

# Operator Manual & Parts List

**MAJOR**  
**GRASS COLLECTOR**  
MJ27-155



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## Disclaimer

While every effort has been made in the production of this manual to ensure that the information contained herein is full and correct, Major assumes no responsibility for errors or omissions.

Major reserves the right to modify the machinery and the technical data contained within the manual without prior notice.

Further to this, Major assumes no liability for any damages which may result from the use of the information contained within this manual.

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Parts list

## **SECTION 1 - INTRODUCTION**

Thank you for purchasing this Major Shredder. Please carefully read this operation manual and strictly observe these instructions for the safety of you and the personnel around you. In this manner, you will enjoy long and satisfactory use of this product.

The user of the shredder (also called "Implement" or "Machine" in the text) is personally responsible for his own safety and that of any other people in the vicinity of the machine.

It is therefore essential for the user to possess detailed knowledge about how to use, service and correctly mount the shredder on the tractor. The machine's user must be an operator with a suitable technical background to enable him to understand the contents of this manual, including the diagrams found herein. The figures and descriptions in this handbook give both users and maintenance staff all the basic instructions to comply with when using and servicing the shredder.

The user is responsible for ensuring that connection to the tractor and use of the shredder complies with the current provisions in merit. The machine may only be used and serviced by persons who have become fully familiar with the contents of this manual, which should always be kept ready to hand. Users should become particularly familiar with chapter 2 concerning safety precautions.

Always comply with the given instructions. Consult the Major After-Sales Service Centre or your nearest dealer in case of doubt. In the event of faults or problems which require the assistance of a qualified technician, contact the manufacturer directly or your nearest dealer.

This machine is consigned according to the warranty conditions valid at the moment of purchase. The user must not tamper with the machine or make modifications to its parts since such action shall void the guarantee.

The manufacturer reserves the right to modify the machine specifications and performances without advance warning and declines all responsibility for any errors caused by incorrect installation or improper use of the equipment.

Contact MAJOR or your nearest dealer if there are substantial differences between the implement and the indications in this handbook. The standards that govern the guarantee are cited in the "Certificate of Guarantee" which is supplied to the user with this manual. The section in this certificate headed "testing and delivery" must be filled in, leaving no gaps, and sent to the address printed on it within 15 days of the delivery date. If this is not done, the guarantee is annulled.

**Important:** If the "Certificate of Guarantee" has not been enclosed, ask your nearest dealer for one, or contact us directly.



This symbol is used in the manual to call the reader's attention to various levels of danger that if not avoided will result in death or serious injury.

**Important:** References to this manual to the right side and left side of the machine mean to the right and left side of the operator seated in the tractors driving seat.

## SECTION 2 – IDENTIFICATION DATA & GUIDE TO MAIN PARTS

The data plate indications must not be altered for any reason. We suggest that you write the data pertaining to your shredder in the spaces below (Fig. 2.1)

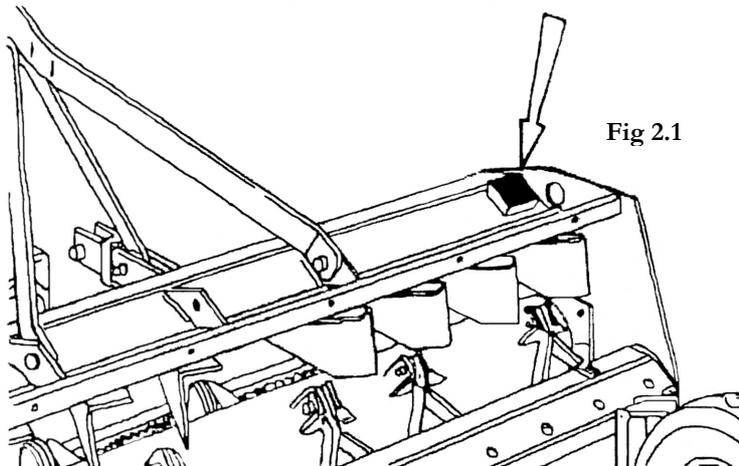
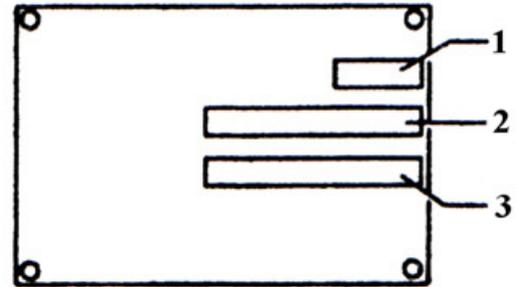


Fig 2.1

1. Year of Manufacture
2. Machine type or model
3. Serial Number



### Key to main parts in fig 2.2

1. Three-point linkage used to couple the implement to the tractor
2. PTO shaft guard - Prevents the user from coming into contact with the rotating part of the drive line engaged in the PTO.
3. Gearbox - Increases the rotation speed of the tractor PTO.
4. Drive transmission to the rotor roller. Drive belts transmit power from the gearbox to rotor "7".
5. Chassis - This is the bearing structure of the implement.
6. Levelling roller (optional) - Adjusts the work depth of the knives or hammers.

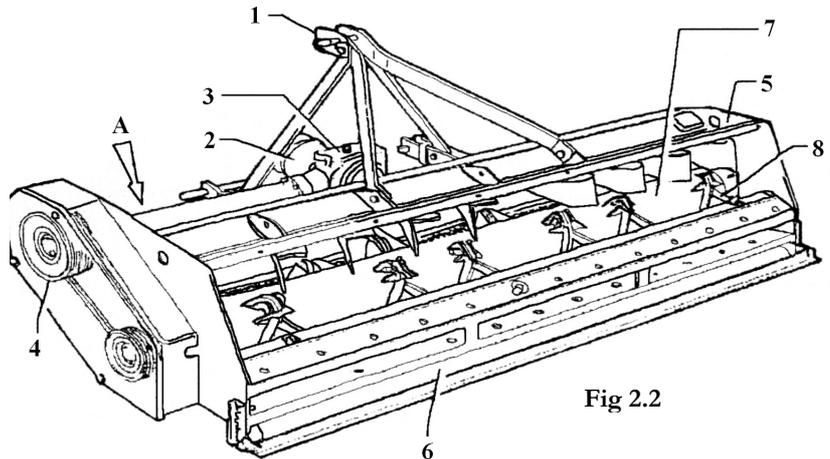


Fig 2.2

\* As an alternative, some versions can be equipped with rear wheels that act in the same way as the levelling roller. Some shredder models can be equipped with side skids as another alternative or in addition to the above. Besides adjusting the work depth (as the levelling roller), these also act as a side protection.

