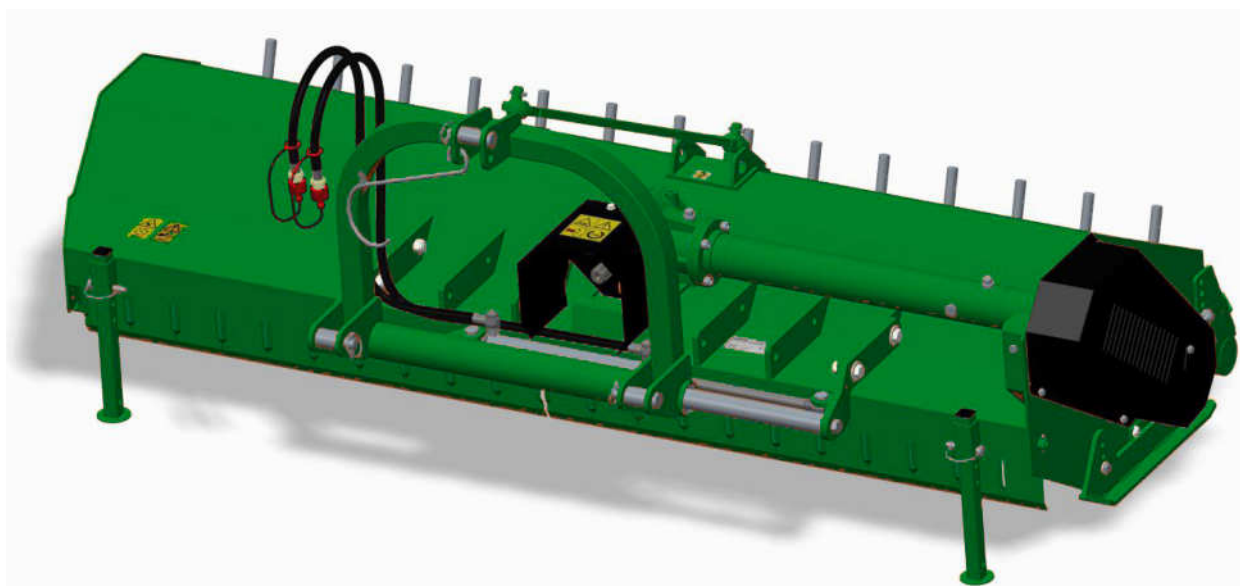


# Operation Manual and Parts Book

WFM 145, 160, 175, 205 and 220 Flail Mowers



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Product Code: L2058-GB



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## **WELCOME TO YOUR NEW WESSEX PRODUCT**

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Thank you for purchasing a Wessex product. As a Wessex customer, you now number among the most important people of our business and we will endeavour to give you the best service available through our dealer network.

Please read this Manual carefully and familiarise yourself and other persons that will be using the machine with its contents, to ensure the optimum performance and working life of your machine. It is advisable that a copy of this Manual is kept in the workshop and one copy with the machine. Further copies are available through your dealer.

On delivery, your dealer should go through the workings of the machine with you, explaining the setting up procedures, all of which are contained in this manual for further reference. The Warranty Registration Form must also be completed via our website at [www.wessexintl.com/warranty/](http://www.wessexintl.com/warranty/) within 7 days of delivery in order to validate the Warranty.

**PLEASE READ THE FOLLOWING PAGES CAREFULLY BEFORE USING YOUR MACHINE  
AND KEEP THIS MANUAL IN A SAFE PLACE.**



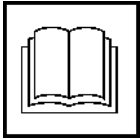
**THIS SAFETY SYMBOL IS TO ALERT OPERATORS OF A HAZARD  
THAT MAY RESULT IN INJURY.  
ALWAYS FOLLOW INSTRUCTIONS CAREFULLY**

## SAFETY DECALS

---



- GB **ATTENTION** Description of pictograms.  
 F **ATTENTION** Description des pictogrammes.  
 D **VORSICH** Beschreibung von Piktogrammen.



- GB Read Operating manual before use.  
 F Lire le Manuel d'utilisation avant l'utilisation.  
 D Vor Benutzung Betriebsanleitung lesen.



- GB Ear defenders must be worn.  
 F Porter des protections d'oreilles.  
 D Gehörschutz muss getragen werden.



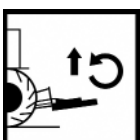
- GB Never remove guards or attempt adjustment until rotor has stopped.  
 F Ne jamais retirer les protections ni tenter des ajustements si les rotors sont en mouvement.  
 D Niemals Schutzvorrichtungen abnehmen oder eine Einstellung versuchen, bevor der Rotor stillsteht.



- GB Bystanders must be at least 20 metres from machine range of action.  
 F Les personnes présentes doivent s'écarter d'au moins 20 mètres du rayon d'action de la machine.  
 D Umstehende müssen mindestens 20 m vom Wirkungsbereich der Maschine entfernt sein.



- GB Stand clear. Flying objects possible.  
 F S'éloigner ! Possibilité d'objets volants.  
 D Zurückbleiben! Herumfliegende Objekte möglich.



- GB Lift Machine before turning  
 F Soulever la machine avant les virages.  
 D Die Maschine vor dem Wenden anheben.



- GB Examine blades regularly. The operator is responsible for machine damage caused by unbalanced rotors.  
 F Examiner les lames régulièrement. L'opérateur est responsable des dommages à la machine provoqués par des rotors mal équilibrés.  
 D Die Messer regelmäßig untersuchen. Der Bediener ist für Maschinenschäden verantwortlich, die durch unwuchtige Spindeln entstehen.



- GB Keep hands and feet clear  
 F Ne pas approcher les mains et les pieds.  
 D Hände und Füße fernhalten.



- GB Grease points  
 F Points de graissage.  
 D Schmierpunkte.

## SAFETY DECALS

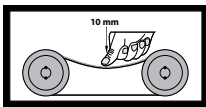
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- GB Lifting Point  
F Point de levage  
D Hebepunkt



- GB Caution, Pinch Points.  
F Attention, points de pincement.  
D Vorsicht, Einklemmgefahr.



- GB CORRECT BELT TENSION: Check belt tension regularly:  
10mm of belt deflection at thumb pressure between pulleys.
- F TENSIONNEMENT CORRECT DE LA COURROIE : Contrôler le tensionnement régulièrement :  
la déflexion de la courroie sous la pression du pouce entre les deux poulies doit être de 10 mm.
- D KORREKTE RIEMENSPANNUNG: Riemen­spannung regelmä­ßig überpr­üfen:  
10 mm Eindr­ücktiefe bei Daumendruck zwischen Riemen­scheiben.

## IMPORTANT NOTICE

### FITTING P.T.O. SHAFT TO MACHINE & TRACTOR

---

- All safety chains must be anchored tight enough to allow a small amount of movement, but not enough to wrap around the P.T.O. Shaft.
- Ensure that the shaft **and guard** is regularly greased to avoid overheating and to give lubrication.
- **Important:** Thoroughly read through the manufacturers instruction book before using the P.T.O. Shaft.

**P.T.O.Shafts are not covered by the Wessex Warranty.**

## IMPORTANT SAFETY WARNINGS

---



Wessex machines are guarded for your protection, but you must always observe certain elementary precautions. Machines are potentially **dangerous** and should be used with the greatest respect and **ALL OPERATORS MUST** read this manual and be aware of all safety precautions.

1. **NEVER** attempt any adjustment whatsoever, unless the machine is **COMPLETELY** at a standstill and the P.T.O. drive and blades have stopped turning. **Stop Engine and remove Tractor Key.**
2. **NEVER** attempt to clear any obstructions around the mower unless the machine is **COMPLETELY** at a standstill and the P.T.O. drive and blades have been stopped. **Stop Engine and remove Tractor Key.**
3. **NEVER** remove belt guards unless the machine is **COMPLETELY** at a standstill. **Stop Engine and remove Tractor Key.**
4. **NEVER** remove safety guards which are provided for your protection.
5. **NEVER** operate the mower with people around, keep everybody (especially children and animals) at a safe distance, **minimum 20 metres.**
6. Stand well back from the machine when cutters are spinning.
7. Regularly inspect the **BLADES AND FIXING BOLTS** to ensure that they are in excellent condition. Replace blades **IMMEDIATELY** if any signs of fracture or excess wear becomes apparent. Serious damage, which is excluded from our warranty conditions, may result from using your mower with an unbalanced rotor. When replacing blades, always fit new mounting bolts and nuts to ensure that the rotor is balanced and running smoothly.

### HEALTH AND SAFETY - Noise at Work Regulations

#### READING AT THE OPERATORS EAR

**Wessex WFM Flail mower: Approximately 95 D.B.A**

Depending on conditions and material being cut, this reading may alter, it is therefore advisable for users to do their own assessment.



In compliance with the above regulations, Ear Protectors must be worn when operating machinery.

## WARRANTY

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Your Wessex product or equipment is warranted free from defect in workmanship or manufacture for one year from date of purchase. Any parts which appear to us to be defective, either in material or workmanship shall be replaced or repaired at no cost to the purchaser, subject to the following conditions:

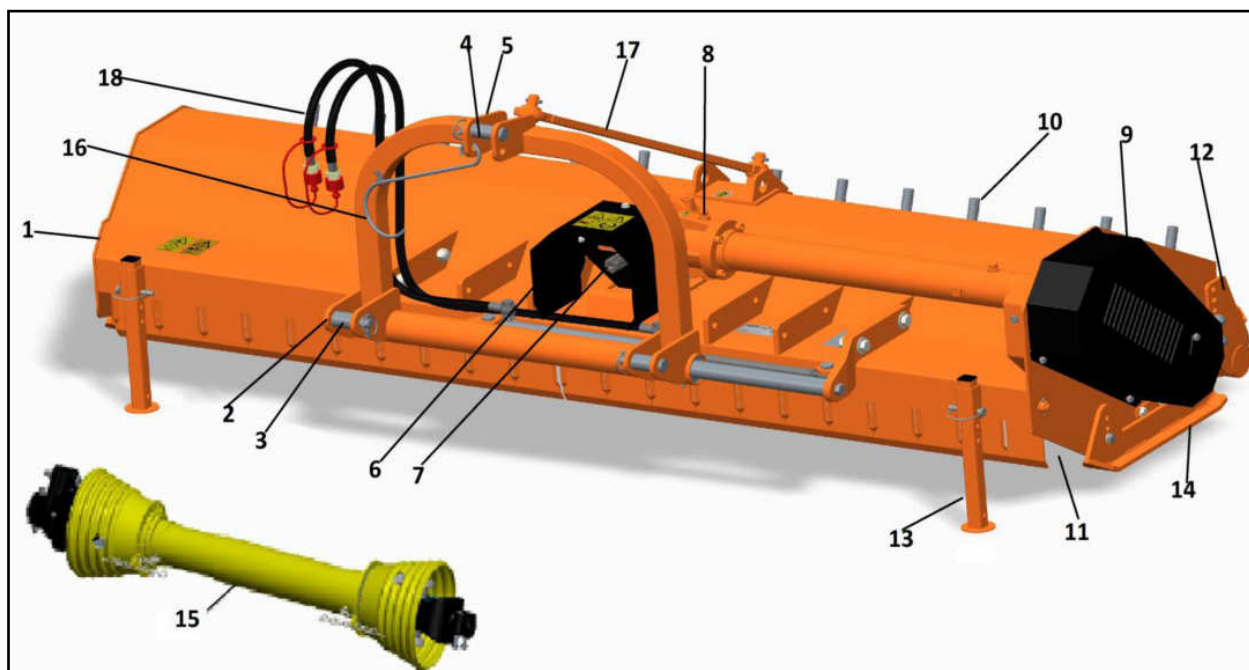
1. You should register your product within seven days of purchase via our website.  
<http://www.wessexintl.com/warranty/>  
Alternatively, if you prefer, please telephone Wessex International on 01264 345870
2. Any failure in the machine should be reported in the first instance immediately to your dealer, who will act on your behalf to resolve the matter to your satisfaction.
3. The defective parts will be returned by your dealer to us, accompanied by a full statement describing the failure and the circumstances and conditions in which the failure occurred.
4. The following are specifically excluded from our terms of warranty:
  - a) Fair wear and tear, especially to belts, blades, bearings and bushes.
  - b) Damage caused through incorrect adjustment (see instructions).
  - c) Damage caused by neglect or lack of lubrication.
  - d) Damage caused by misuse or abuse, including impact damage to blades.
  - e) Damage caused whilst the machine is in transit.
  - f) **Damage caused to the frame of the machine by running the machine with unbalanced rotors, blades or blade bars.**
  - g) Damage caused to the machine by use with loose nuts, bolts, screws or any other type of fittings.
  - h) Please note that P.T.O. Shafts are not covered by the Wessex warranty.
  - i) Damage caused to the machine by impact or collision to the machine . Howsoever caused.
5. The warranty is for the benefit of the first user only.
6. Wessex International decisions will be final and binding.

**Note:**

**It is recommended that every machine is inspected after one hour of operation to check that all nuts, bolts, screws or any other types of fixings are tight and any loose fixings or components should be rectified as appropriate.**

**Further inspections should be carried out at regular intervals thereafter.**

## MAIN PARTS DESCRIPTION



1. Flail Mower frame	10. Rakes
2. Lower hitch	11. Shredding room
3. Lower hitch pin	12. Roller
4. Upper hitch pin	13. Parking stand
5. Upper hitch	14. Side skid
6. P.T.O. shield	15. P.T.O. driveshaft
7. Implement Input Connection	16. Driveshaft support
8. Gearbox with free wheel inside	17. Tie-rod
9. Side transmission case	18. Hydraulic hoses

### NOTE

To make the illustrations clearer, some images in this manual may refer to machines without some components (e.g. safety devices and barriers).

## CONFIGURATIONS

---

The FLAIL MOWER can be set in different configurations.

The standard configuration can be changed applying one or more optional parts, listed below:

### STANDARD CONFIGURATION

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- Mobile arc with hydraulic cylinder
- Rear roller
- Standard rear cover
- “Y” blades or hammers
  
- Rear floating wheels (instead of rear roller)

## CONFIGURATIONS - TECHNICAL SPECIFICATIONS

### TECHNICAL SPECIFICATIONS

		<b>145</b>	<b>160</b>	<b>175</b>	<b>205</b>	<b>220</b>
Overall Dimensions	cm	162 x 85x 113	177 x 85 x 113	192 x 85 x 113	222 x 85 x 113	237 x 85 x 113
Working width	cm	145	160	175	205	220
	inches	57"	63"	69"	80"	87"
Recommended tractor HP	HP	25-60	30-60	40-60	55-60	60
3-point hitch type	-	Cat.I/II	Cat.I/II	Cat.I/II	Cat.I/II	Cat.I/II
Number of blades	N.	36	40	44	52	56
Number of hammers	N.	18	20	22	26	28
PTO input speed	rpm	540	540	540	540	540
Rotor speed	rpm	2083	2083	2083	2083	2083
Side transmission	-	4 Belts BX Type	4 Belts BX Type	4 Belts BX Type	4 Belts BX Type	4 Belts BX Type
Side shift (max)	cm	30	30	30	30	30
Rotor diameter	inches	6.25"	6.25"	6.25"	6.25"	6.25"
	mm	159	159	159	159	159
Rotor swing diameter	mm	378	378	378	378	378
Weight (driveline not included)	kg	388	412	434	482	506

## SAFETY

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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 minimise the failures.

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

### GENERAL SAFETY INSTRUCTION

---



#### **DANGER**

The machine must be used only by authorised 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 damage of guards, replace them immediately.



#### **DANGER**

It is absolutely forbidden to remove or alter safety devices.



#### **DANGER**

Before starting, and during operation of the Flail Mower, make sure there are no people or animals in the operation area: the machine can project material from the rear, 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.

## SAFETY

---



### **DANGER**

Do not operate the implement when tired, not in good physical 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.

## EQUIPMENT SAFETY INSTRUCTION

---



### **WARNING**

Use the Flail Mower for its intended purpose only. Improper use can damage the Flail Mower and cause serious injury or even death to both people and animals.



### **DANGER**

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



### **WARNING**

Any unauthorised 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, familiarise yourself with its controls and its working capacity.



### **WARNING**

Do not leave the Flail Mower 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 Flail Mower does not match that of the tractor hitch system.



### **WARNING**

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



### **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.

## SAFETY

---



### WARNING

Before engaging the tractor P.T.O., make sure the tractor P.T.O. speed is set as required for the Flail Mower (540 rpm). Do not over speed P.T.O. or machine breakage may result.



### DANGER

Do not operate the Flail Mower if the P.T.O. 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 one.



### WARNING

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

## 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 P.T.O. 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 P.T.O. and during all operations, make sure that no person or animal is in immediate area of action of the machine. Never use the Flail Mower if people are in the working area.



### DANGER

It's absolutely forbidden to stand near the Flail Mower when it is running.



### WARNING

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



### WARNING

Before making changes in direction, turns or going in reverse, slightly lift the Flail Mower from the ground after disengaging the power take-off, to avoid damage to the machine.



### DANGER

In presence of steep slopes (greater than 15 degrees) operating the mower may cause instability of the tractor with risk of tipping and possible 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

Always disengage the P.T.O. before raising the Flail Mower, and never engage the P.T.O. with the Flail Mower in the raised position. The machine might throw objects at high speed, causing serious injury or death.

