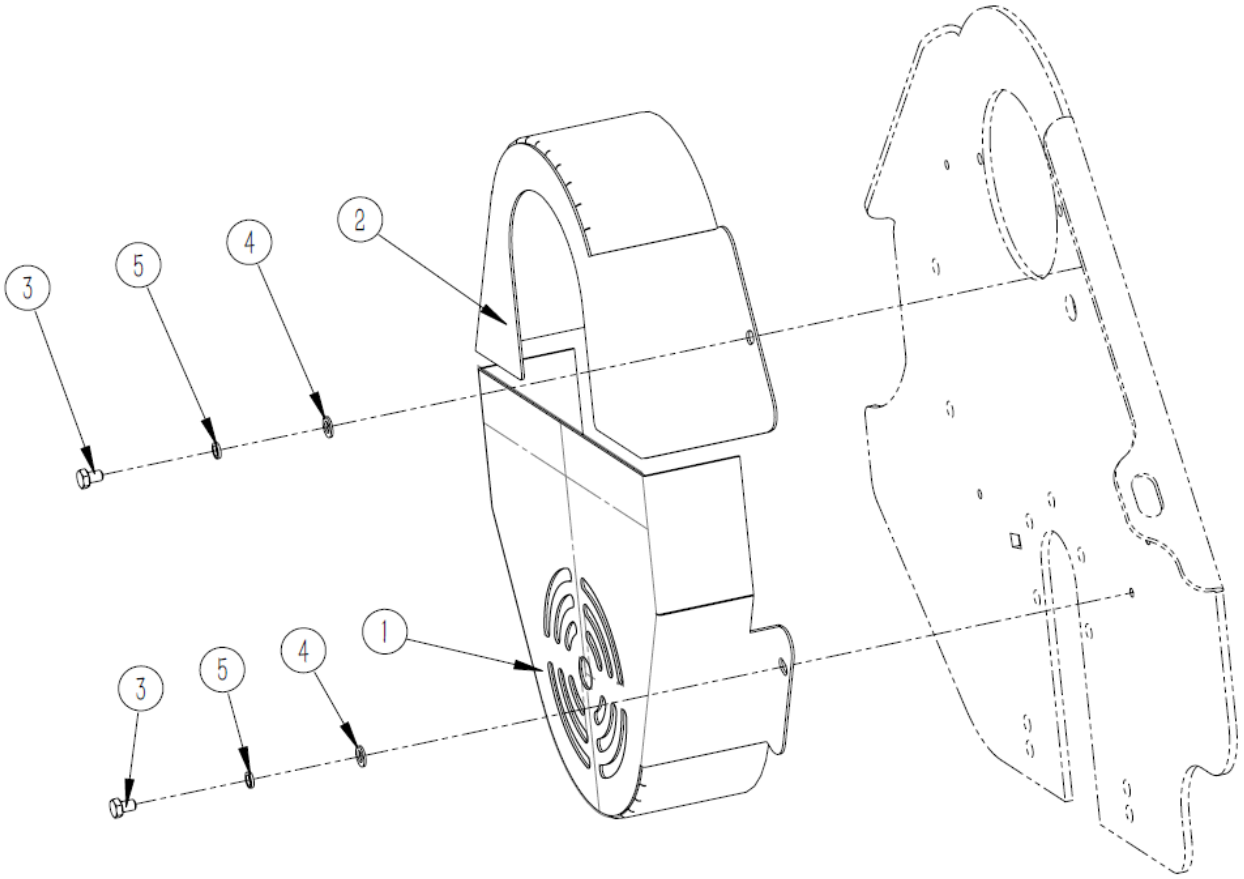
PANEL HOOD ASSEMBLY(-OSA)



POS.	COD.	Specification	Description	58/Qty	64/Qty	72/Qty
1	2000000094	F01001A01000-001	Guard plate	1	1	1
2	2000000170	G02001A19000-003	Linkage plate	1	1	1
3	2000000171	G02001A19000-001	Limiting plate	1	1	1
4	2000004984	R01004B01000-001	Observing widow	1	1	1
5	2020001487	R01005A01100-000	Hood panel	-	1	-
5	2020001488	R01006A01100-000	Hood panel	-	-	1
5	2020001486	R01004A01100-000	Hood panel	1	-	-
6	2060204894	R01001A01200-000	Hydraulic components	1	1	1