7. Rotor shaft - The gearbox and drive belts transmit drive from the large diameter shaft to which the knives or hammers are hinged.

**Note:** This rotor shaft has been electronically balanced to eliminate all vibrations during its rotation.

8. Cutting tools.

Knives or hammers are hinged to the rotor shaft according to the type or version of the shredder in question. These knives or hammers are able to crush the product owing to their high rotation speed.

9. Front guard (fig 2.3)

Standard supply includes a set of articulated strips installed at the front of the implement to protect the tractor driver. These strips can be substituted for iron chains. As an alternative, some models are equipped with rubber front guards.

10. Rear casing (fig 2.3)

This is used when the shredded product must not be scattered at the rear. The rear casing is an optional on some versions and is unavailable on others.

## **SECTION 3 – GENERAL SAFETY & SAFETY REGULATIONS**



In compliance with the current provisions in force, your flail mower has been equipped with safety protections to safeguard the operator and any other people in the vicinity. Never ever tamper without the safety devices. Such action could cause serious injury to the operator and to others.



For transport reasons, the accident prevention guards are supplied demounted from the machine and accompanied by instructions for their assembly. When the machine arrives, the user shall correctly assemble the guards, taking care to fully tighten all fastening elements. It is forbidden to use the machine unless all the necessary and supplied guards have been mounted.



The shredder must only be used to cut the products specified below.

MJ27-155	GRASS
MT 22	GRASS AND THIN PRUNING
MT 24	GRASS AND THIN PRUNING
MT 26	GRASS, PRUNING, STRAW AND STALKS

Moreover, it must only be used with a suitable tractor, (See Section 7) and driven by and adequate drive line driven by the tractor PTO. All other use is strictly prohibited. Users should become thoroughly familiar with the contents of this manual before using, servicing, mounting the implement on the tractor and all other pertinent operations.



Never wear jewellery, loose clothing such as ties, scarves, belts, unbuttoned jackets or dungarees with open zips which could become caught up in moving parts.



Always wear approved garments complying with accident prevention provisions such as: non-slip shoes, ear muffs, goggles and gauntlets. Wear a jacket with reflecting stickers if the implement is used during the evening near public highways.



Consult your dealer, the "Health and Safety Executive" or your nearest equivalent authority for information about the current safety provisions and specific regulations to comply with in order to ensure personal safety. If the machine is used in the evening, follow the relevant instructions.



### **REGUALTIONS FOR THE USE OF THE DRIVELINE**

The machine may be supplied with a drive line complete with shields able to ensure the operator's safety. Keep the non-rotating shields efficient and in a good condition. If their condition is poor, they should be changed before the implement is used.

Unless it is correctly protected, the drive line could even cause the user's death since it can catch on parts of the body or clothing.

Always check that the shields are installed and perfectly efficient before using the machine. Check that they are well fixed and correctly inserted into their housing. Check that the retaining chains are correctly fixed to the tractor or shredder in order to prevent the shields from turning together with the drive line. Check that the drive line is free to turn within the shield.

Take great care to prevent the shields from being damaged when the implement is coupled and released from the tractor. Keep the grooved parts perfectly clean and greased so that they are able to correctly slide. Besides being described in this manual, the method by which the drive line is coupled must also be checked out with the instructions in the tractor manufacturers manual. correct rotation speed of the tractor PTO is indicated on the PTO shaft guards of each machine.

## SECTION 3 – GENERAL SAFETY & SAFETY REGULATIONS – (cont'd)

This rate is usually 540 or 1000 rpm. Always comply with the indicated speed.

The following items are applied to the driveline (if delivered with the machine):

- a danger sticker on the shaft guard (**Fig. 3.1**)
- A danger sticker on the driveline which becomes visible if the shield is damaged or missing (**Fig. 3.2**)

Strictly comply with the instructions on the sticker.



Fig. 3.1



Fig. 3.2

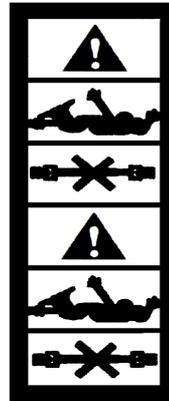


Fig. 3.3

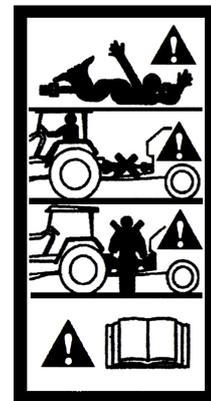


Fig. 3.4



### STARTING REGULATIONS

1. Always check that any imminently dangerous condition has been appropriately eliminated before using the implement. Check that all guards and safety shields are installed, efficient and correctly mounted in place.
2. Never allow inadequately trained personnel to use the implement.
3. Before starting, always check that there are no persons, particularly children and animals, within the operative range of the implement. Examine the work area in order to become familiar with the type of soil in question. Check that there are no obstructions or objects in the area that could be caught up by the implement and thrown up at a distance. Clean all such objects from the area.
4. Never work near roads, paths, housing areas or places potentially frequented by people, vehicles, animals, etc. If such action is inevitable, check that these areas are deserted before beginning work and while on the job.
5. Never start the tractor before being correctly seated in the driving position. Never start a faulty implement, even when such a condition is only suspected. Contact your nearest dealer, or the person in charge, and ask for the implement to be inspected.