## SAFETY

---



### WARNING

Never leave the driver's seat when the tractor is turned on. Before leaving the tractor, lower the Flail Mower to the ground, disengage the P.T.O., apply the parking brake, stop engine and remove the key from the tractor.



### DANGER

The P.T.O. 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 P.T.O. of the tractor, always make sure that the driveshaft is mounted in the correct direction, and that its clamping elements are properly connected both to tractor side and to Flail Mower side.



### WARNING

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



### WARNING

Always disengage the tractor P.T.O. 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 Flail Mower can cause overheating of the gearbox. Do not touch the gearbox during use and immediately after, it could be extremely hot and cause severe burns.



### WARNING

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

## TRANSPORTING SAFETY INSTRUCTION

---



### WARNING

Before transporting the machine, 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 Flail Mower cannot be lowered accidentally.



### DANGER

## SAFETY

---

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



### WARNING

When turning, use extreme care and reduce tractor speed.



### WARNING

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



### 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.



### LIFTING

In case it is required to lift the machine, make sure that the lifting device chosen is suitable to perform the operation safely, and use only the lifting points prescribed on the Flail Mower.

## MAINTENANCE SAFETY INSTRUCTION

---



### WARNING

All maintenance and repairing operations must be performed by qualified and trained operators, with the tractor engine off, the P.T.O. disengaged, the Flail Mower lowered to the ground or on security stands, the ignition key off and the parking brake set.



### WARNING

Perform repairs and replacements necessary to the machine 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, overalls and work gloves).



### CAUTION

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



### WARNING

Repairs, 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.

## STORAGE SAFETY INSTRUCTIONS

---



### **WARNING**

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



### **DANGER**

Following operation, or before unhooking the tiller, stop the tractor, set the brakes, disengage the P.T.O., lower the attached tiller to the ground, turn off the engine, remove the ignition key and wait for all moving parts to stop.



### **DANGER**

Make sure when parking the mower to do so on a hard, level surface and engage all safety devices and stands.



### **CAUTION**

When parking, place support blocks under the mower as needed to prevent the unit from tipping over onto a child and/or an adult. An implement that tips over can result in injury or death.



### **CAUTION**

Store the unit in an area away from human activity.

## SAFETY LABELS

---

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

Make sure all safety labels are in good condition. If pictograms are worn, they must be replaced with others obtained from the manufacturer.

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

## SET UP

---

The Flail Mower is delivered equipped with a P.T.O. driveshaft and related operating manual. When the machine is delivered, check that there is no damage to the Flail Mower or driveshaft. In case of damage or missing parts immediately notify Wessex International or your Dealer. Because of his size, the machine could be delivered with some parts to be assembled. In this case, the assembly of such parts is an owner's task, and must be performed carefully, with reference to the tables of the Spare parts section.



### WARNING

For proper tightening torques of bolts and screws, refer to the table in this manual.

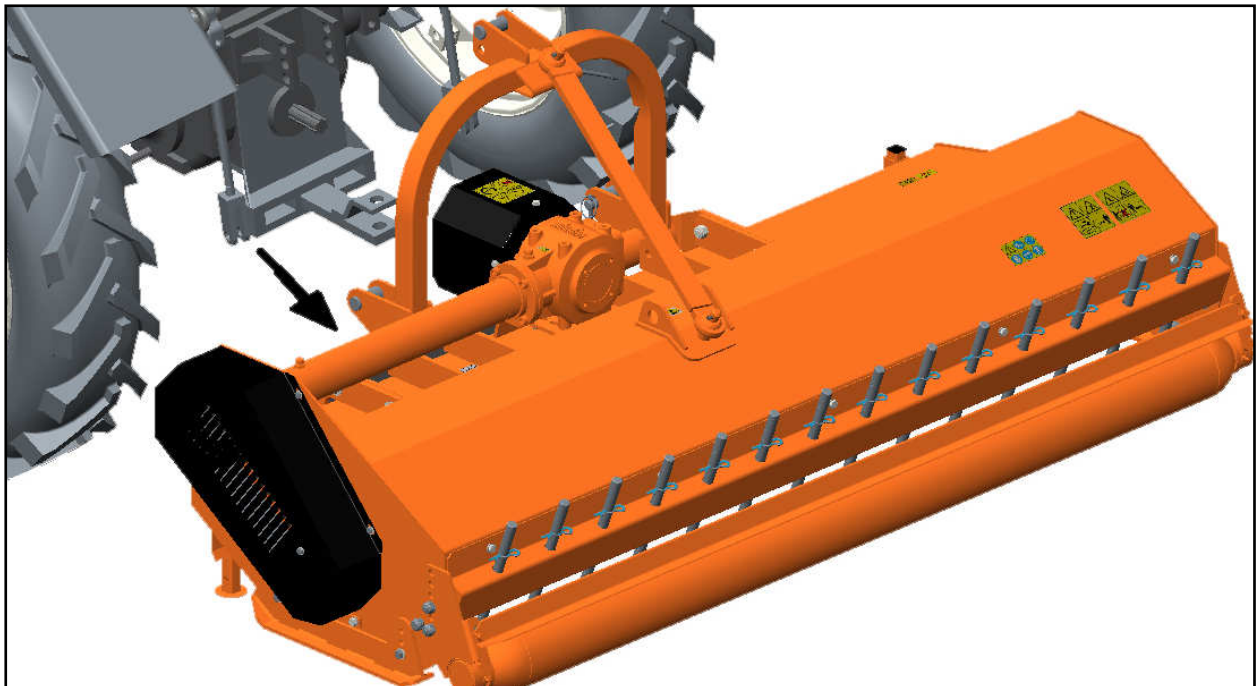
## CONNECTING TO THE TRACTOR

---

The FLAIL MOWER is designed to be mounted on tractors equipped with Category 1, 3-point Hitch (ISO 730 standard).

To connect the Flail Mower to the tractor the operator must do the following:

- Drive the tractor in reverse, up to align the rear lifting arms to lower hitches of the Flail Mower in parking (see picture below);



- Set the tractor's parking brake, stop engine, remove the ignition key and get off the tractor;
- Connect the lifting arms of the tractor to the lower hitches of the Flail Mower, and the 3-point top link to the upper hitch of the Flail Mower, through the use of the pins and the relative safety split pins;
- Raise the Flail Mower until P.T.O.s of tractor and machine are at the same height, then adjust the 3-point top link so that the front of the machine is levelled to the back (the axis of the Flail Mower P.T.O. must be parallel to the ground), in order to limit stress transmitted to the Flail Mower through the cardan shaft;
- Make sure that left side of the Flail Mower is levelled with the right, by adjusting the tractor lifting arms, then lock the arms to prevent any swinging that could compromise the stability of tractor and machine;
- Finally adjust the parking stand, placing it at the highest point by using the linch pin.

## SET UP

---



### WARNING

Before connecting the Flail Mower to the tractor, make sure that tractor and Flail Mower are on a flat, stable and dry surface

## DRIVELINE INSTALLATION

---

The gearbox unit is equipped with a free wheel inside, able to absorb the rotor inertia during stopping, and to prevent possible damage to the transmission system that would be caused by an instantaneous stop of the rotor.

Consequently, the use of a P.T.O. Shaft with free wheel is not required.

Before installing the driveshaft, the operator must read the manuals of driveshaft and tractor, checking in particular that rpm and direction of rotation of the tractor P.T.O. match those of the Flail Mower.

If the direction of rotation of the P.T.O. tractor does not match that of the machine, contact the Manufacturer or your Dealer.

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

- Park tractor and Flail Mower on a flat surface, with parking brake set, engine off, and ignition key removed.
- Check that the safety devices of driveshaft, Flail Mower and tractor are in good condition, otherwise they must be replaced.
- Remove the P.T.O. shield of the Flail Mower using the fixing screws.
- Position the driveshaft on the implement side.
- Insert the hub on the Flail Mower P.T.O., then ensure it is fastened tightly on the shaft.
- Replace the P.T.O. shield of the Flail Mower using the fixing screws;
- Insert the driveshaft yoke on the tractor P.T.O., then ensure it is fastened tightly on the shaft.
- Hook to the tractor and Flail Mower the two retaining chains of the the driveline shielding, to prevent shielding rotation during functioning of the machine.

## DRIVELINE LENGTH CHECK

---

Before operating the Flail 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 Flail Mower is combined.

The length of the driveshaft must be such to:

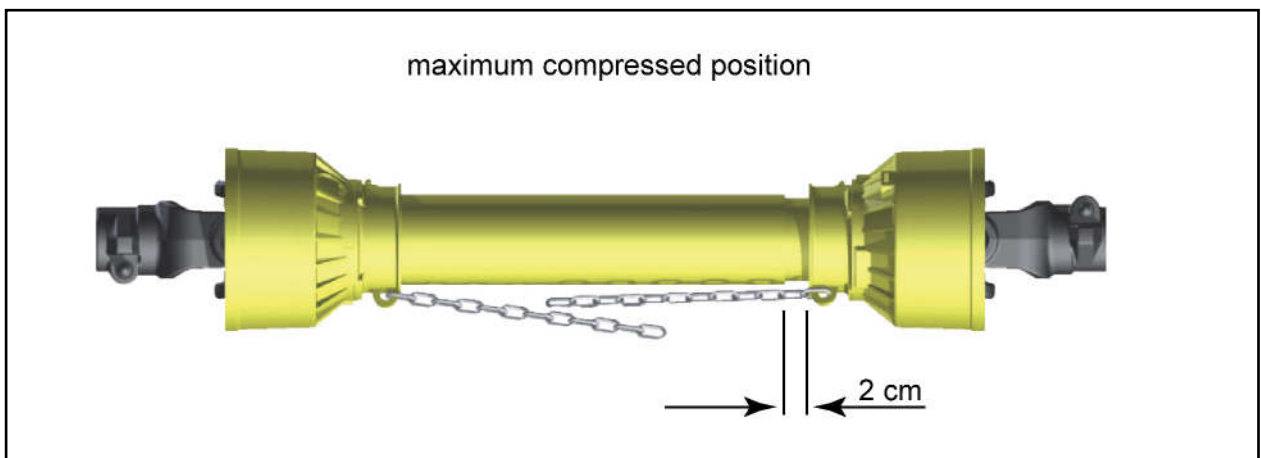
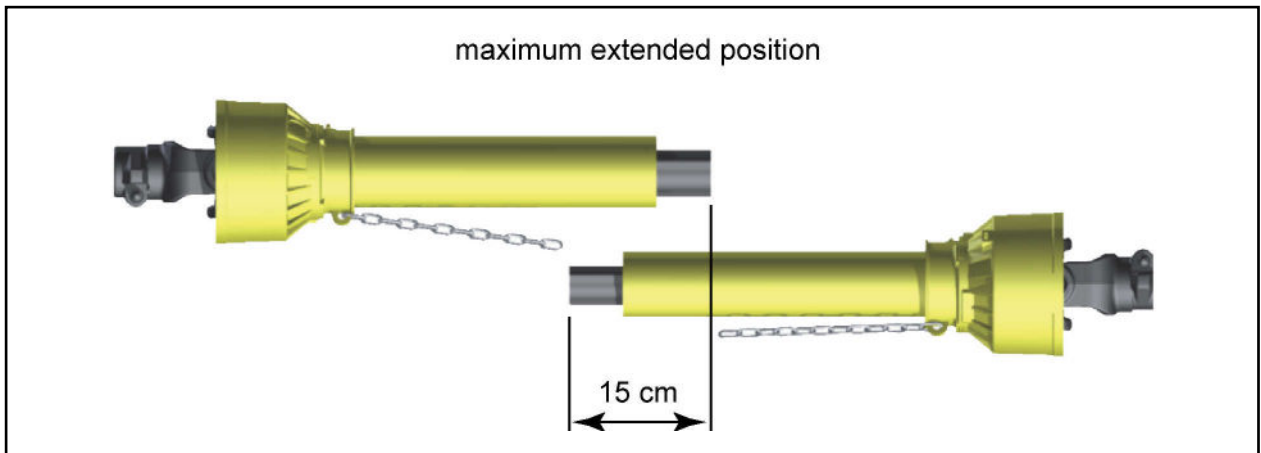
- Avoid bottoming out of the transmission tubes, when the driveshaft is in compressed position (when Flail Mower is raised up off the ground).
- Ensure an overlapping of the transmission tubes enough to transmit the torque required, when the driveshaft is in max extension (when Flail Mower is in its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

When the driveshaft is at its minimum length (max compressed position), there must be at least 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.

## SET UP

---



A driveshaft that is 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 that is too short can cause disengaging 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

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- Before operating the Flail Mower the first time, make sure that the driveshaft is lubricated in accordance with how indicated in the instruction booklet.
- Before operating the Flail Mower the first time, and after long periods of inactivity, make sure that the driveline clutch has run a short “run in” in accordance with what indicated in the instruction manual of the Manufacturer, removing the possible oxidation of the components that may compromise the correct slipping during the usage (see also section “Maintenance”).
- Always engage the tractor P.T.O. at low rpm to minimise the effect of the peak torque on the driveline and the machine.

## TRACTOR-FLAIL MOWER STABILITY

---

The weight of the machine modifies the stability of the system tractor-Flail Mower, resulting in possible loss of steering control and braking.

The front axle of the tractor should always be loaded with at least 20% of the overall weight of the system tractor-Flail Mower.

### CAUTION

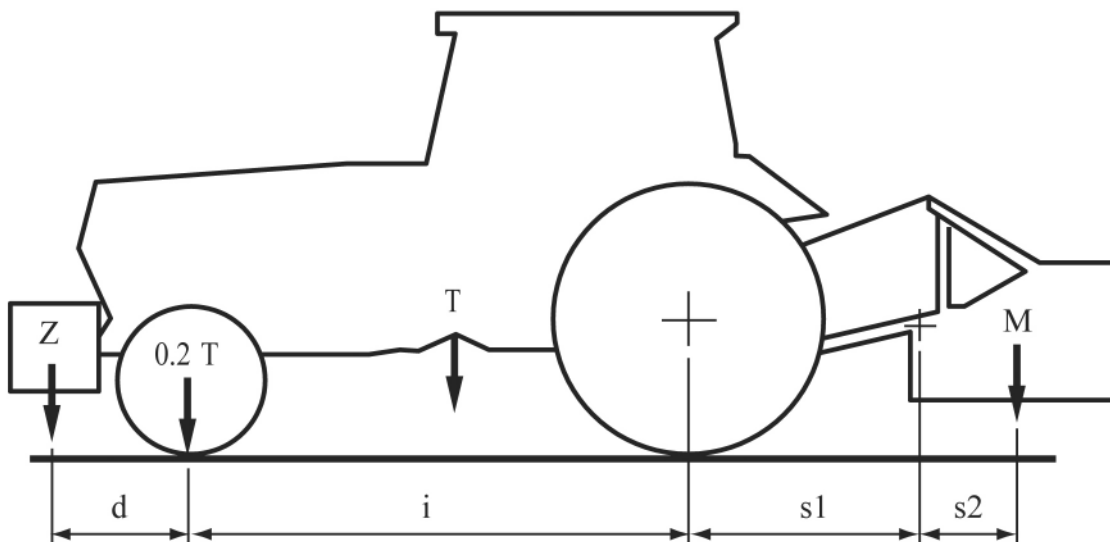
Check the lifting capacity and stability of the tractor making sure the following relations are complied with

(see table below for definitions):

- $M \times (S1+S2) \leq 0.2 \times T \times i + Z \times (d+i)$
- $M \leq 0.3T$

If this does not occur, apply the front ballast required. 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 centre 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 centre of mass = 61 cm

## OPERATING

---

Before operate the Flail Mower, make sure you have read and understood the operating manuals of the Flail Mower, tractor and P.T.O. 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 all machine guards are in good conditions and fully functional.

During operation, the machine can throw material from the rear: prevent people and animals from approaching the operational area.

## START-UP

---



### **WARNING**

Before conducting the above inspections and service, make sure the tractor engine is off, all rotating parts are completely stopped and the tractor is in park with the parking brake engaged and the tractor key removed. Make sure the machine is resting on the ground or securely blocked up and the tractor lifting hydraulics locked.

Before the start up and before each use, perform the following pre-operation inspections and service of the implement:

- Check that the machine has not damaged functional parts and has all mechanical parts in good condition. Repair and / or replace the damaged parts.
- Check that the machine 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 P.T.O. driveshaft is properly installed (see section: Connection of the drive shaft);
- Check the presence of lubricant in all greasing points of the machines (driveshaft, supports...) (see sections: Maintenance / Driveline and Maintenance / Support rotor).
- check for oil leaks from the gearbox or the transmission side cover. Identify the reason of loss, then repair and / or replace the damaged components;
- Check the correct oil level in the gearbox and in transmission side box (see section maintenance).
- Check that blades are not excessively worn and the relating hardware is correctly tightened (see section Maintenance).
- Check that all the machine 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 are no obstructions that may prevent the movement of equipment. Remove any obstruction.

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

- 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 that there are no people or animals within the working area.

## OPERATING

---

Once all the checks above have been done, start the tractor and the Flail Mower as follows:-

- Start the tractor and engage the P.T.O. at low rpm, making sure that the Flail Mower is NOT in the raised position but close to the ground, then increase the speed of the engine to 540 rpm; at the P.T.O.
- Lower the machine on the ground and simultaneously start driving the tractor at low speed. Subsequently increase the ground speed depending on ground conditions;
- If the environmental temperature is extremely cold, it's recommended to wait a few minutes with the P.T.O. of the tractor at low rate before lowering the Flail Mower completely on the ground.
- Drive for a while operating the Flail Mower, then stop the tractor to check the quality of the work performed. If you need to get off the tractor, lift the Flail Mower just out of the ground, reduce engine speed and disengage P.T.O., set the parking brake, stop engine and remove the ignition key.