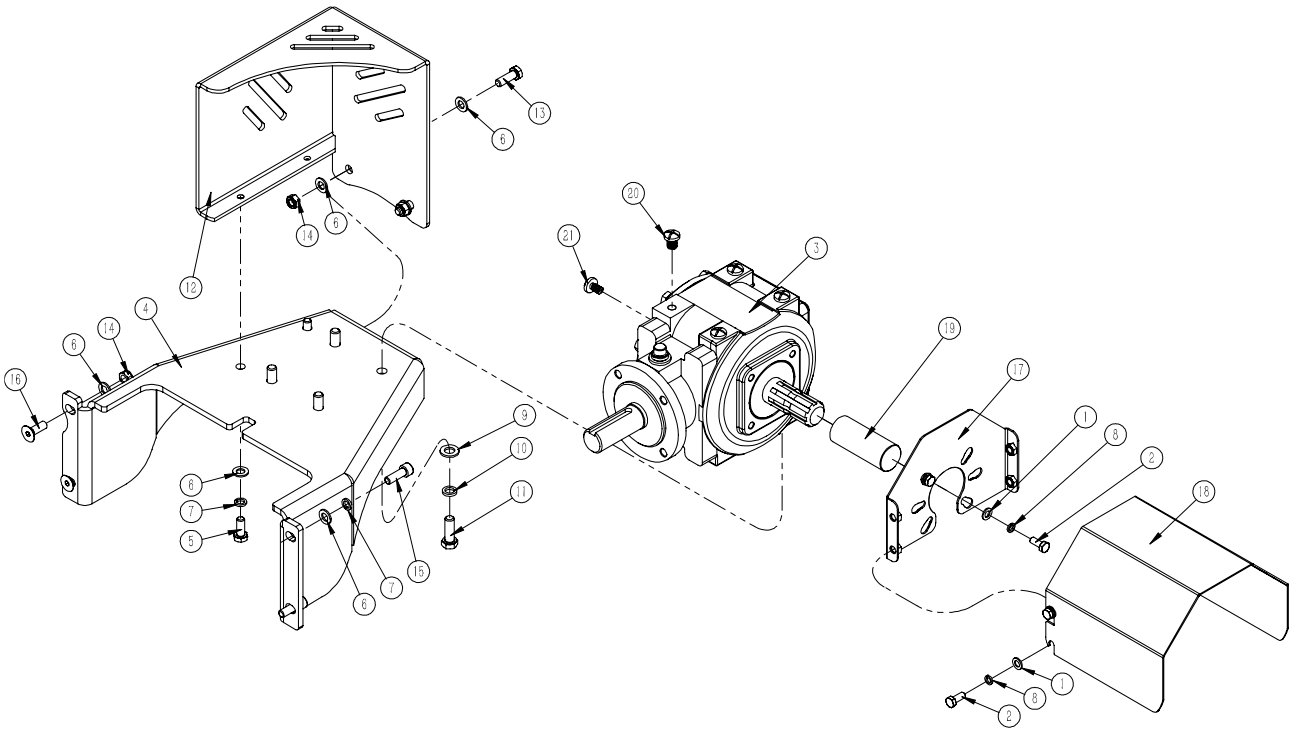
7	3040100039	GB/T5783-M10×16-8.8-EP•Zn	Full-thread hexagon bolts	2	2	2
8	3040100041	GB/T5783-M10×20-8.8-EP•Zn	Full-thread hexagon bolts	4	4	4
9	3040100043	GB/T5783-M10×25-8.8-EP•Zn	Full-thread hexagon bolts	2	2	2
10	3040300059	GB/T5782-M16×85-8.8-EP•Zn	Hexagon head bolts	1	1	1
11	3050500009	GB/T889.1-M16-8-EP•Zn	Locknut	1	1	1
12	3080100006	GB/T95-10-EP•Zn	Plain washer	6	6	6
13	3080100009	GB/T95-16-EP•Zn	Plain washer	2	2	2
14	3080100011	GB/T95-20-EP•Zn	Plain washer	1	1	1
15	3080100013	GB/T95-24-EP•Zn	Plain washer	1	1	1
16	3080200009	GB/T96.2-10-EP•Zn	Large plain washer	2	2	2
17	3080500008	GB/T93-10-EP•Zn	Spring washer	8	8	8
18	3100900013	SF-2-63×68×40	Bushings	2	2	2
19	3120100107	GB/T91-5×40	Split pin	2	2	2
20	3120500013	G02001A19000-007	Pin	2	2	2
21	3120500014	G02001A19000-008	Pin	1	1	1
22	3120500015	G02001A19000-002	Pin	1	1	1
23	3220300024	G02001A19200-000	Overturning bracket	1	1	1
24	3220300025	G02001A19300-000	Overturning connecting bracket	1	1	1
25	3170400005	DIN71412-A G1/8 304	Grease nipple	3	3	3

SIDE SHIELD ASSEMBLY(-OSA)



POS.	COD.	Specification	Description	Qty
1	2020000391	R01004A08100-000	Belt cover-lower	1
2	2020001489	R01004A08200-000	Belt cover-higher	1
3	3040100020	GB/T5783-M8×12-8.8-EP•Zn	Full-thread hexagon bolts	4
4	3080100004	GB/T95-8-EP•Zn	Plain washer	4
5	3080500007	GB/T93-8-EP•Zn	Spring washer	4

GEAR BOX ASSEMBLY(-OSA)



POS.	COD.	Specification	Description	Qty
1	3080100004	GB/T95-8-EP•Zn	Plain washer	6
2	3040100022	GB/T5783-M8×20-8.8-EP•Zn	Full-thread hexagon bolts	6
3	3160100721	KF050R300Z0100	Gear box	1
4	2000000716	R01004A06000-001	Gear box mounting seat	1
5	3040100043	GB/T5783-M10×25-8.8-EP•Zn	Full-thread hexagon bolts	2
6	3080100006	GB/T95-10-EP•Zn	Plain washer	10
7	3080500008	GB/T93-10-EP•Zn	Spring washer	4
8	3080500007	GB/T93-8-EP•Zn	Spring washer	6
9	3080100007	GB/T95-12-EP•Zn	Plain washer	4
10	3080500009	GB/T93-12-EP•Zn	Spring washer	4
11	3040100069	GB/T5783-M12×35-8.8-EP•Zn	Full-thread hexagon bolts	4
12	2000000715	R01004A06000-002	guard plate	1
13	3040100045	GB/T5783-M10×30-8.8-EP•Zn	Full-thread hexagon bolts	2

14	3050500004	GB/T889.1-M10-8-EP•Zn	Locknut	4
15	3060100040	GB/T70.1-M10×30-8.8-EP•Zn	Hexagon socket head cap screws	2
16	3060200034	GB/T70.3-M10×30-8.8-EP•Zn	HSCS-Countersunk	2
17	2020001786	F01001A07100-000	Welding of shield bottom plate	1
18	2000000029	F01001A07000-001	PTO Guard	1
19	3210500603	Φ35×90	Rubber	1
20	3210200606	M12×16	Pipe Plug	4
21	3210200605	M10×16	Pipe Plug	4