### GENERAL OPERATION

1. Never ever use the shredder under influence of alcohol or the effect of medicines such as tranquillisers, sedatives, stimulants, drugs or any other substance as could slow or alter the reflexes or sight.
2. Never ever work when there are persons on the implement. No one must ride on the tractor apart from the driver unless this is explicitly allowed by the tractor manufacturer. The tractor must be equipped with a roll-bar and/or all other safety devices prescribed by the current laws in force. To ensure his personal safety, the operator must use these devices correctly. Consult and strictly comply with the instructions in the tractor use and maintenance manual.
3. The operator should never allow himself to be distracted when working. He should pay great attention and concentrate on what he is doing. Constantly keep the vehicle under control and always remember how to quickly stop and switch off both the tractor and implement.
4. Always check that children, adults and animals keep at an adequate safety distance from the shredder when it is in use.

## **SECTION 3 – GENERAL SAFETY & SAFETY REGULATIONS – (cont'd)**

5. Take great care when working on sloping surfaces. It is preferable to work upwards or downwards rather than crosswise in order to avoid the risk of over-turning. Always check and comply with the tractor manufacturer's instructions, particularly in relation to the maximum gradient on which it is possible to work. When working on slopes, it is advisable to reduce the work speed, gradually varying the speed and direction of the vehicle during manoeuvres. Never repeatedly stop and start the machine.
6. Never operate on wet, slippery grass or soil or where the tyre grip is precarious. If such action is inevitable, always work at low speed to ensure the operator's safety. Pay great attention to any obstructions, stones or other objects which could hit the knives. The tractor engine must always be turned off, and the ignition key must be removed from the dashboard when intervening on the machine. For example, when it is necessary to detach the machine from the tractor or if grass or other objects that might have become tangled up in it must be removed.
7. Before dismounting from the tractor, always disengage the power takeoff (P.T.O.), turn off the engine, remove the ignition key from the dashboard, insert the brake, and do not approach the machine before the tools have come to a complete stop.
8. After having hit an obstacle, simultaneously stop the tractor and machine tool, turn off the engine, remove the ignition key from the dashboard, insert the brake, and check for any possible damage. If the machine has been damaged, all repairs must be carried out before continuing the working process. Always carry out any required repairs before continuing work. When the knives are turning, always keep the limbs well away from moving parts and those which heat during operation such as the over gear unit. Never ever attempt to check or adjust the belt tension while the implement is operating. Always stop it before this operation. Never ever lubricate the machine while it is operating, or when the PTO is engaged.
9. Never smoke while refuelling. Never refuel near smouldering, sparking material or open flames.
10. Always check whether the soil around the tractor is slippery. Clean all mud from the soles of the shoes before mounting the tractor. Keep the steps, bearing surfaces, handrails, shackles and tractor pedals (brake, clutch and accelerator) clean and free from all foreign bodies such as oil, grease, mud or snow in order to prevent all possibility of slipping or tripping.
11. Keep the operator support areas on the tractor free from mud or any thing else that could cause the operator to slip when the implement is mounted or demounted from the tractor. Never jump on or off the tractor. Always keep both hands and one foot well anchored. Never use the control levers or hose pipes as holds. These are mobile parts and do not offer a safe grip. Involuntary activation of a control could also cause the tractor or implement to accidentally move. Before the machine is released from the tractor, it should be rested on the ground in a stable position using the support foot where installed. Always check that the machine is balanced and stable, then release it from the tractor, checking again to ensure that it is firmly positioned.



### **TRANSIT ON PUBLIC HIGHWAYS**

1. When driving on public roads, always comply with the Highway Code provisions in force in the country where the machine is being used. Pay particular attention near crossroads, underpasses, and level crossings, when meeting other vehicles, overtaking stationary or slower vehicles. Drive near the edge of the road and try not to hold up the traffic.
2. Never park the tractor and/or flail mower near crossroads, bends, level crossings or where the equipment could be a danger or obstruction to pedestrian traffic.
3. Never drive on public highways when the implement or tractor is particularly dirty since soil, grass and other items could drop on to the road and obstruct the normal road traffic. Disengage the PTO and disconnect the driveline when transporting the implement.

## SECTION 3 – GENERAL SAFETY & SAFETY REGULATIONS – (cont'd)



### INSTRUCTIONS FOR MAINTENANCE TECHNICIANS

1. The implement must be stationary and the tractor PTO disengaged before any work is carried out on the implement.
2. Routine and extraordinary maintenance operations must be carried out in a specially prepared place using correct and efficient tools. This place must always be kept clean and dry. There must be sufficient space around the implement to allow work to be easily carried out. Only trained and specialised personnel must be allowed to service the implement. Contact your nearest dealer when maintenance work is required.
3. Comply with the indicated bans and procedures when servicing the implement. Never ever use gasoline, solvents or other inflammable fluids as detergents. Use the non-flammable and non-toxic commercially available solvents authorised by the competent authorities. Never use compressed air or highly pressurised water to clean the implement. When this is absolutely inevitable, protect the eyes using goggles with side guards and use the lowest possible pressure.
4. At the end of the job, check and inspect the implement while it is still disconnected from the tractor. Check the cutting blades for wear. Never carry out welding operations without the manufacturer's permission and instructions. Before welding, always detach the implement from the tractor in order to prevent damage to the battery. Always wear a protective mask, goggles and gauntlets when welding, lapping or grinding, hammering or drilling. The implement should be lubricated as described in Section 7.
5. Correctly remount all guards and shields that were removed during the maintenance and repair operations.



### TEST REGULATIONS

1. Always operate the machine outdoors. If the machine connected to the tractor must inevitably be started in a closed room, e.g. during tests after maintenance, always ensure that there is adequate ventilation to prevent harmful exhaust gas from accumulating.
2. Carry out various manoeuvres assisted by specialized personnel in order to simulate the different work conditions and acquire the necessary familiarity with the implement. Before starting, always check that there are no foreign bodies such as stones, soil or other, clinging to the rotors. When the rotor turns, such items could detach and be violently thrown notable distances. Always operate within a protective cage, or at least near a solid wall.
3. Always check that no one is too near or in a potentially dangerous position if the implement is to be operated raised from the ground, when testing for example.
4. Always disengage the PTO before driving the tractor to transport the implement from one place to the other.