If the cutting height and/or the quality of the shredding are not as desired, correct them by adjusting the roller or the wheels (see sections "Adjustments").

## OPERATING INSTRUCTIONS

---

During operations:

- Always keep the tractor engine at rpm rate ensuring to the Flail Mower the right power required for the use.
- Always keep a tractor speed adequate to working conditions (from 2 to 10 km/h approx.).
- Choose a driving pattern that provides the maximum pass length and minimises turning.
- When working on slopes, avoid working along the hillsides, making the cuts from top to bottom. Where possible always try to work up the slope.
- Always perform changes and reverse of direction with P.T.O. disengaged and the Flail Mower slightly lifted from the ground to avoid damage to the machine.
- Periodically check for foreign objects wrapped around the rotor shaft and remove them, after disengaging P.T.O., turning off tractor engine, and removing ignition key.
- If the rotor strikes a foreign object, stop operating immediately, idle the engine speed and disengage the P.T.O.. Wait for stopping of all rotating parts, then raise the implement and proceed to check and remove the object, after stopping the tractor, set the parking brake, stopped engine and removed the ignition key. Repair any damage immediately, and make sure rotor is in good condition before restarting operation.

Typical problems that may occur when operating the Flail Mower are described in the Troubleshooting section, together with possible solutions.

## ADJUSTMENTS

---



### WARNING

All adjustment operations must be performed with the tractor engine off, the P.T.O. disengaged, the Flail Mower lowered to the ground or on security stands, the parking brake set and the ignition key off.

## CUTTING HEIGHT ADJUSTMENT

---

The cutting height of the Flail Mower is determined by the vertical position of the rear roller on the machine.

Lifting up the roller makes the blades of the rotor get closer to the ground, reducing the cutting height. On the contrary, lowering the roller increases the blade distance from the ground, raising the cutting height.

After changing the working height, make sure that the blades of the rotor are not interfering with the soil as direct contact with the ground would cause rapid wearing of the blades.

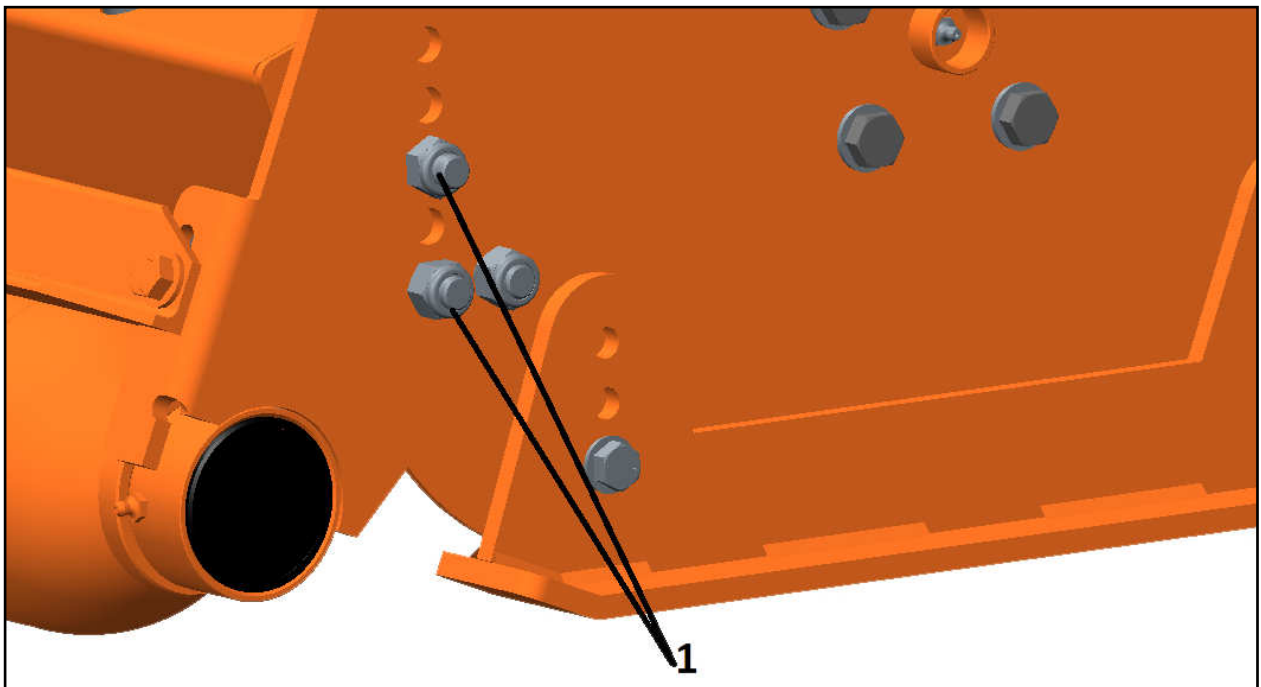
If the Flail Mower is provided with a roller, to adjust the cutting height:-

Lift the Flail Mower, put it on safety stands, then turn off the tractor engine, disengage the P.T.O., set the parking brake and remove the key from the tractor.

Remove the bolts (1) that secure the roller supports to the frame on both sides.

Position the roller according to the height required.

Replace and tighten the bolts (for the correct torque value refer to the torque table of the manual).



Depending on the different roller positions, it is possible to set four different cutting heights: 32, 57, 82 and 107 mm.

When finished, make sure that the roller supports are positioned at the same height, and check, with the Flail Mower resting on the ground, that the front of the machine is levelled with the back. If necessary, adjust the level through the 3-point top link of the tractor.

## SKID ADJUSTMENT

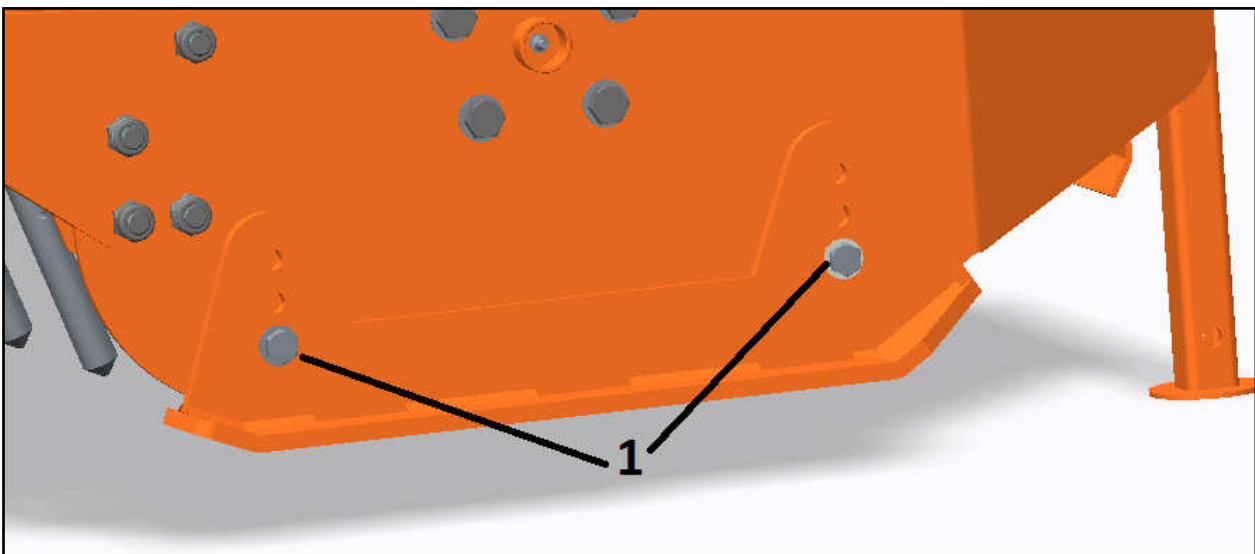
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The position of the skids can be adjusted by:-

Loosening and removing the bolts (1) that clamp the skids to the side plates of the frame,  
Reposition the skids according to the needs, and retightening the bolts (1).

The skids can be placed in 3 different positions but, the roller is fitted, they have the function of protecting the side plates of the frame from any direct contact with the ground.

Therefore, make sure the skids are not positioned below the roller because this keeps the Flail Mower lifted off the ground (and not the skid).



## RAKES ADJUSTMENT

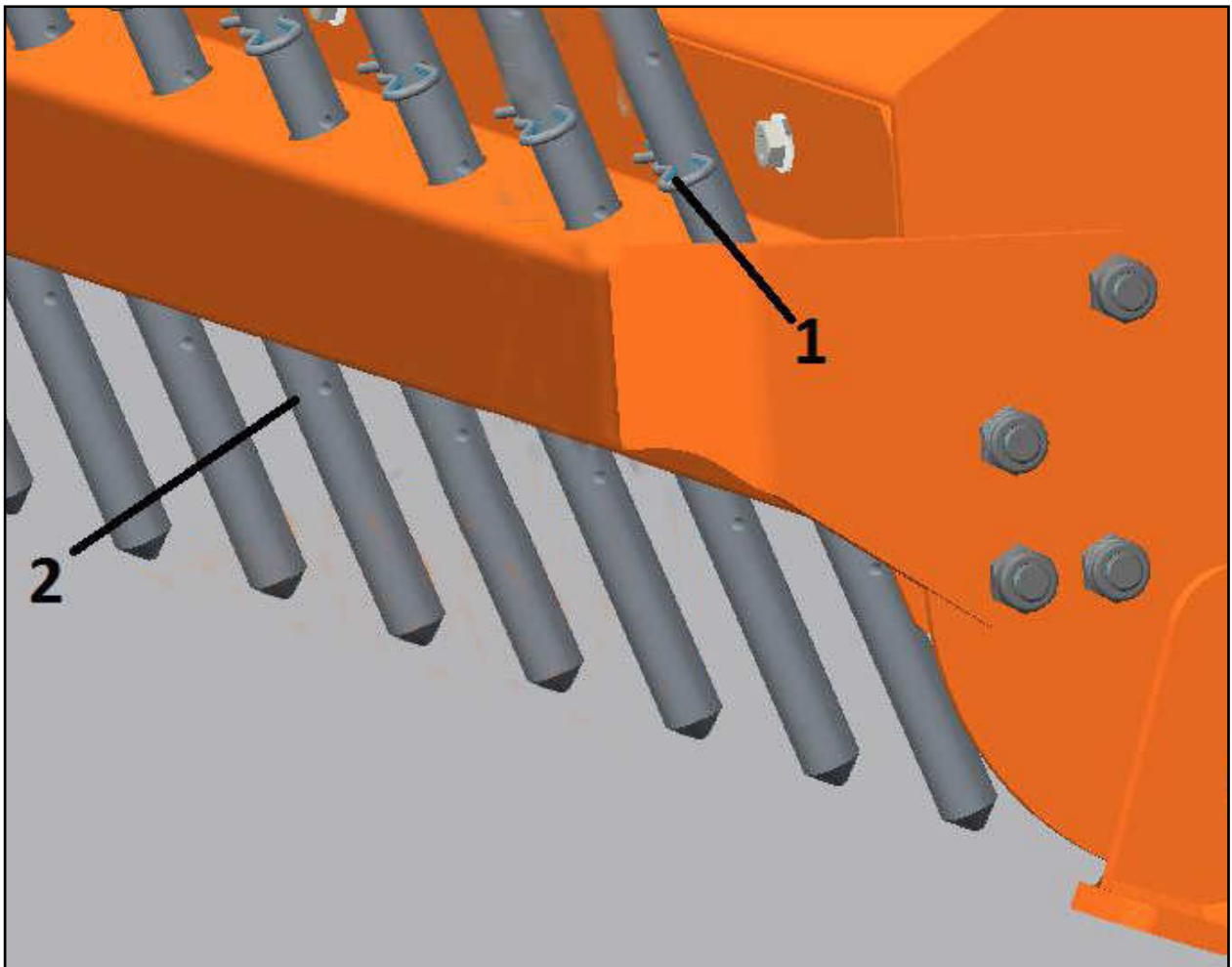
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The function of the rear rakes is to obtain a more fine mulching by holding the material within the shredding room.

It is therefore recommend to perform the racks adjustment immediately after performing the cutting height adjustment.

To do this follow these steps:-

- Remove the upper and lower cotter pins (1) from one of the rakes.
- Push the rake downwards in order to retain more material inside the shredding chamber and obtain a more fine crushing. Vice-versa, pull the rake upwards to retain less material inside the shredding chamber and to obtain a more coarse crushing.
- Insert the split pins (1) on the holes of the rake closest to rear bar.
- Repeat the procedures adjusting all other rakes to the same height of the first one.



## SIDE SHIFTING ADJUSTMENT

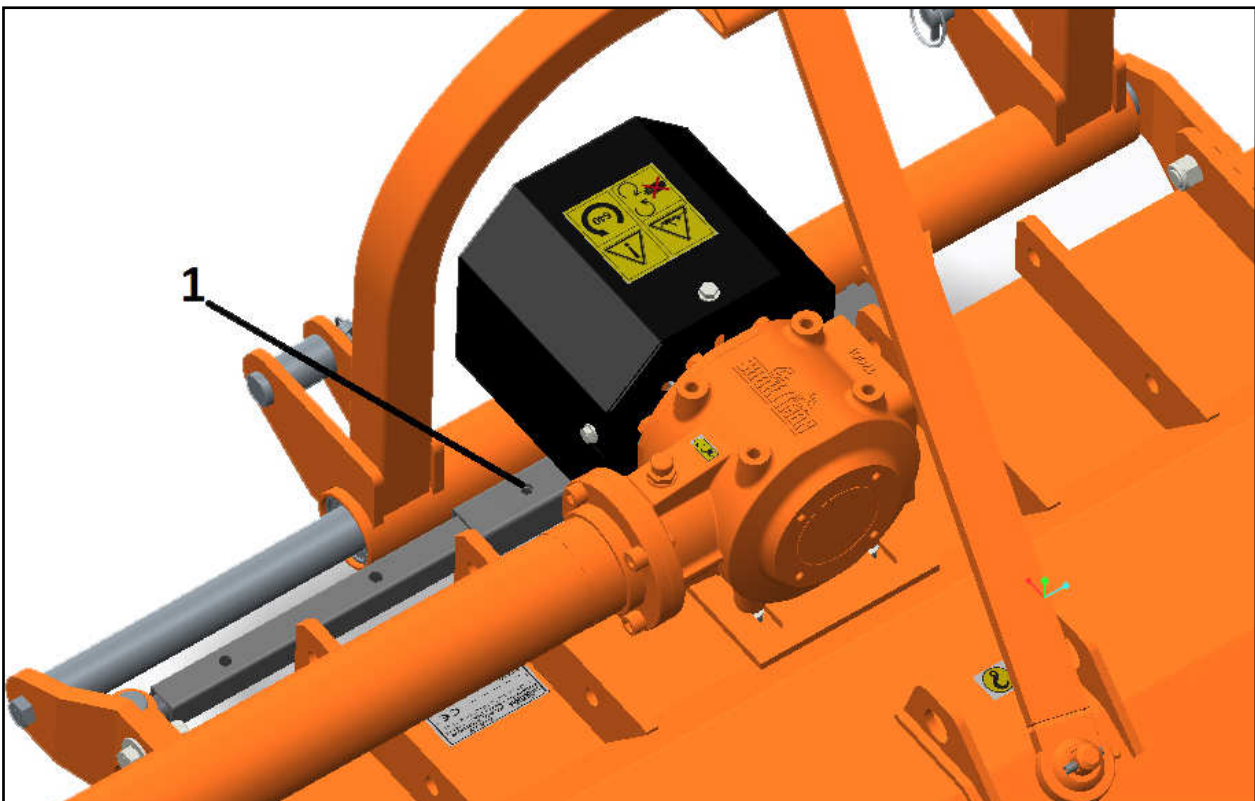
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The Flail Mower can be configured with a mechanical or hydraulic side shifting device.

To shift the side position of the machine, procede as described below:-

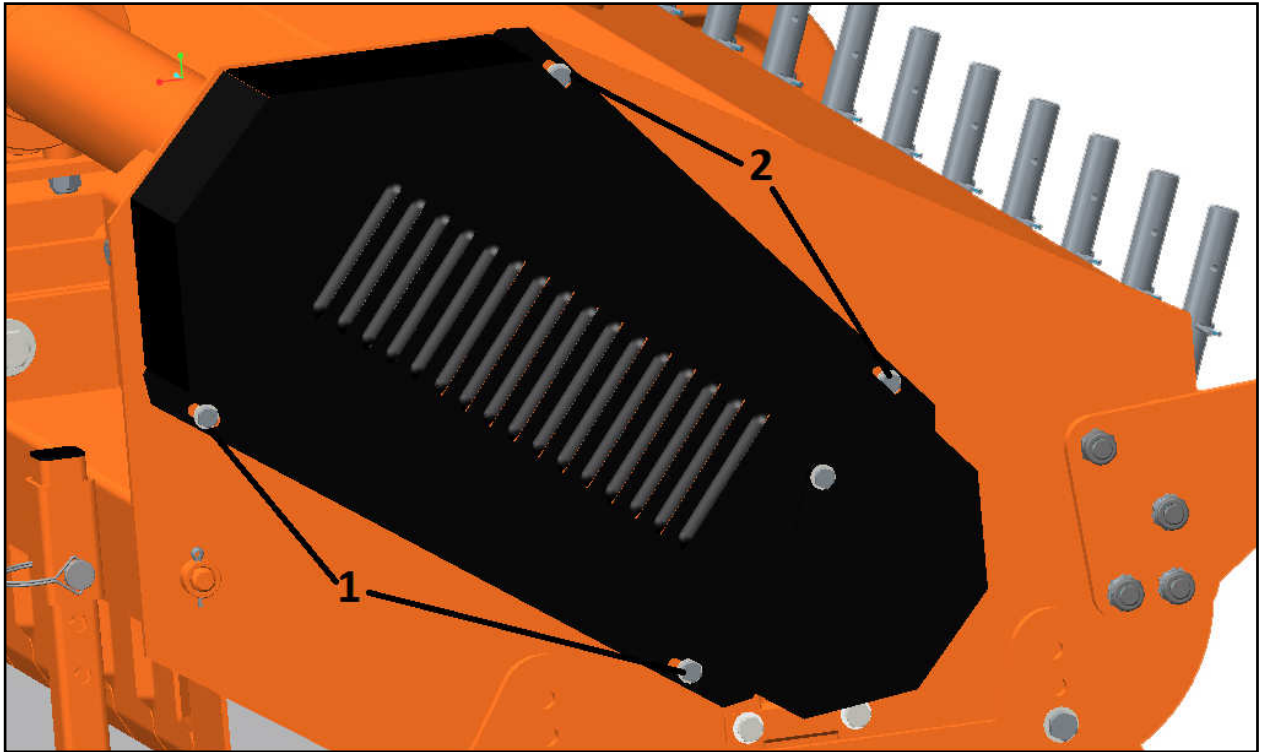
- Lift the Flail Mower, then turn off the tractor engine, disengage the P.T.O., set the parking brake and remove the key from the panel.
- Unscrew and remove the bolt (1).
- Manually move the body of the Flail Mower by pushing from one side, until is reached the position required overlaying the holes of the mechanical jack.
- Reinsert the bolt removed earlier and tighten.

If the machine is equipped with hydraulic shift, the side adjustment of the frame is effected by actuating the cylinder directly by the hydraulic control system of the tractor, after connecting the machine hydraulics to the tractor.

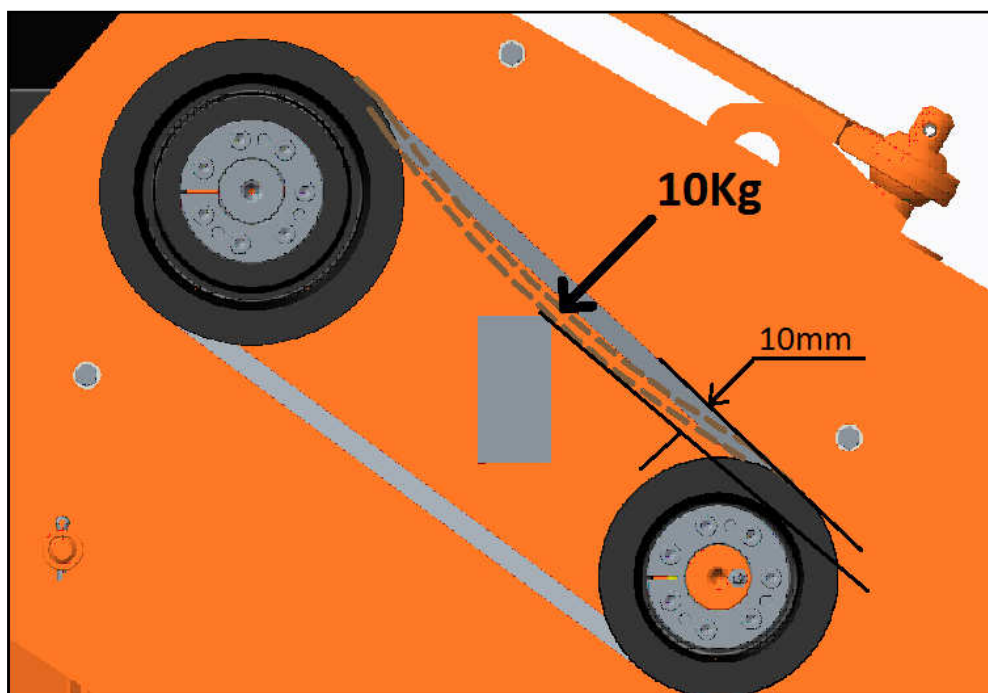


## BELT TENSIONING ADJUSTMENT

To check the correct belt tensioning of the side transmission, remove the safety cover of the belts by loosening the four bolts (1) that secure it to the frame (see picture):-



Apply a force of about 10-15 kg on the middle of the belts set, and measure the deflection of the belts (see picture):-

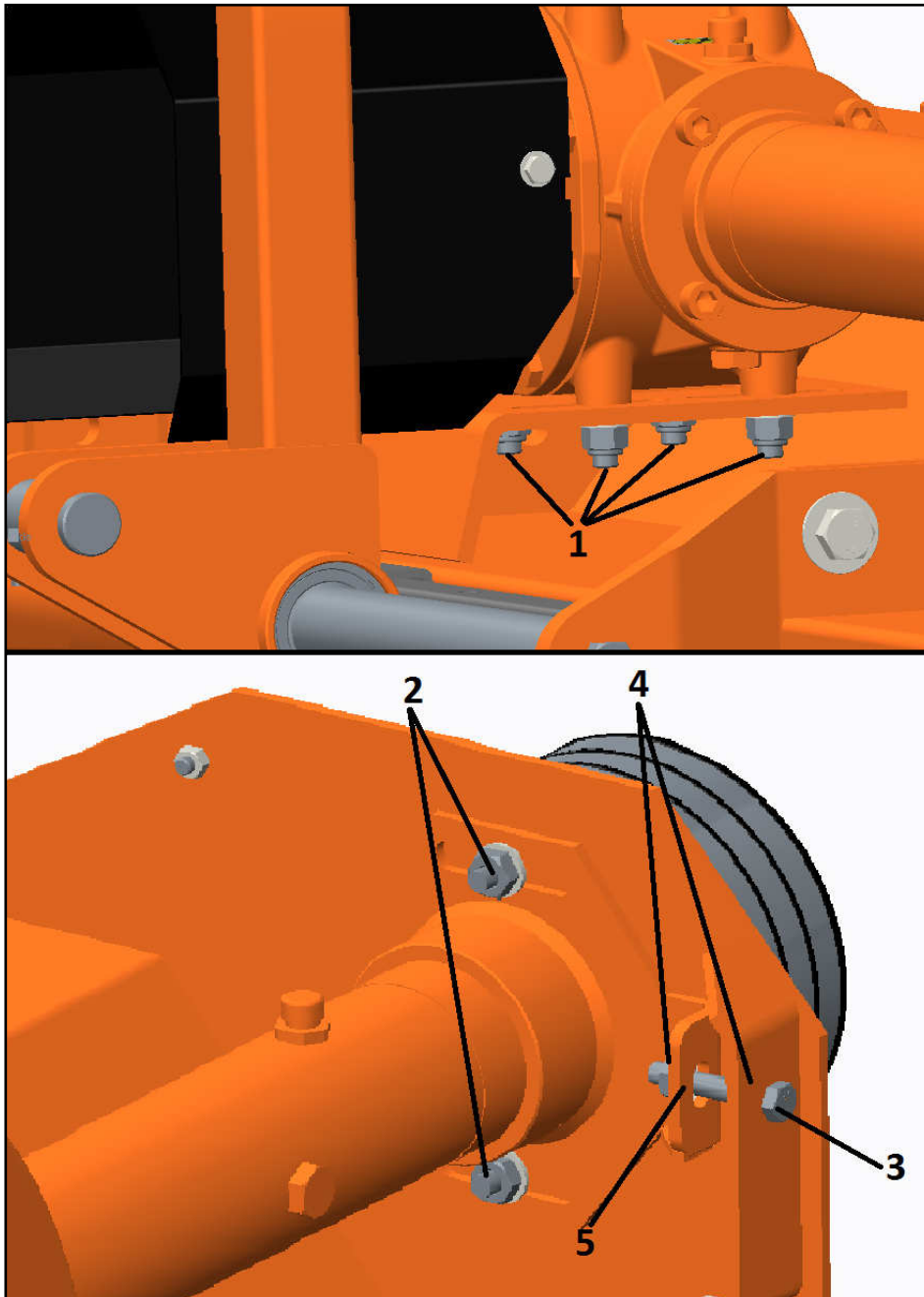


If the deflection is about 10 mm, the tension is correct.

## BELT TENSIONING ADJUSTMENT

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If is not so, proceed with the adjustment in the following way (see picture below):-



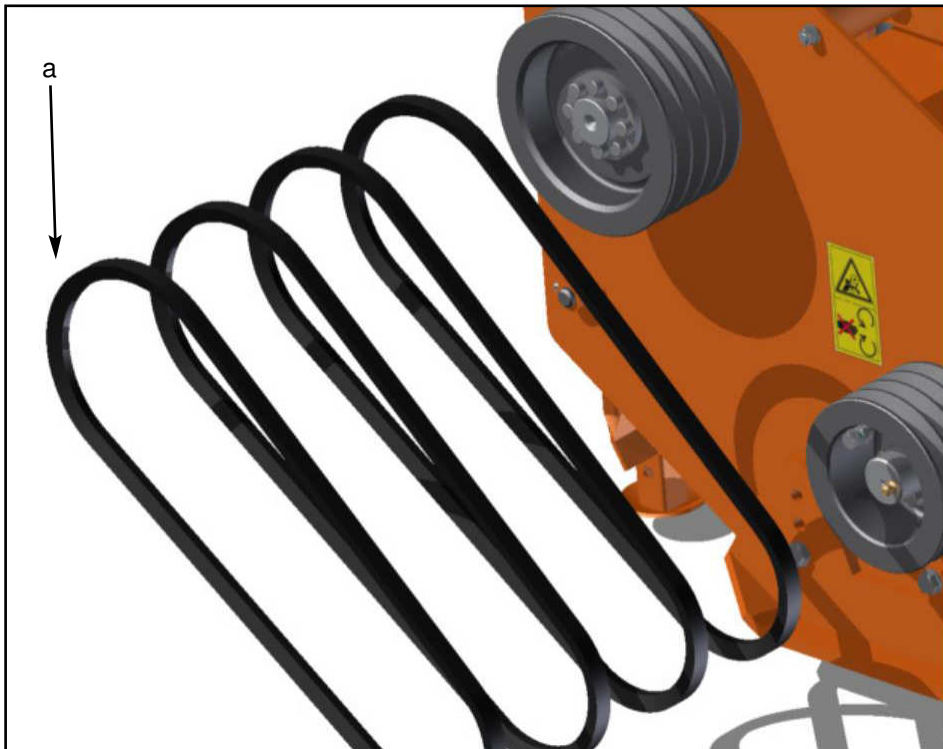
- Loosen the four nuts (1) under the gearbox which lock it to the frame.
- Loosen the two bolts (2) fixing the extension tube to the side plate of the frame.
- While holding the screw (3), loosen the lock nuts (4).
- Tighten the tension nut (5) if the tensioning found is too low (deflection of belts higher than 10 mm). unscrew the tension nut (5) if the tensioning found is too high (deflection of belts lower than 10 mm).
- Retighten the two bolts (2) fixing the extension tube to the side plate of the frame.
- Move the gearbox in order to restore the position of the extension tube perpendicular to the side plate of the Flail Mower.
- Retighten the four nuts (1) under the gearbox.
- Reposition the safety cover in his original place.

## BELT TENSIONING ADJUSTMENT

---

If the replacement of the belts is required:-

- Remove the safety cover of the belts by loosening the four bolts that secure it to the frame.
- Loosen the four nuts (1) under the gearbox which lock it to the frame.
- Loosen the two bolts (2) fixing the extension tube to the side plate of the frame.
- Loosen the lock nuts (4) and the tension nut (5) until the extraction of the belts from their seats.
- Reinsert the new belts in succession contrary to what done for the disassembly.
- Adjust the belt tension according to the indications done above.
- Retighten the two bolts (2) fixing the extension tube to the side plate of the frame.
- Move the gearbox in order to restore the position of the extension tube perpendicular to the side plate of the Flail Mower.
- Retighten the four nuts (1) under the gearbox.
- Reposition the safety cover in his original place.



## STOPPING AND DISCONNECTION

---

To stop the Flail Mower at the end of a working session:-

- Bring the tractor to a complete stop.
- Place the transmission in park or neutral.
- Reduce the engine speed, then disengage the P.T.O.
- Wait for stopping of all rotating parts.
- Lower the implement to the ground.
- 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 Flail Mower from the tractor (e.g. to make a change of implement):

Adjust the parking stand to the lowest position, through the use of relative retaining pin.

Park the tractor on a dry and level surface.

Reduce the engine speed, then disengage P.T.O.

Wait for stopping of all rotating parts.

Lower the implement to the ground.

Set the parking brake.

Shut down the engine and remove the key before exiting the tractor.

Place safety blocks under Flail Mower to prevent unit from tipping over onto a child and/or an adult. A Flail Mower that tips over can result in injury or death.

Disconnect the driveline from the tractor P.T.O. and rest it on the provided support of the Flail Mower;

Disconnect the top link and rear lifting arms of the tractor from the Flail Mower hitches.

Check the Flail Mower stability. If needed, place additional safety blocks.

Get on the tractor, start the engine and move away from the Flail Mower slowly.

Make sure the Flail Mower remains stored in a protected area, to prevent any unauthorised personnel from approaching it.

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

## TRANSPORTING

---

To set the Flail Mower for transportation, perform the following steps:-

- Idle tractor engine, disengage tractor P.T.O., and wait for stopping of all rotating parts.
- Lift the Flail Mower until the transport position, making sure the driveline transmission tubes does not contact tractor or Flail Mower. A minimum gap of 2 cm should be leaved between the tubes and tractor and Flail Mower (see also section Driveline installation).
- Lock the tractor lifting hydraulics, turn off the engine, set the parking brake, remove ignition key and get off the tractor.
- Adjust the parking stand to the highest position, through the use of relative retaining pin, to prevent its possible damage during transport.

When driving on public roads, follow strictly all 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.

## MAINTENANCE

---

Proper and regular maintenance ensures a long life of the equipment, 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 operating conditions (frequent stops and starts, prolonged winter 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 authorisation 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 P.T.O. disengaged, Flail Mower stopped and completely lowered to the ground or onto support blocks, parking brake set, tractor engine shut off, and ignition key removed.



### **IMPORTANT**

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

## ROTOR TOOLS REPLACEMENT

---

Frequently check the wear condition of the blades on the rotor (Y blades or hammers) by visual inspection. The wear of the blades is very variable depending on the type of material cut.

Replacement of the blades is necessary when the operator notices increase of power absorption during operations, or when the blades or hammers dimension is significantly reduced compared to the original.

The use of the machine with blades in bad condition compromises the quality of the work.

### Before replacing the blades:-

Idle tractor engine, set the parking brake, disengage tractor P.T.O., and wait for all moving parts to come to a complete stop.

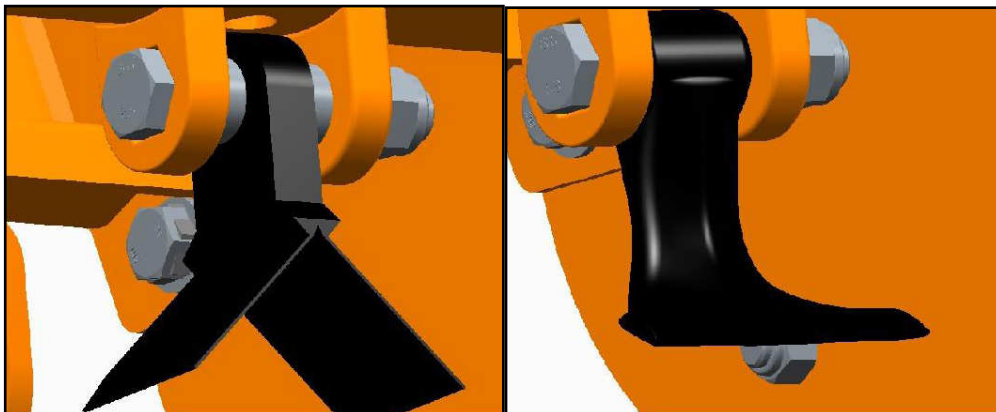
Place the machine slightly lifted from the ground on safety blocks or mechanical stands;

lock the control lever of the hydraulic lift of the tractor.

Turn off the tractor and remove the key from the control panel.

### To perform the replacement of blades:

- Remove the bolt that locks the couple of Y blades (or the hammer) in the rotor. For the Y blades, two bushing are placed on the bolt to fill the gap between the blades and the holders of the rotor.
  - Place the new blade, and tighten the bolts with washers, referring to the torque values shown in "Table torques" in the manual.
  - For the rotor with blades don't forget to place the related bushings between the blades and the holders.
  - For the rotor with hammers be sure to install the cutting edge facing in the direction of rotation of the rotor;
- 
- Repeat this process for all the blades.