### WARNING DANGER PLATES AND STICKERS

1. Comply with the warnings on the stickers. (See Fig 3.5 for locations & details of warning stickers on the machine) Failure to comply with the given instructions could cause death or serious personal injury.
2. Check that the stickers are always installed and legible. If this is not the case, contact your nearest dealer or "MAJOR" in order to obtain replacements (state the code number printed on the left hand side of each sticker when ordering).

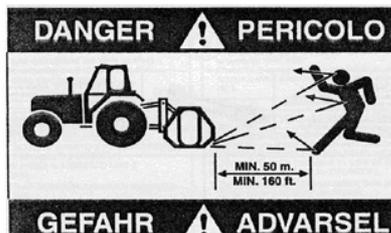
### STICKER NUMBERS & LOCATIONS



1



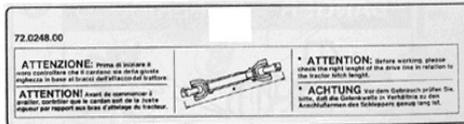
2



3



## SECTION 3 – GENERAL SAFETY & SAFETY REGULATIONS – (cont'd)



4



5

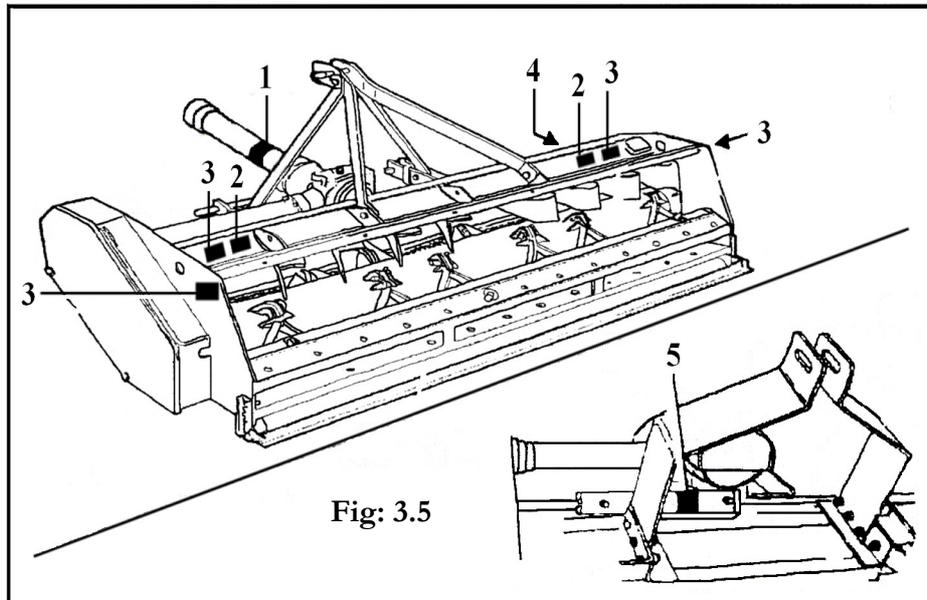


Fig: 3.5



### KEY TO SAFETY DEVICES – Fig 3.6

#### 1. Drive line shield.

The drive line is supplied with adequate plastic shields and relative fixing chains.

#### 2. PTO shaft guard.

A cowling, where the drive line couples with the shredder overdrive, protects the rotating end of the drive line itself.

#### 3. Front guards.

This shield is mounted to prevent particles of material shredded by the knives or hammers from hitting the operator or anyone in front of the implement. As an alternative, this shield is substituted on some models by a set of chains or a rubber barrier.

#### 4. Drive belt guard.

Prevents access to the drive belts and pulleys. This guard can be equipped with a hole covered by a removable lid to facilitate operations when the belt needs tightening.

#### 5. Side skids.

Prevent material from being thrown up or a limb from being accidentally caught under the implement.

#### 6. Axle shaft guard.

Prevents contact with the moving shaft. On some versions, this guard can be removed while on others it is fixed to the gearbox.

#### 7. Barriers.

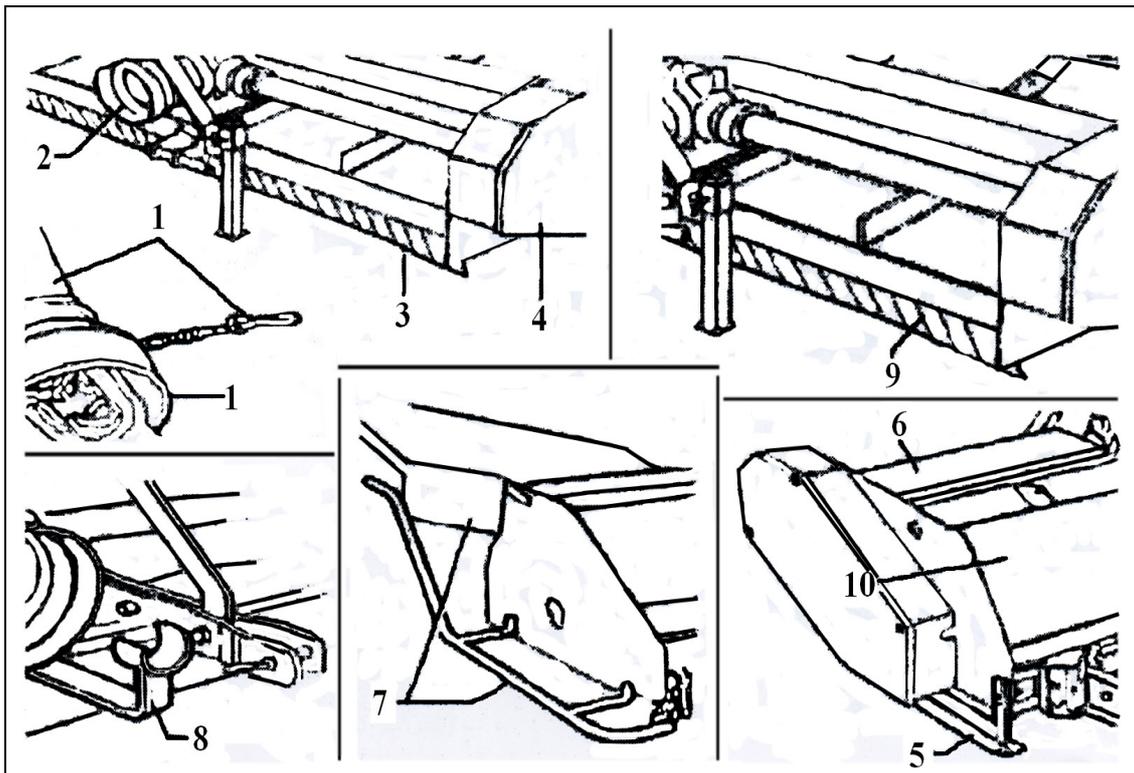
Safety bars or panels to prevent users from approaching dangerous parts of the shredder. The shape and size of these barriers vary according to the shredder model.

#### 8. Drive line support.

Having detached the drive line from the tractor, the shaft itself can be placed on this support to prevent it from slipping and dropping.

## SECTION 3 – GENERAL SAFETY & SAFETY REGULATIONS – (cont'd)

KEY TO SAFETY DEVICES Fig 3.6



### NOISE

The acoustic pressure was measured at a distance of 2.6 meters from the centre of the implement and a 2m in height, with the implement operating in a no-load condition on grassy land with the rear hood (where installed) closed and a PTO rate of 450 rpm, thus obtaining the value:  $L_{w} < 80$  dBA.

Please also note that the machine is normally used outdoors and that the position occupied by the operator is seated in the driving seat of the tractor. Please also consult the prescriptions listed in the tractor use and maintenance manual.

### VIBRATIONS

During normal operation, the machine will not transmit appreciable vibrations to the tractor or, thus, to the operator. These vibrations are less than  $2.5 \text{ m/sec}^2$  to the operator's upper limbs and less than  $0.5 \text{ m/sec}^2$  to the seated part of the operator's body. Consult the tractor manual for the vibrations transmitted by the tractor itself.

### DISCLAIMER

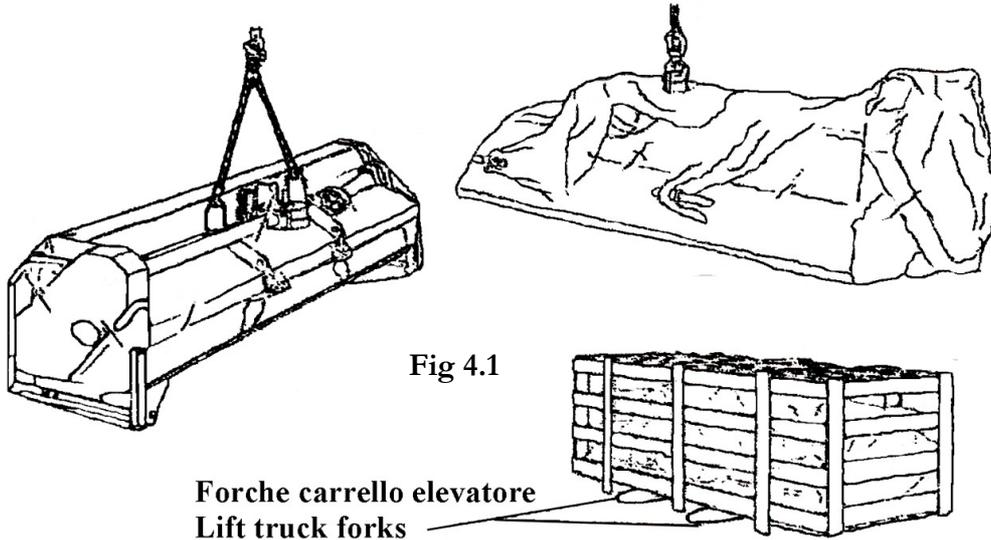
The shredder has been built in compliance with the accident prevention regulations in force and therefore the manufacturer cannot be held responsible for damage resulting from:

- Use of the machine with faulty or missing guards
- Improper use of the machine
- Use of the machine by untrained or unauthorised personnel
- Incorrect assembly of the shredder;
- Use of the shredder on the wrong tractor;
- Lack of maintenance
- Unauthorised modifications or work carried out on the machine
- Use of non-original spare parts or those which are not specific to the machine
- Failure to observe all or some of the instructions
- Exceptional weather conditions.

## SECTION 4 – DELIVERY OF THE SHREDDER

All shredders are tested in our plants to ensure that all moving parts operate correctly. All items are thoroughly checked before dispatch or delivery. When the implement is received, always check that it has not been damaged during transport. Contact your dealer if such damage is discovered.

The following paragraphs describe how to proceed with the lifting operations, which depend on the model and type of packing in question. Packaging may vary from country to country according to shipping requirements (fig 4.1)

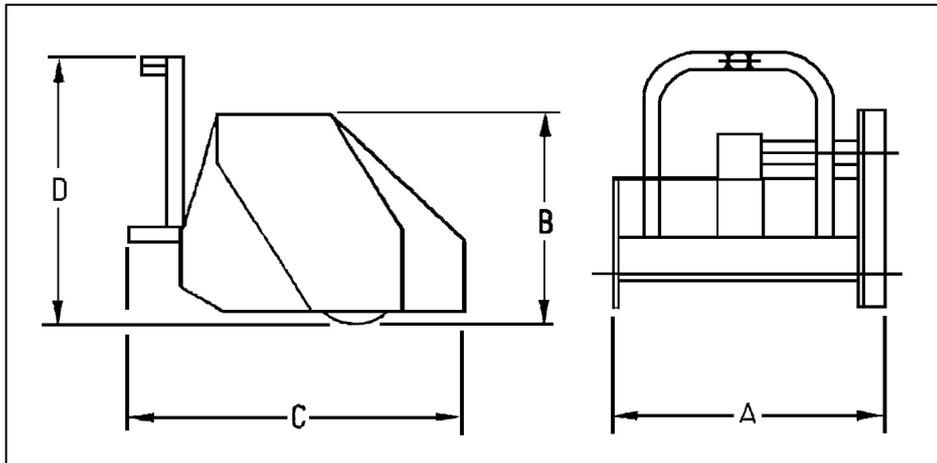


Use a lift truck, a crane or other equipment with an adequate carrying capacity to lift the implement, checking its weight in the table. Check that the load is stable and well positioned on the truck forks or crane hook. Keep the load as low as possible when moving the implement. This will ensure greater stability and visibility. Set the forks to their maximum width if a lift truck is used.