### IMPORTANT

Remove and install one blade/hammer at a time to ensure blades/hammers are correctly oriented when installed.

Replace worn blades only with original parts.



### WARNING

When the blades/hammers are worn out it is necessary to replace the full set of tools.

Replacement of only some of the tools is certainly cause of the rotor unbalance, machine vibrations and can compromise the reliability of the Flail Mower and generate risks to the operator.



### CAUTION

Worn blades and hammers may be very sharp!

## MAINTENANCE

---

### GEARBOX LUBRICATION

Lubricant: SAE 85W/140 oil gear or equivalent

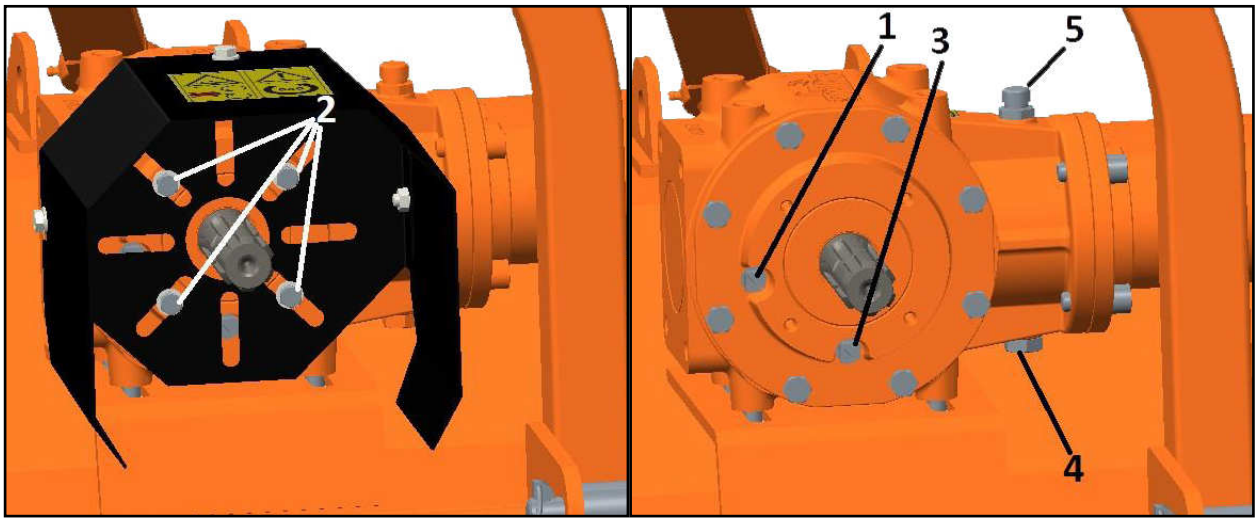


#### CAUTION

Before touching the gearbox wait until it has cooled sufficiently.

Check the oil level every 50 hours, making sure the level is aligned with the level plug (1).

To perform the check, it is necessary to remove the screws (2) holding the safety cover on the gearbox, which prevents access to the plug.



If the oil level is below the line of the level plug, it's necessary fill up oil till restore the correct level.

The oil change must be performed:

- After the first 50 working hours.
- Each 500 working hours.

To make the oil change:

- Unscrew the level plug (1).
- Place a tank under the oil drain plugs (3) and (4).
- Unscrew the oil drain plugs (3) and (4) and drain oil completely into the tank.
- Retighten the drain plug (4).
- Unscrew the oil filling plug (5) on the top of gearbox.
- Fill up oil till the level reach the hole of the level plug (1).
- Retighten level plug (1) and the filling plug (5).
- Replace the safety cover retightening the screws (2).
- Dispose the discharged oil into containers for used oil and dispose of responsibly.



#### IMPORTANT

Frequently check possible oil leaks from the Flail Mower through visual inspection, and in case of leakage provide immediately proper maintenance.

Avoid oil leaks onto the ground when restoring the oil level or making oil changes.

## MAINTENANCE

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### ROTOR BEARINGS LUBRICATION

Lubricant: Wessex Prolube EP 2 lithium-type grease (or equivalent)

Frequency: each 20 working hours

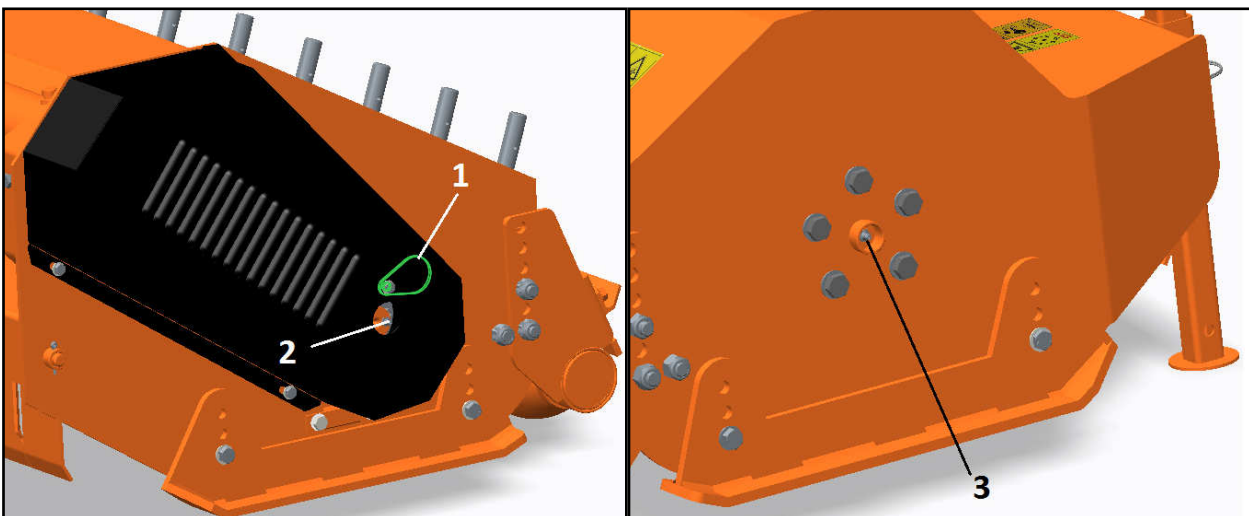
To perform lubrication (see pictures):-

- Turn the cover (1) and inject grease through the nipple (2).
- Inject grease through the nipple (3).

### IMPORTANT

Make sure to clean the fitting nipple before using the grease gun.

Do not let excess grease collect on or around parts, particularly when operating in sandy areas.

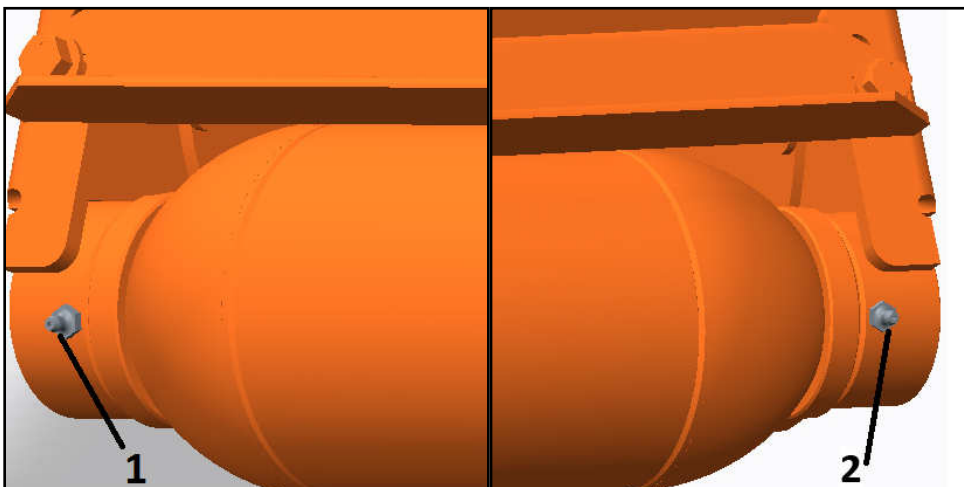


### ROLLER BEARINGS LUBRICATION

Lubricant: Wessex Prolube EP 2 lithium-type grease (or equivalent)

Frequency: each 20 working hours

To perform lubrication, inject grease into the nipples (1) and (2), located on the upper part of the roller bearing supports (see pictures).



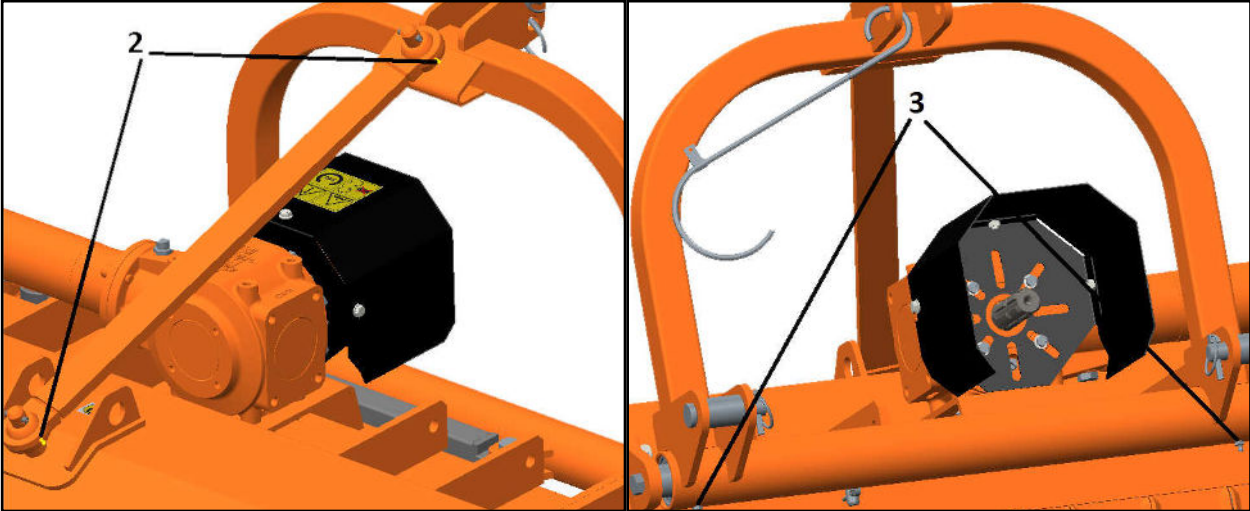
# MAINTENANCE

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## 3-POINT HITCH LUBRICATION

Lubricant: Wessex Prolube EP 2 lithium-type grease (or equivalent).  
Frequency: each 20 working hours.

- To perform lubrication of the shifting parts of the 3-point hitch (see pictures):-
- Inject grease into the nipples (2), located on the lower part of the shifting tube of the hitch.
  - Inject grease into the nipples (3), located on the rod-tie of the hitch.



## **MAINTENANCE**

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### **DRIVE BELTS REPLACEMENT**

Frequently check the wear of the belts, and if one or more of these appears worn replace the full set. To replace the drive belts, refer to the section "Belts tensioning adjustment".

### **DRIVESHAFT MAINTENANCE**

Lubricant: Wessex Prolube EP 2 lithium-type grease (or equivalent).

Frequency: each 20 working hours.

Grease crosses, sliding parts of protective shielding and driveshaft transmission tubes.

#### **IMPORTANT**

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

#### **NOTE**

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

## STORAGE

---

Before leaving the machine unused for a long time, it's necessary to perform following tasks to preserve the appearance and functionality of the machine, and to make easier the restart at later use:-

- Park the Flail Mower on a flat surface, in a place dry and protected from exposition to the elements.
- Possibly with storage temperature between 0 and 50 °C (see section Stopping and disconnection).
- Thoroughly clean the machine, removing from the rotor all residues due to shredding, in order to avoid damage from grass and stagnant water.
- Carefully inspect 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 using touchup 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.

## SCRAPPING

---

When scrapping, the machine must be disposed in appropriate and authorised sites, according to local legislation.

Before scrapping, separate plastic parts from rubber parts, aluminum, steel, etc. Recover and dispose any exhausted oils to authorised centres for oil collecting.

## TROUBLESHOOTING

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PROBLEM	POSSIBLE CAUSE	POSSIBLE SOLUTION
Oil leaking from gearbox/ transmission case	<ul style="list-style-type: none"> <li>• Gearbox Overfilled</li> <li>• Loose filling/drain/levelplug</li> <li>• Damaged breather plug</li> <li>• Damaged Seals</li> </ul>	<ul style="list-style-type: none"> <li>• Drain to proper level</li> <li>• Replace breather plug</li> <li>• Tighten filling/drain/levelplug</li> <li>• Replace seals</li> </ul>
Shredding not uniform	<ul style="list-style-type: none"> <li>• Worn blades/hammers</li> <li>• Roller set at wrong height</li> <li>• Ground speed too fast</li> </ul>	<ul style="list-style-type: none"> <li>• Replace blades/hammers</li> <li>• Set the roller correctly</li> <li>• Reduce the ground speed</li> </ul>
Gearbox overheating	<ul style="list-style-type: none"> <li>• Low oil level</li> <li>• Dense material</li> </ul>	<ul style="list-style-type: none"> <li>• Add oil</li> <li>• Reduce forward cutting speed</li> </ul>
Blades/hammers frequently wearing	<ul style="list-style-type: none"> <li>• Cutting height too low</li> </ul>	<ul style="list-style-type: none"> <li>• Check the soil in advance</li> <li>• Increase the cutting height</li> </ul>
Noise and vibration for Flail Mower noticeable and constant	<ul style="list-style-type: none"> <li>• Unbalanced roller</li> <li>• Worn bearings</li> <li>• Blades/hammers worn, damaged or missing</li> </ul>	<ul style="list-style-type: none"> <li>• Balance the roller in authorised shop</li> <li>• Replace bearings</li> <li>• Replace blades/hammers</li> </ul>

## TORQUE VALUES TABLE

---

Frequently check the Flail Mower hardware to ensure that all screws and bolts are tightened according to torque values listed in the table below:-

	<b>8.8 GRADE</b>	<b>10.9 GRADE</b>
<b>BOLT SIZE (METRIC)</b>	Nm	Nm
<b>M6</b>	11	15
<b>M8</b>	26	36
<b>M10</b>	52	72
<b>M12</b>	91	125
<b>M14</b>	145	200
<b>M16</b>	225	315
<b>M18</b>	310	405
<b>M20</b>	440	610

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## SPARE PARTS

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

This section contains the information needed to identify the parts of FLAIL MOWER that may be ordered from the Manufacturer.

When requesting spare parts from the Manufacturer, always give the following information:

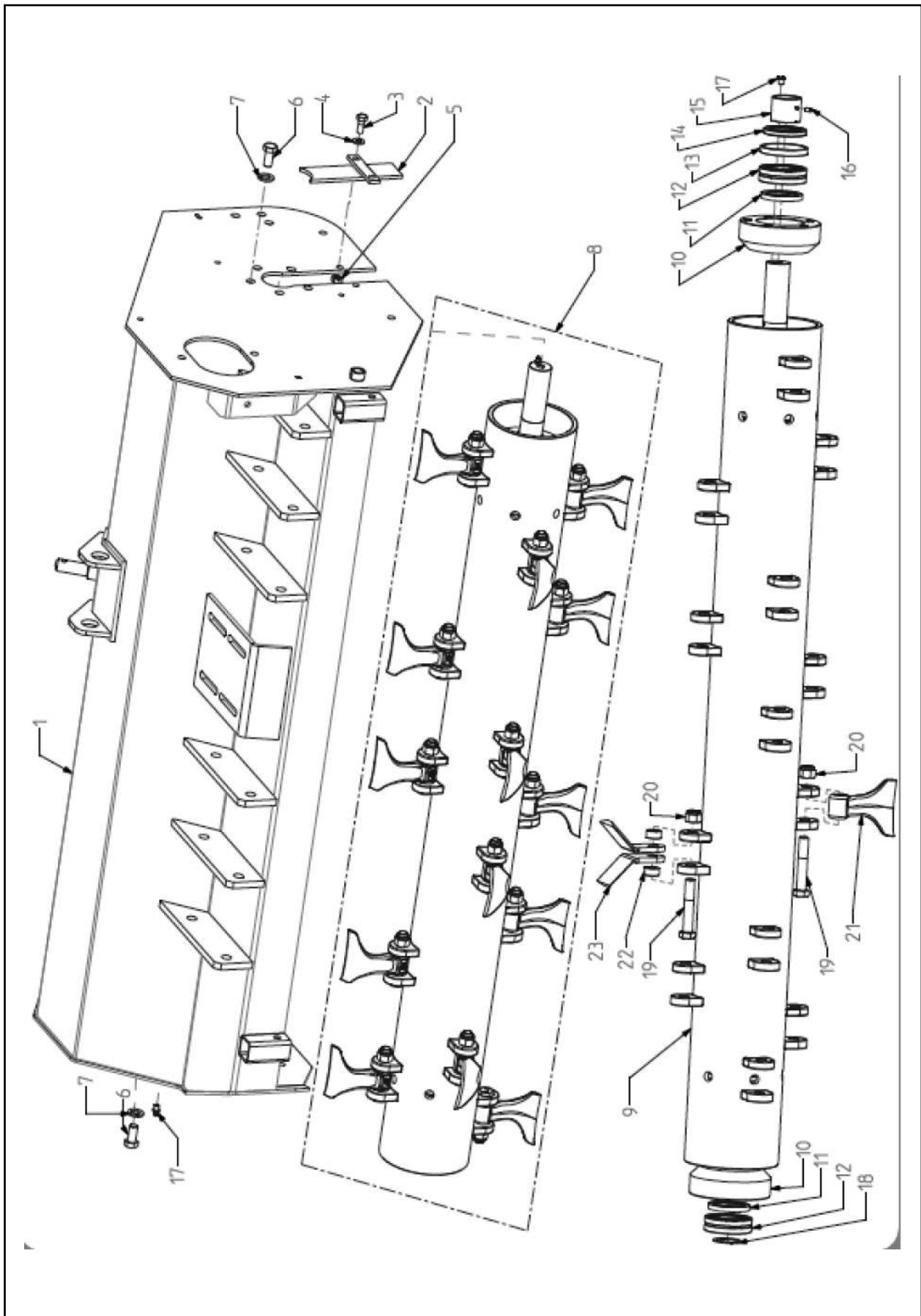
- Type of machine;
- Serial number of Flail Mower
- Part number and description.
- Quantity required.