TABLE OF WEIGHTS AND DIMENSIONS

Model	A ( max)		B ( max)		C ( max)		D ( max)		Weight	
	mm	inch	mm	inch	mm	inch	mm	inch	kg	lbs
<b>MJ27-155 155</b>	1640	65	530	21	780	31	900	35	165	360
<b>MT 22 105</b>	1180	47	710	28	860	34	840	33	200	436
<b>MT 22 140</b>	1500	59	710	28	860	34	840	33	250	545
<b>MT 22 170</b>	1820	72	710	28	860	34	840	33	315	687
<b>MT 24 250</b>	2680	106	790	31	1150	45	950	38	685	1495
<b>MT 24 280</b>	2920	115	790	31	1150	45	950	38	740	1615
<b>MT 26 180</b>	1990	78	830	33	1070	42	1090	43	560	1220
<b>MT 26 200</b>	2230	88	830	33	1070	42	1090	43	620	1351
<b>MT 26 230</b>	2470	97	830	33	1070	42	1090	43	730	1591
<b>MT 26 280</b>	2950	116	830	33	1070	42	1090	43	860	1875

## **SECTION 4 – DELIVERY OF THE SHREDDER – (cont'd)**



### **Hoisting & Handling the Packed Machine**

Do not place the packed machines on top of each other as the packing is not designed to be piled up.

#### **- Hoisting with a Forklift**

Open the forks as wide as possible, hoist the machine using a lift truck, with an adequate carrying capacity to lift the machine, checking its weight in the table above. Check that the load is stable and well positioned on the truck forks.

Keep the load as low as possible when moving the implement. This will ensure greater stability and visibility.

#### **- Hoisting with a Crane or Bridge Crane**

There is a small eyelet in the upper part of the machine to facilitate its hoisting. When hoisting the machine, only hook up to this eyelet, not any other part. Take care to avoid swinging the load as this could be hazardous for the operator and the machine could be damaged. Use chains, cables and hooks whose capacity is greater than the load to be hoisted. Take particular care to use chains or cables that are intact and show no signs of fraying or wear, which could put the user's safety at risk.

## **SECTION 5 – ASSEMBLING THE SHREDDER & HITCHING TO TRACTOR**

Handle all the heavy parts with a hoist whose capacity is greater than the load to be hoisted. Make sure all the units and parts are supported by suitable harnesses and hooks. Make sure there is no one near the load to be hoisted. Handle all the parts with care. Never put your hands or fingers between the parts. Always wear approved accident prevention gear. Make sure the tools supplied with the machine are in good working order. Never use tools with upset or deformed heads. After the machine has had a part removed and then remounted, it must be tested to check the new part has been mounted correctly.

The operator responsible must have the necessary skills and background to carry out the operations required correctly and safe

### **Hitching the Shredder to the Tractor**

Check that all the guards and shields listed in Section 3 are installed and efficient. Always operate on a flat and levelled surface when hitching the implement to the tractor. This will prevent dangerous movements. Keep the hands and feet well away from the knives when hitching the shredder to the tractor. Never allow anyone to stand between the tractor and the shredder.

The implement must be used with a suitable tractor. Pay particular care when checking the following conditions:

- stability: the weight and dimensions of the implement must suit the technical specifications of the tractor.
- An initial indication as to the most suitable tractors is given in the "Average power" column in technical data information in Section 7 and introduction
- Maximum tractor power rating. Consult the values in the "Maximum power" column in Section 7 – Technical Data
- PTO speed. Consult the values in the "PTO speed" column in Section 7 – Technical Data when choosing the work speed.

The user shall ensure that the implement is fit for use with the tractor in his possession.

Prevent damage to the gears by checking the level of lubricant in the gearbox before using the shredder. Top up with oil of the same type if necessary. Check that the rotors supports have been greased. Consult Section 7 for the required type of lubricant. Check that the blades are free from foreign bodies. Very worn or broken knives must be replaced in compliance with the instructions in Section 7. Check that all warning and danger stickers are installed and legible. Replace them if necessary. Check that the tractor is in a good condition. Check the oil levels in the engine, gearbox and brakes. Check the cooling water level and tyre pressure. Always refer to the instruction manual supplied with the tractor.

#### **Step 1:**

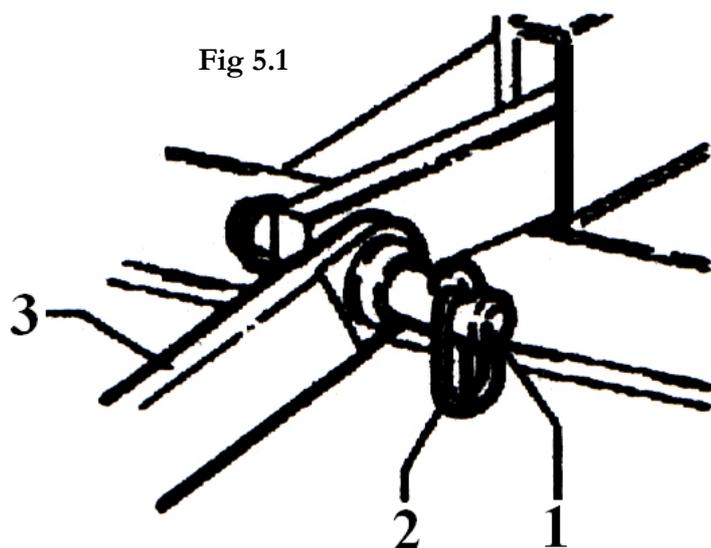
Reverse the tractor towards the shredder, aligning the tractor lift links with the two side coupling pins "1" (Fig. 5.1)

Turn off the tractor engine, remove the ignition key from the dashboard and insert the brake.