### NOTE

For identification of part numbers and description of safety decals refer to the Section Safety labels. For identification of part numbers and description of P.T.O. 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.

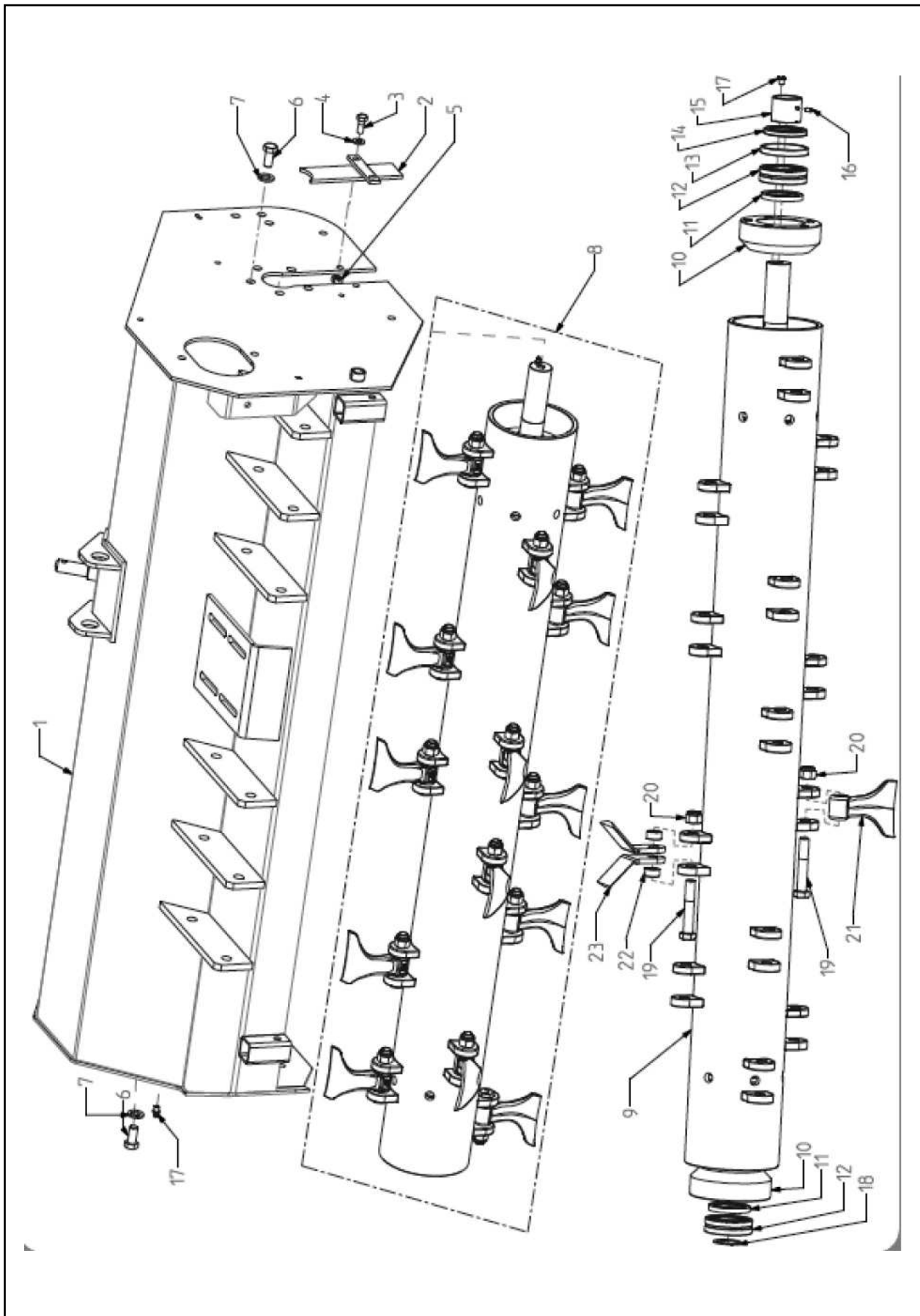
# PARTS ILLUSTRATION - MAIN FRAME & ROTOR ASSEMBLY



**PARTS LIST - MAIN FRAME & ROTOR ASSEMBLY**

Item No.	Part No.	Description	Qty
1	SS-17137	Frame Weldment - Flail Mower - 145	1
1	SS-17138	Frame Weldment - Flail Mower - 160	1
1	SS-17139	Frame Weldment - Flail Mower - 175	1
1	SS-17140	Frame Weldment - Flail Mower - 205	1
1	SS-17141	Frame Weldment - Flail Mower - 220	1
2	SS-17142	Closing Plate - Weldment	1
3	SS-10180	Hex Bolt - M10 x 1.50 x 25	2
4	SS-8078	Plain Washer - 10mm	2
5	SS-1299	Hex Nut - M10 x 1.5	2
6	SS-17143	Hex Bolt - M14 x 2 x 30	10
7	SS-1272	Plain Washer - 14mm	10
8	SS-17247	Rotor Assembly - Y Blade - Flail Mower 145	1
8	SS-17248	Rotor Assembly - Y Blade - Flail Mower 160	1
8	SS-17249	Rotor Assembly - Y Blade - Flail Mower 175	1
8	SS-17250	Rotor Assembly - Y Blade - Flail Mower 205	1
8	SS-17251	Rotor Assembly - Y Blade - Flail Mower 220	1
8	SS-17252	Rotor Assembly - Hammer Blade - Flail Mower 145	1
8	SS-17253	Rotor Assembly - Hammer Blade - Flail Mower 160	1
8	SS-17254	Rotor Assembly - Hammer Blade - Flail Mower 175	1
8	SS-17255	Rotor Assembly - Hammer Blade - Flail Mower 205	1
8	SS-17256	Rotor Assembly - Hammer Blade - Flail Mower 220	1
9	SS-17144	Rotor Weldment - Flail Mower 145	1
9	SS-17145	Rotor Weldment - Flail Mower 160	1
9	SS-17146	Rotor Weldment - Flail Mower 175	1
9	SS-17147	Rotor Weldment - Flail Mower 205	1
9	SS-17148	Rotor Weldment - Flail Mower 220	1
10	SS-17149	Rotor Hub - Transmission Side	2
11	SS-17150	Oil Seal - 47 x 70 x 8	2
12	SS-17151	Bearing - 22208	2
13	SS-17152	Ring - Rotary Seal	1
14	SS-17153	Oil Seal - 50 x 72 x 8	1
15	SS-17154	Spacer - Driven Pulley	1
16	SS-12090	Grub Screw - M 6 x 1 x 10	1
17	SS-20272	Grease Nipple (M10 x 1.5 Straight)	2
18	SS-8027	External Circlip - 40mm	1
19	SS-11073	Hex Bolt - M16 x 2 x 90 - Flail Mower 145	18
19	SS-11073	Hex Bolt - M16 x 2 x 90 - Flail Mower 160	20
19	SS-11073	Hex Bolt - M16 x 2 x 90 - Flail Mower 175	22
19	SS-11073	Hex Bolt - M16 x 2 x 90 - Flail Mower 205	26
19	SS-11073	Hex Bolt - M16 x 2 x 90 - Flail Mower 220	28

# PARTS ILLUSTRATION - MAIN FRAME & ROTOR ASSEMBLY



## PARTS LIST - MAIN FRAME & ROTOR ASSEMBLY

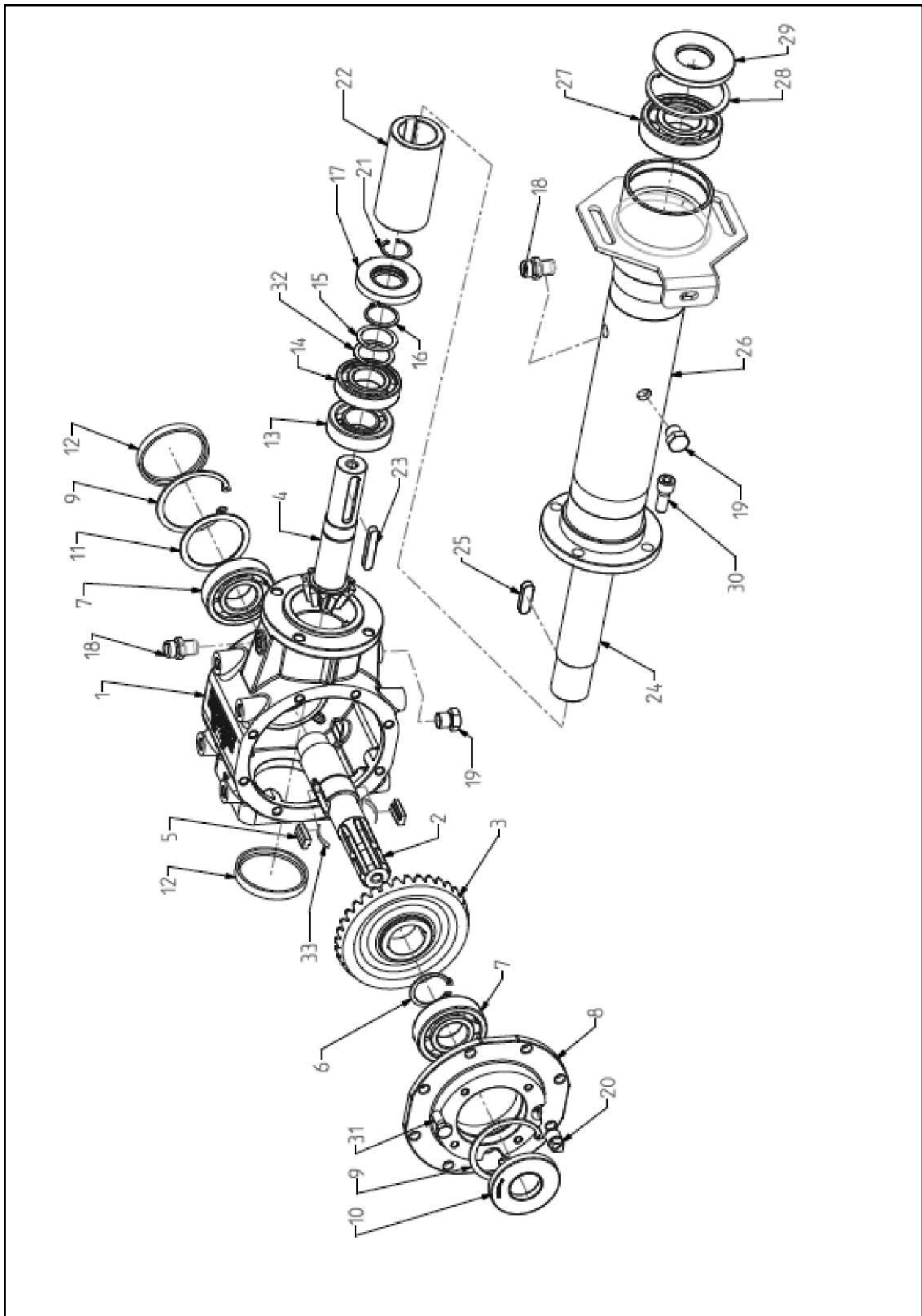
Item No.	Part No.	Description	Qty.
20	SS-1231	Nylock Nut - M16 x 2 - Flail Mower 145	18
20	SS-1231	Nylock Nut - M16 x 2 - Flail Mower 160	20
20	SS-1231	Nylock Nut - M16 x 2 - Flail Mower 175	22
20	SS-1231	Nylock Nut - M16 x 2 - Flail Mower 205	26
20	SS-1231	Nylock Nut - M16 x 2 - Flail Mower 220	28
21	SS-17232	Hammer Blade ( 95 x 40) - Flail Mower 145	18
21	SS-17232	Hammer Blade ( 95 x 40) - Flail Mower 160	20
21	SS-17232	Hammer Blade ( 95 x 40) - Flail Mower 175	22
21	SS-17232	Hammer Blade ( 95 x 40) - Flail Mower 205	26
21	SS-17232	Hammer Blade ( 95 x 40) - Flail Mower 220	28
22	SS-17229	Blade Spacer - Flail Mower 145	36
22	SS-17229	Blade Spacer - Flail Mower 160	40
22	SS-17229	Blade Spacer - Flail Mower 175	44
22	SS-17229	Blade Spacer - Flail Mower 205	52
22	SS-17229	Blade Spacer - Flail Mower 220	56
23	SS-17228	Knife - Flail Mower 145	36
23	SS-17228	Knife - Flail Mower 160	40
23	SS-17228	Knife - Flail Mower 175	44
23	SS-17228	Knife - Flail Mower 205	52
23	SS-17228	Knife - Flail Mower 220	56



## PARTS LIST - TRANSMISSION AND SKID

Item No.	Part No.	Description	Qty.
1	SS-17155	Gearbox Assembly (445mm) 540 RPM - Flail Mower 145	1
1	SS-17156	Gearbox Assembly (470mm) 540 RPM - Flail Mower 160	1
1	SS-17157	Gearbox Assembly (545mm) 540 RPM - Flail Mower 175	1
1	SS-17158	Gearbox Assembly (695mm) 540 RPM - Flail Mower 205	1
1	SS-17159	Gearbox Assembly (770mm) 540 RPM - Flail Mower 220	1
2	SS-7018	Stud - M12 x 50	4
3	SS-8126	Plain Washer - 12mm	4
4	SS-1209	Nylock Nut - M12 x 1.75	8
5	SS-10192	Hex Bolt - M12 x 30	2
6	SS-1301	Hex Nut - M12 x 1.75	2
7	SS-17160	Hex Bolt - M10 x 60	1
8	SS-8078	Plain Washer 10mm	1
9	SS-1299	Hex Nut - M10 x 1.5	2
10	SS-17161	SPB Type Pulley - Pitch Dia 180 - 4 Grooves	1
11	SS-17037	Clamp Outer	2
12	SS-17036	Clamp Inner	2
13	SS-17035	Allen Bolt - M8 x 35 (FT) (8.8)	14
14	SS-17162	SPB Type Pulley - Pitch Dia 140 - 4 Grooves	1
15	SS-17163	Belt - BX 47 Type (Datum Length = 1237mm)	4
16	SS-17164	Guard - Belt Transmission	1
17	SS-17165	Plate - Protection Grease Nipple	1
18	SS-8190	Hex Bolt - M8 x 15	1
19	SS-8064	Plain Washer - 8mm	5
20	SS-1297	Nylock Nut - M8 x 1.25	1
21	SS-8040	Hex Bolt - M8 x 20	4
22	SS-8181	Hex Nut - M8	4
23	SS-17166	Skid Weldment	2
24	SS-10194	Hex Bolt M12 x 35	4