Insert the ends of the lift links into the implement coupling pins "1"

Fix them in place by means of the relative coupling pins "1"

**Fig 5.1**

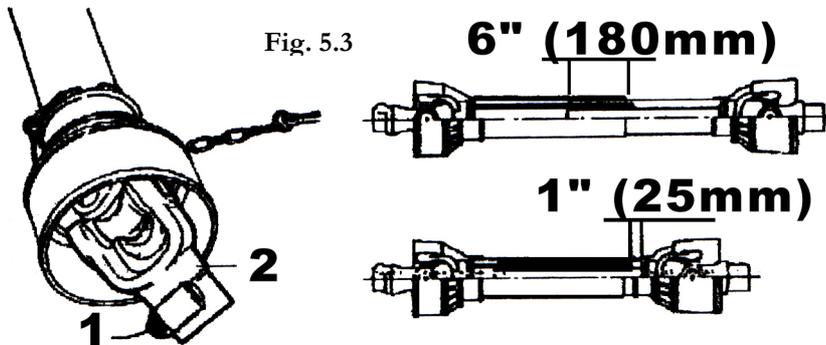
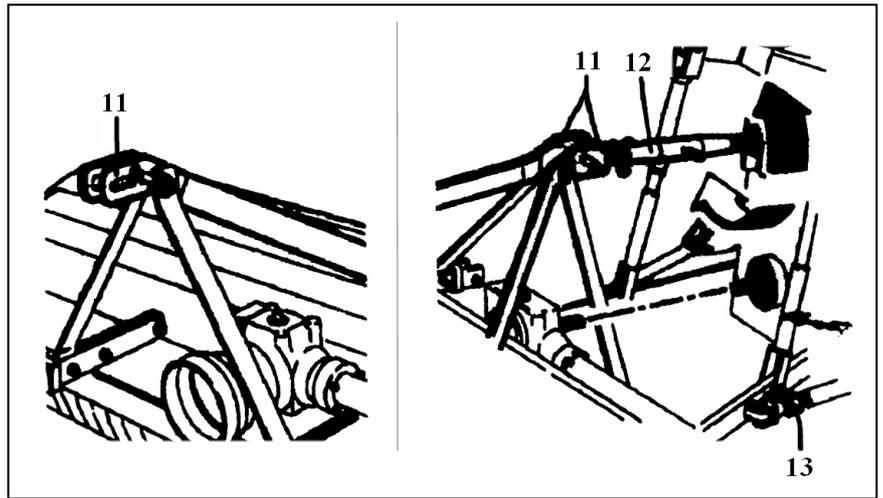


## SECTION 5 – ASSEMBLING THE SHREDDER & HITCHING TO TRACTOR

### Step 2:

Operate lift link rod “13” to prevent excessive oscillations to the side. Oscillation of about 50mm each side (2 inches) is recommended. (Fig 5.2)

Level the shredder and consult the descriptions on the following pages for greater details. If a safety system is required this must be mounted from the side of the implement and not from the side of the tractor. Check that the drive line is the correct length



The minimum coupling length must be no less than 180 mm (6 inches) in each work position. Driveline travel must still be about 25 mm (1 inch) in the maximum coupling position. (Fig 5.3)

These are the correct regulations for safe working conditions. If the driveline is too short and tends to slip out of place, it must be replaced with a longer one

### PTO SHAFT LENGTH

The tractor PTO shaft length may be altered to suit the individual tractor model. When the machine is in operation, the PTO shaft should have a minimum 1/3 engagement as shown in the diagrams to the right. (Fig. 5.4)

Contact your nearest dealer or a specialised retail outlet if the PTO must be replaced with a longer one, since this must belong to the same power category and possess the same characteristics

If the PTO shaft is too long, it should be shortened in the following way:

- Set the machine at a minimum distance from the tractor, the brake the tractor and switch off the engine.
- Separate the two halves of the PTO. Insert the female part into the tractor PTO and the male part into the Rollermower PTO, checking that the position is correct by means of the fixing pins.
- Join the two halves of the PTO together, keeping them parallel.
- Using a felt tip pen, match mark the place where the two halves must be shortened as shown.
- First cut shield “1” and use part “2” as a reference to cut the splined shaft. (fig 5.5)