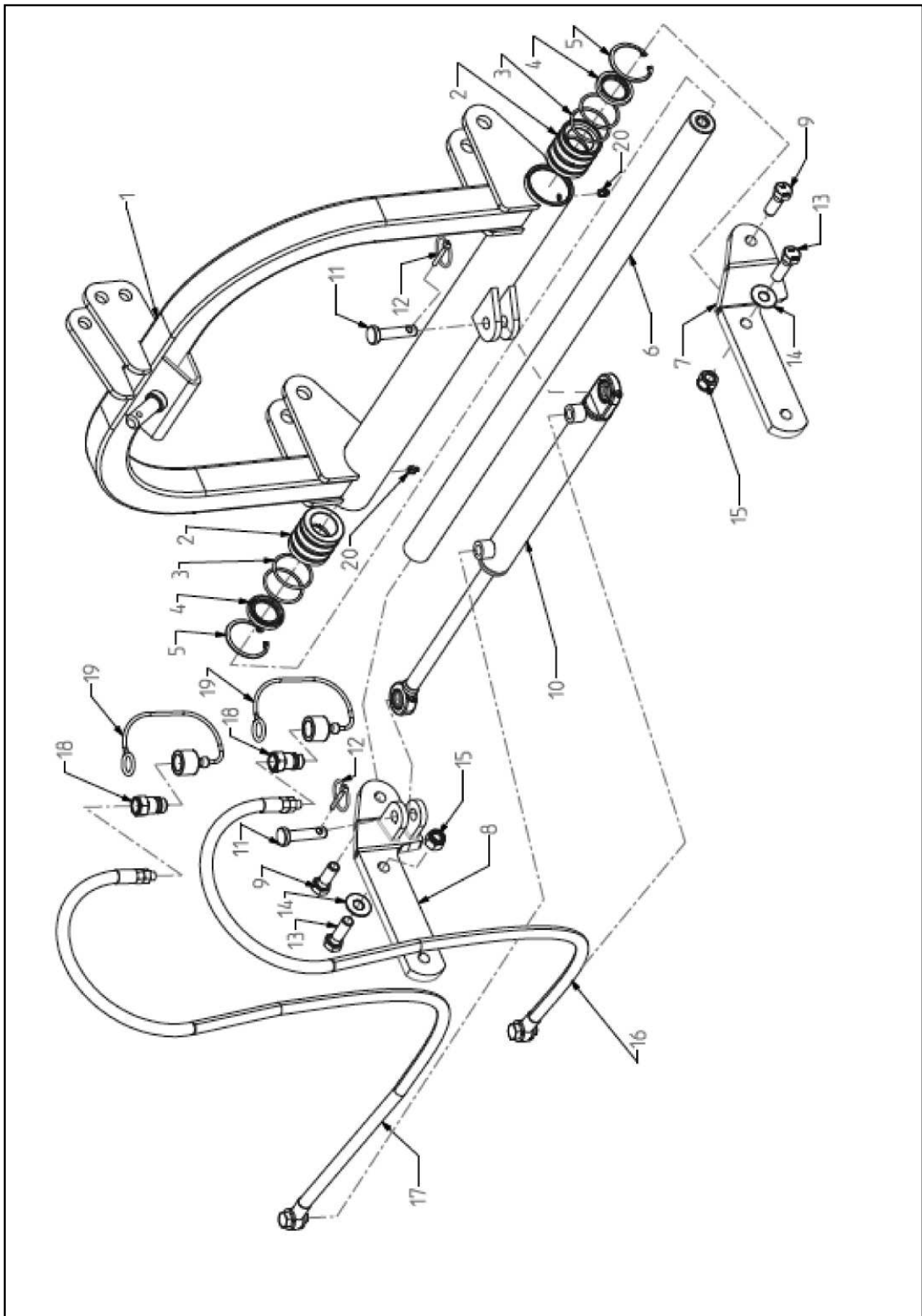
# PARTS ILLUSTRATION - GEARBOX



## PARTS LIST - GEARBOX

Item No.	Part No.	Description	Qty.
1	SS-17001	Gearbox - 540 RPM (SRM) 50HP	1
2	SS-17244	Input Shaft (SRM) 540 RPM	1
3	SS-17231	Crown - 36 Teeth - Free Wheel	1
4	SS-17003	Pinion Shaft - 12 Teeth (SRM) 50HP	1
5	SS-17230	Ratchet - 28mm	2
6	SS-8027	Circlip External - 40mm	1
7	SS1131	Bearing - 6307	2
8	SS-17002	Gearbox Flange 540 RPM (SRM) 50HP	1
9	SS-1130	Circlip Internal - 80mm	2
10	SS-2003	Oil Seal - 35 x 80 x 10	1
11	SS-17167	Sims (Dia 80 x 65) (0.5mm)	6
12	SS-8224	Oil Seal - 80 x 10	2
13	SS-17054	Bearing - 32207B	1
14	SS-10143	Bearing - 6207	1
15	SS-1424	Sims (Dia 44.5 x 35.7) (0.50mm)	2
16	SS-6024	Circlip External 35mm	1
17	SS-10229	Oil Seal - 35 x 72 x 8	1
18	SS-17168	Air Breather 3/8" BSP	2
19	SS-10179	Plug with Square Head - 3/8" BSPT	2
20	SS-17169	Drain Plug Slotted - 3/8" BSPT	2
21	SS-17083	Circlip Internal - 32mm	1
22	SS-17025	Shaft Connector (SRM)	1
23	SS-11077	Parallel Key 10 x 8 x 56	1
24	SS-17170	Jack Shaft - 445mm - Flail Mower 145	1
24	SS-17171	Jack Shaft - 470mm - Flail Mower 160	1
24	SS-17172	Jack Shaft - 545mm - Flail Mower 175	1
24	SS-17173	Jack Shaft - 695mm - Flail Mower 205	1
24	SS-17174	Jack Shaft - 770mm - Flail Mower 220	1
25	SS-11076	Parallel Key 12 x 8 x 40	1
26	SS-17175	Jack Shaft Housing Weldment - 445mm - Flail Mower 145	1
26	SS-17176	Jack Shaft Housing Weldment - 470mm - Flail Mower 160	1
26	SS-17177	Jack Shaft Housing Weldment - 545mm - Flail Mower 175	1
26	SS-17178	Jack Shaft Housing Weldment - 695mm - Flail Mower 205	1
26	SS-17179	Jack Shaft Housing Weldment - 770mm - Flail Mower 220	1
27	SS-8036	Bearing - 6308	1
28	SS-3027	Circlip Internal - 90mm	1
29	SS-17026	Oil Seal 90 x 40 x 8 (SKF)	1
30	SS-17027	Allen Bolt - M12 x 1.75 x 30 (FT) (8.8)	4
31	SS-10180	Hex Bolt - M10 x 1.50 x 25	8
32	SS-1425	Sims (Dia 45 x 35) (1.0mm)	1
33	SS-17076	Leaf Spring (SRM)	2

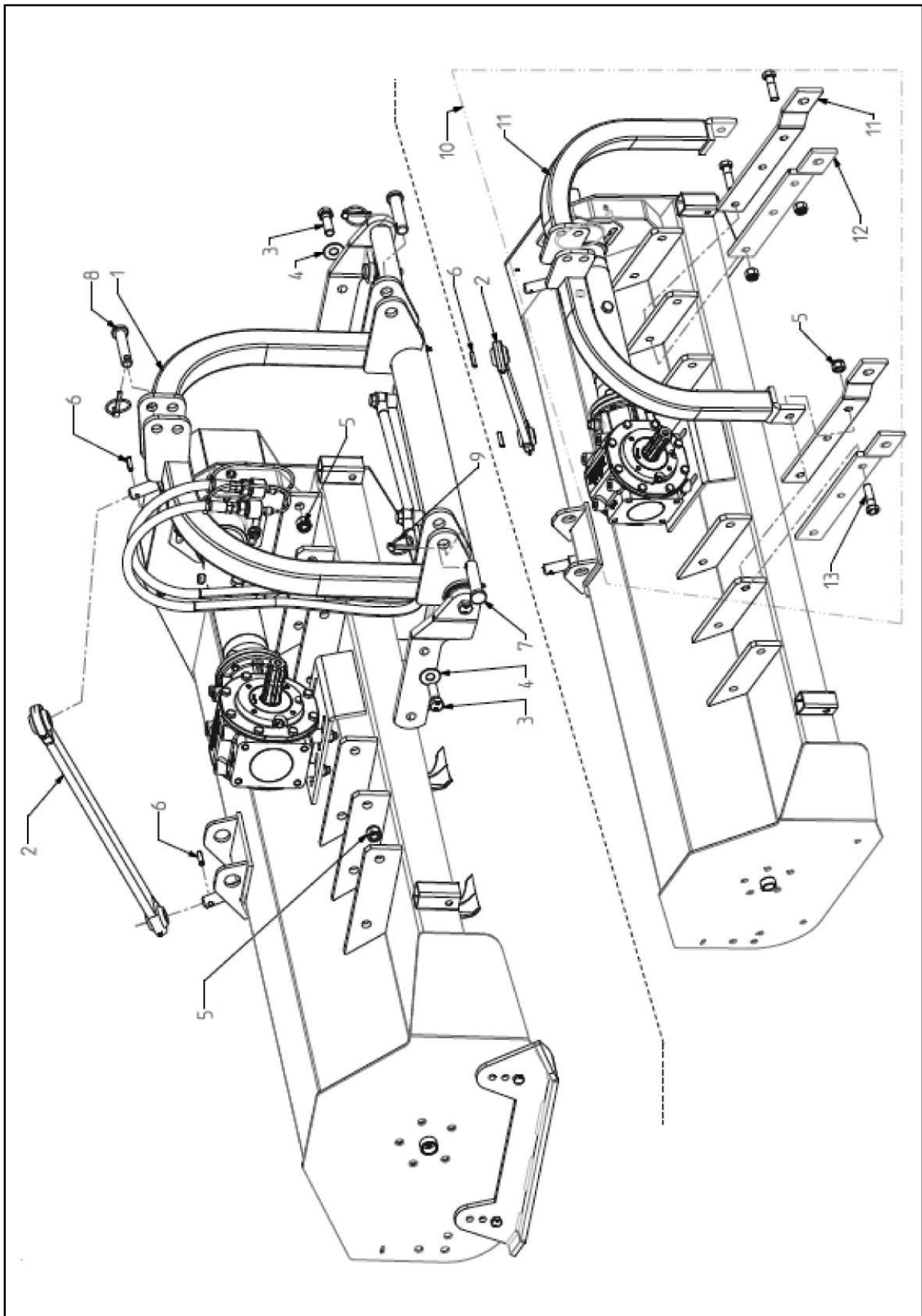
# PARTS ILLUSTRATION - 3 POINT MAST HYDRAULIC ASSEMBLY



## PARTS LIST - 3 POINT MAST HYDRAULIC ASSEMBLY

Item No.	Part No.	Description	Qty.
1	SS-17180	Mast Weldment - Hydraulic (SFM)	1
2	SS-17181	Bushing - (Dia = 40, Depth = 60, L=60) (SFM)	2
3	SS-12127	'O' Ring - 52 x 3.5	4
4	SS-17182	Oil Seal - 40 x 55 x 7	2
5	SS-8120	Circlip Internal - 62mm	2
6	SS-17183	Guide Bar - (L=1080mm) (SFM)	1
7	SS-17184	Bracket - Left Hand - (SFM)	1
8	SS-17185	Bracket Weldment - (SFM)	1
9	SS-11074	Hex Bolt - M16 x 1.50 x 45	2
10	SS-17186	Hydraulic Jack (Stroke 300)	1
11	SS-17187	Pin - Cylinder Fixing (SFM)	2
12	SS-8204	Lynch Pin - Small (CHO)	2
13	SS-7108	Hex Bolt - M16 x 2 x 50	4
14	SS-1078	Plain Washer - 16mm	4
15	SS-1231	Nylock Nut - M16 x 2	4
16	SS-17188	Hydraulic Pipe - Complete - 2000mm	1
17	SS-17189	Hydraulic Pipe - Complete - 2400mm	1
18	SS-8290	Quick Coupling 1/2" Male	2
19	SS-18269	QRC Plastic Cap (1/2" BSP) Female	2
20	SS-19203	1/8 BSP Grease Nipple - 4mm	2

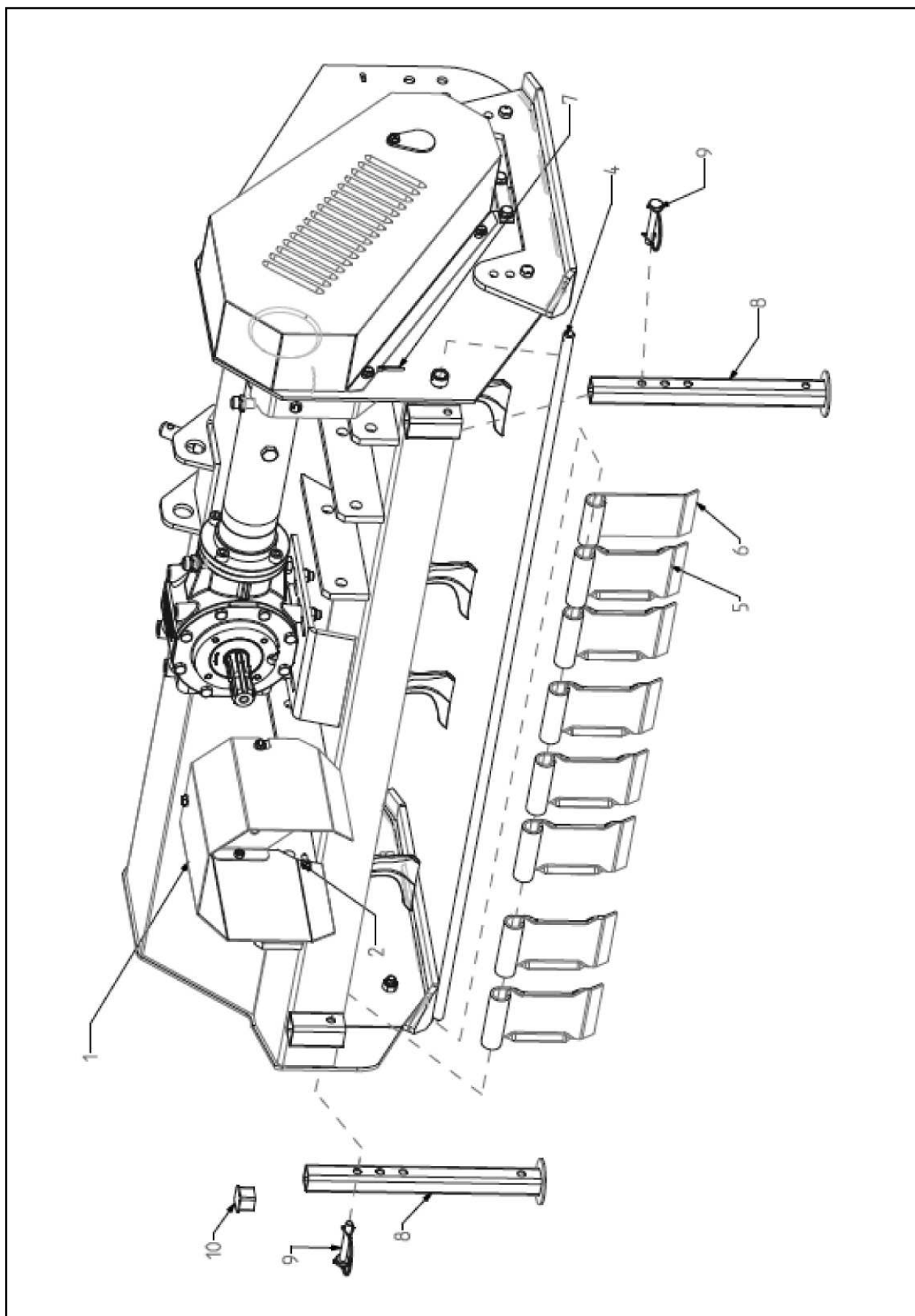
# PARTS ILLUSTRATION - 3 POINT MAST HYDRAULIC ASSEMBLY



## PARTS LIST - 3 POINT MAST HYDRAULIC ASSEMBLY

Item No.	Part No.	Description	Qty.
1	SS-17233	3 Point Mast Hydraulic Assembly	1
2	SS-17190	Tie Rod With Bal Joints (SFM)	1
3	SS-7108	Hex Bolt - M16 x 2 x 50	4
4	SS-1078	Plain Washer - 16mm	4
5	SS-1231	Nylock Nut - M16 x 2	4/6
6	SS-17191	Dowel Pin - (Dia 8 x 36)	2
7	SS-14015	Hitch Pin - Bottom CAT-I (Dia 22 x 99)	2
8	SS-14037	Hitch Pin - Top CAT-I (Dia 19 x 98)	1
9	SS-1218	Lynch Pin	3
10	SS-17257	3 Point Mast Assembly - Fix Type (SFM)	1
11	SS-17234	Mast Weldment - Fix Type (SFM)	1
12	SS-17235	Bracket - Lower 3rd Point Attachment (SFM)	4
13	SS-18446	Hex Bolt - M16 x 2 x 55 (8.8)	6

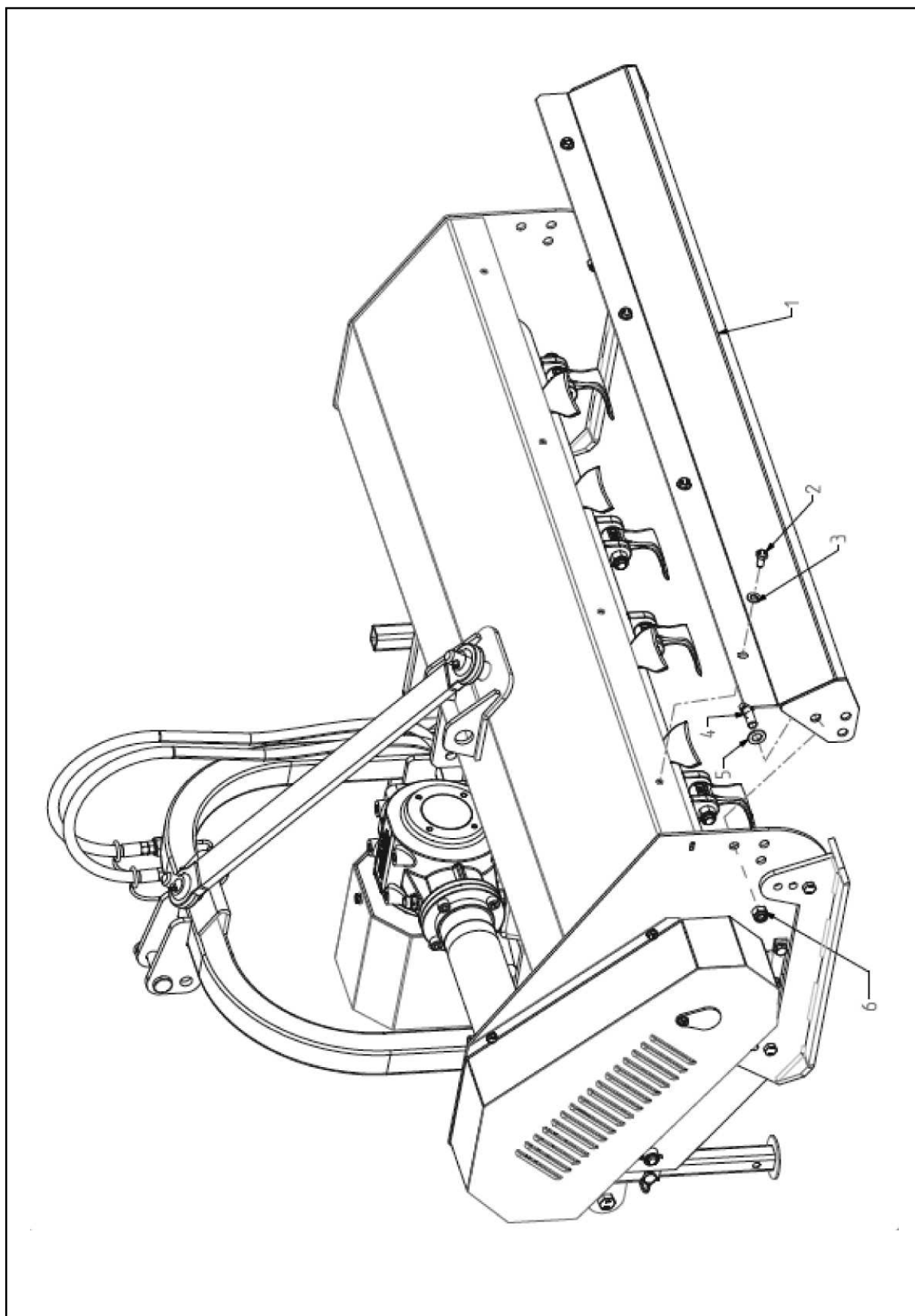
# PARTS ILLUSTRATION - SHIELD, FRONT PLATES, PARKING STAND



**PARTS LIST - SHIELD, FRONT PLATES, PARKING STAND**

<b>Item No.</b>	<b>Part No.</b>	<b>Description</b>	<b>Qty.</b>
1	SS-1547	Shield Implement Input Connection	1
2	SS-8190	Hex Bolt - M8 x 1.25 x 15	4
3	SS-8064	Plain Washer - 8mm	4
4	SS-17192	Rod - Front Plates - Flail Mower 145	1
4	SS-17193	Rod - Front Plates - Flail Mower 160	1
4	SS-17194	Rod - Front Plates - Flail Mower 175	1
4	SS-17195	Rod - Front Plates - Flail Mower 205	1
4	SS-17196	Rod - Front Plates - Flail Mower 220	1
5	SS-17197	Front Plate (L =100) - Flail Mower 145	13
5	SS-17197	Front Plate (L =100) - Flail Mower 160	14
5	SS-17197	Front Plate (L =100) - Flail Mower 175	16
5	SS-17197	Front Plate (L =100) - Flail Mower 205	19
5	SS-17197	Front Plate (L =100) - Flail Mower 220	20
6	SS-17198	Front Plate (L =85) - Flail Mower 145	0
6	SS-17198	Front Plate (L =85) - Flail Mower 160	1
6	SS-17198	Front Plate (L =85) - Flail Mower 175	0
6	SS-17198	Front Plate (L =85) - Flail Mower 205	0
6	SS-17198	Front Plate (L =85) - Flail Mower 220	1
7	SS-19017	Cotter Pin (Dia 5 x 40)	1
8	SS-14013	M/C Stand Pipe Complete (U-Series)	2
9	SS-14267	Square Snapper Pin (D=10, L=70)	2
10	SS-14266	Square Pipe Plastic Cap - 32mm	2

# PARTS ILLUSTRATION - REAR COVER STANDARD



## PARTS LIST - REAR COVER STANDARD

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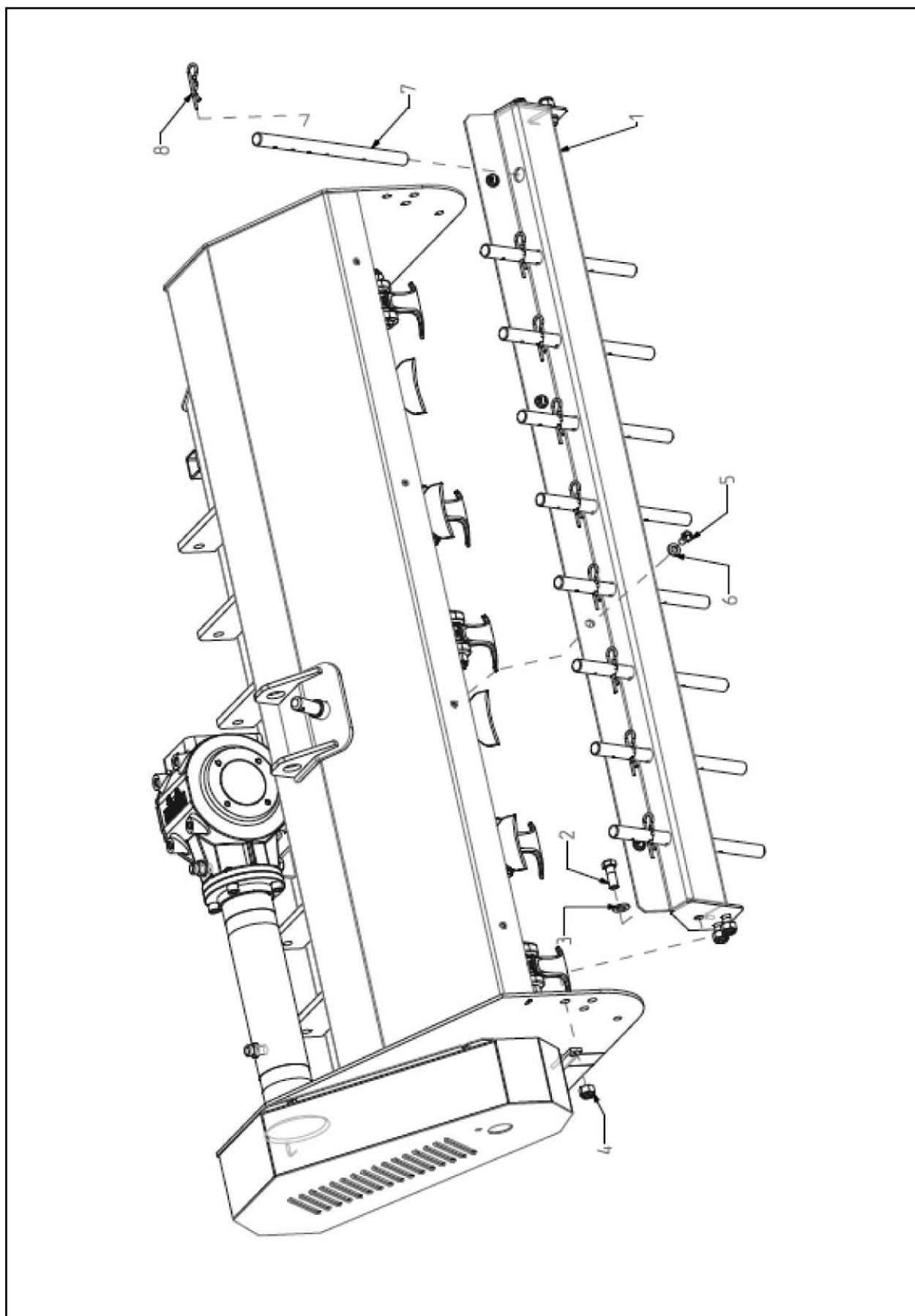
Item No.	Part No.	Description	Qty.
1	SS-17199	Standard Rear Cover Weldment - Flail Mower 145	1
1	SS-17200	Standard Rear Cover Weldment - Flail Mower 160	1
1	SS-17201	Standard Rear Cover Weldment - Flail Mower 175	1
1	SS-17202	Standard Rear Cover Weldment - Flail Mower 205	1
1	SS-17203	Standard Rear Cover Weldment - Flail Mower 220	1
2	SS-8010	Hex Bolt - M10 x 1.50 x 20	4/5
3	SS-8078	Plain Washer - 10mm	4/5
4	SS-2202	Hex Bolt - M14 x 1.50 x 37	6
5	SS-1272	Plain Washer - 14mm	6
6	SS-1302	Nylock Nut - M14 x 1.5	6



## PARTS LIST - REAR ROLLER ASSEMBLY

Item No.	Part No.	Description	Qty.
1	SS-17204	Rear Roller Assembly - Flail Mower 145	1
1	SS-17205	Rear Roller Assembly - Flail Mower 160	1
1	SS-17206	Rear Roller Assembly - Flail Mower 175	1
1	SS-17207	Rear Roller Assembly - Flail Mower 205	1
1	SS-17208	Rear Roller Assembly - Flail Mower 220	1
2	SS-2202	Hex Bolt - M14 x 1.50 x 37	6
3	SS-1272	Plain Washer - 14mm	6
4	SS-1302	Nylock Nut - M14 x 1.5	6
5	SS-17209	Rear Roller Weldment - Flail Mower 145	1
5	SS-17210	Rear Roller Weldment - Flail Mower 160	1
5	SS-17211	Rear Roller Weldment - Flail Mower 175	1
5	SS-17212	Rear Roller Weldment - Flail Mower 205	1
5	SS-17213	Rear Roller Weldment - Flail Mower 220	1
6	SS-17214	Bearing - UC - 206mm	2
7	SS-17215	Roller Mount Weldment - Left Hand	1
8	SS-17216	Roller Mount Weldment -Right Hand	1
9	SS-17217	Scraper - Flail Mower 145	1
9	SS-17218	Scraper - Flail Mower 160	1
9	SS-17219	Scraper - Flail Mower 175	1
9	SS-17220	Scraper - Flail Mower 205	1
9	SS-17221	Scraper - Flail Mower 220	1
10	SS-10194	Hex Bolt - M12 x 1.75 x 35	2
11	SS-8126	Plain Washer - 12mm	2
12	SS-1209	Nylock Nut - M12 x 1.75	2
13	SS-1253	1/8 BSP Grease Nipple - 7.5mm	2
14	SS-14119	Oil Seal - 72 x 8	2

# PARTS ILLUSTRATION - REAR COVER WITH RACKS



**PARTS LIST - REAR COVER WITH RACKS**

<b>Item No.</b>	<b>Part No.</b>	<b>Description</b>	<b>Qty.</b>
1	SS-17222	Racks Rear Cover - Weldment - Flail Mower 145	1
1	SS-17223	Racks Rear Cover - Weldment - Flail Mower 160	1
1	SS-17224	Racks Rear Cover - Weldment - Flail Mower 175	1
1	SS-17225	Racks Rear Cover - Weldment - Flail Mower 205	1
1	SS-17226	Racks Rear Cover - Weldment - Flail Mower 220	1
2	SS-2202	Hex Bolt - M14 x 1.50 x 37	6
3	SS-1272	Plain Washer - 14mm	6
4	SS-1302	Nylock Nut - M14 x 1.5	6
5	SS-8010	Hex Bolt - M10 x 1.50 x 20	4/5
6	SS-8078	Plain Washer - 10mm	4/5
7	SS-17227	Rack - (D=22, L=350) - Flail Mower 145	9
7	SS-17227	Rack - (D=22, L=350) - Flail Mower 160	10
7	SS-17227	Rack - (D=22, L=350) - Flail Mower 175	11
7	SS-17227	Rack - (D=22, L=350) - Flail Mower 205	13
7	SS-17227	Rack - (D=22, L=350) - Flail Mower 220	14
8	SS-15055	R-Clip Wire - (Dia 4.00mm) - Flail Mower 145	9
8	SS-15055	R-Clip Wire - (Dia 4.00mm) - Flail Mower 160	10
8	SS-15055	R-Clip Wire - (Dia 4.00mm) - Flail Mower 175	11
8	SS-15055	R-Clip Wire - (Dia 4.00mm) - Flail Mower 205	13
8	SS-15055	R-Clip Wire - (Dia 4.00mm) - Flail Mower 220	14

## P.T.O. SHAFT OPERATION AND MAINTENANCE

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### IMPORTANT!

**P.T.O. drive shafts must only be used for their intended purpose.**

P.T.O. drive shafts are designed for specific machine types and power requirements. They must not be replaced by other models. Ensure that the P.T.O. drive shaft is securely connected.

**Only use a completely protected drive system:**

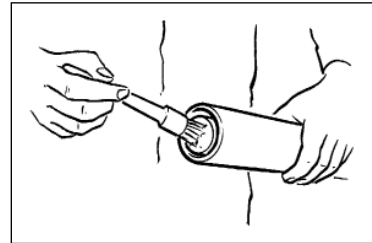
P.T.O. drive shaft with complete guard and complementary guard on tractor and implement. A complete guard is essential in all working positions.

### LUBRICATION

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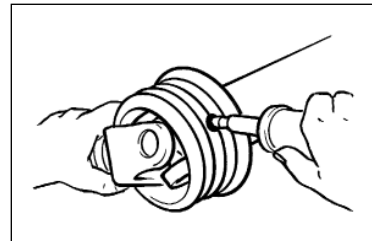
Lubricate with quality grease before starting work and every 40 operating hours.

Ensure the P.T.O. guard bearings are lubricated, the end ball shaped covers need retracting to expose all grease nipples.



Clean and grease the P.T.O. drive shaft before each prolonged period of non-use.

Grease the guard tubes in winter to prevent freezing.



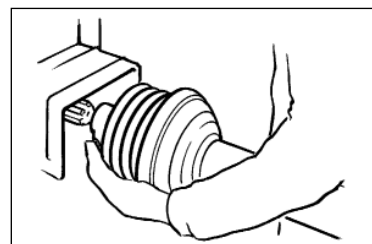
### COUPLING THE P.T.O. SHAFT

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Clean and grease the P.T.O. and PIN

#### **Q.-d pin**

Press q.-d. pin and simultaneously push P.T.O. drive shaft onto P.T.O. until pin engages.



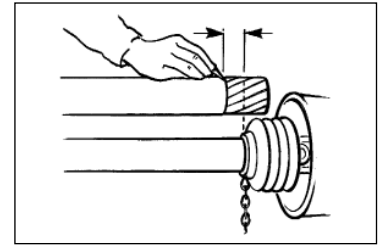
## P.T.O. SHAFT OPERATION AND MAINTENANCE

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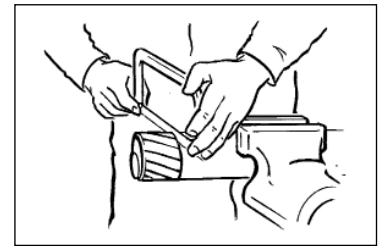
### LENGTH ADJUSTMENT

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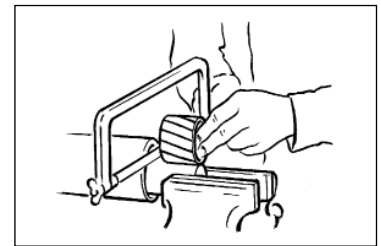
To adjust the length, hold the half-shafts next to each other in the shortest working position and mark them.



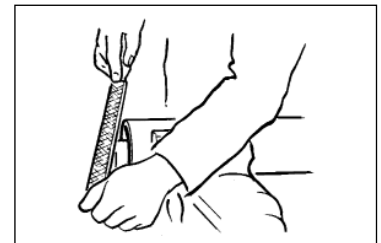
Shorten inner and outer guard tubes equally.



Shorten inner and outer sliding profiles by the same length as the guard tubes.



Round off all sharp edges and remove burrs.  
Grease sliding profiles.

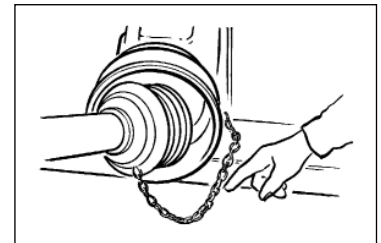


No other changes may be made to the P.T.O. drive shaft and guard.

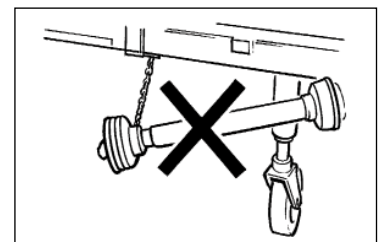
### CHAINS

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Chains must be fitted so as to allow sufficient articulation of the shaft in all working positions.



Do not let the chains encircle the P.T.O. guard in use as this will shorten the life of the P.T.O. guard.



The P.T.O. drive shaft must not be suspended from the chains! Please use the P.T.O. Support Hook provided.







## *Certificate of CE Conformity*

**Machine Model:**

WFM 145, 160, 175, 205, 220

**Description:**

FLAIL MOWER

*I hereby certify that the machine detailed hereon  
conforms to:*

**European Directives 2006/42/EC  
Supply of Machinery Regulations 2008  
As amended 91/368EEC – 93/44EEC – 93/68EEC  
HSE AIS 33**

**Signed:**

A handwritten signature in black ink, appearing to be 'RAW'.

.....  
Quality Manager

Date:

MAY 2021

### **Wessex International**

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