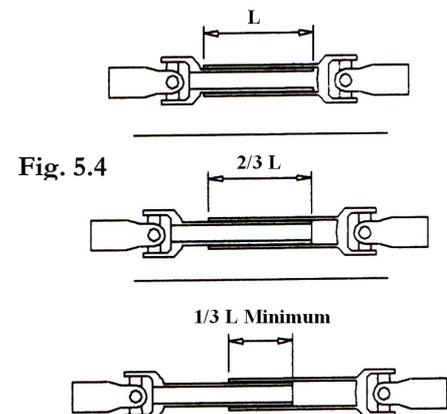


Fig. 5.4

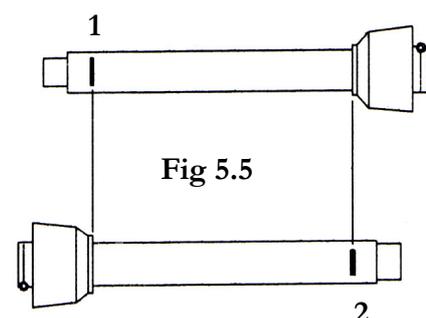
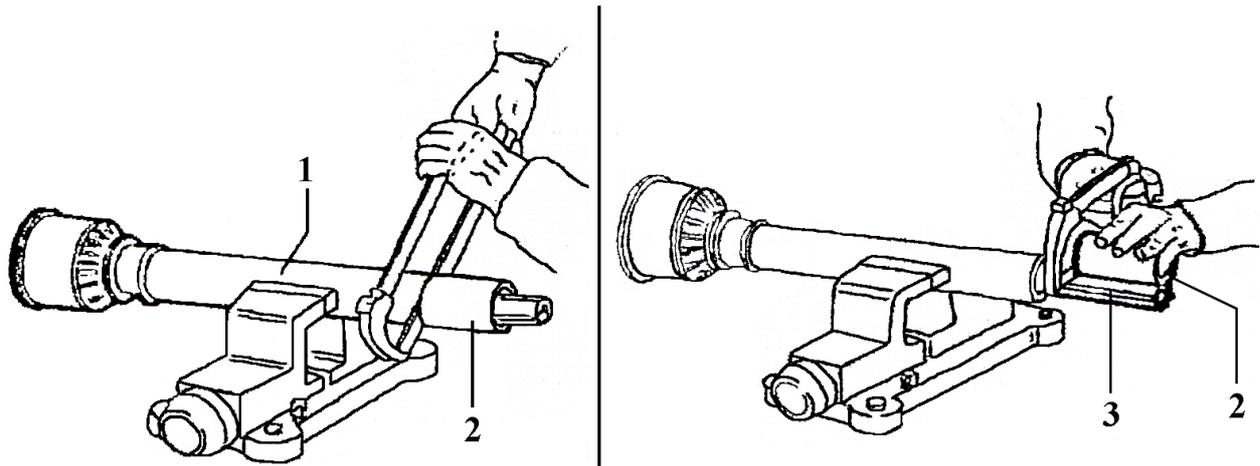


Fig 5.5

## SECTION 5 – ASSEMBLING THE SHREDDER & HITCHING TO TRACTOR



- Proceed in the same way for the second half.
- Trim and chamfer the two cut ends of the PTO and clean off all swarf and shavings.
- Grease the two profiles and join the two halves of the PTO together again.
- Mount the PTO shaft and check that its length is correct as before. The shaft must not reach the end of the tube or project from this.

## SECTION 6 – OPERATION & USE OF THE SHREDDER

### Driving on the Roads

When driving on public roads with the shredder attached to the tractor, always respect the Highway Code. Check that the reflectors, hazard flashers and/or slow vehicle and/or projecting load indicators are installed when required, and efficient. These indicators must be installed at the rear of the implement. They must be clearly seen by the drivers of other vehicles behind. If the implement must be transported at night or in other conditions of poor visibility, it should be equipped with sidelights of the type approved by the Highway Code regulations in force. During transport, the shredder should be kept completely lifted with the PTO disengaged. No one must be allowed to lean against and/or climb on to the shredder during either work or transport.

On request, some very wide models may be equipped with a wheeled support for road transport in a longitudinal direction.

### Preparing the Shredder for Work

Always be careful to check that the power rating of the tractor used to tow the implement does not exceed the maximum power rating for the model in your possession (Consult Section 7). Check that the speed of the PTO complies with the speed required by the implement. Compare the values on the shield of the PTO shaft.

**IMPORTANT:** Comply with these instructions in order to prevent early faults and damage to the implement.

Every time the shredder is adjusted, the procedure must be as follows:

- disengage the power takeoff;
- insert the tractor brake;
- turn off the tractor engine;
- remove the ignition key from the dashboard.
- Keep body parts clear of the rotating blades. Wait for them to stop moving.

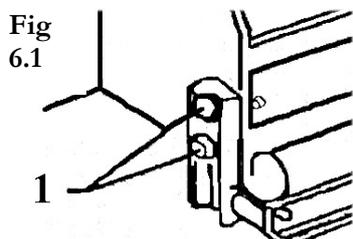
The work depth is adjusted by two rear wheels, by skids mounted at the sides or by a rear roller. Small work depth adjustments can also be obtained by means of the tractor lift. Whichever type of adjustment is required, the knife rotor must always be parallel to the ground but not touching it at the end of the operation. These implements achieve the best results if the knives are 70-80mm (3 inches) from the ground. This prevents the knives from hitting the ground, becoming quickly worn and requiring an excessive power draw.

Height adjustment is achieved in the following ways:

#### Roller Adjustment – Fig 6.1

Use the four bolts “1” and set the roller to the required position. The lower the roller, the higher the knives.

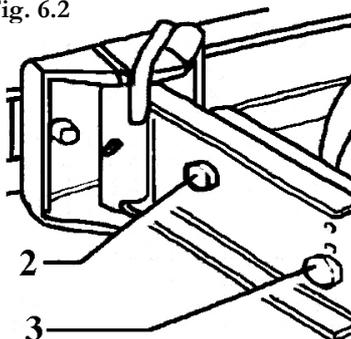
**IMPORTANT:** Make the same adjustment on both sides to obtain the same cutting height.



#### Wheel Adjustment – Fig 6.2

Slacken bolt “2”, remove bolt “3” and set it in the required hole. The lower the wheel, the higher the knives will be during work.

Fig. 6.2



#### Side Skin Adjustment – Fig 6.3

Use the front and rear fixing bolts (“1”) of each skid to adjust the new position. The lower the skids, the higher the knives will be during work. The minimum cutting height is 40mm (1.5 inches). Never ever use a lower value.

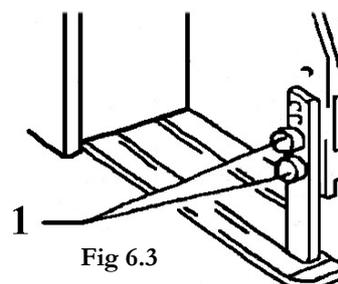


Fig 6.3

## **SECTION 6 – OPERATION & USE OF THE SHREDDER – (cont'd)**

### **Using the Shredder**

Before working always check that all the safety shields listed in Section 3 are installed, correctly mounted and efficient. Failing this, stop the shredder and replace or repair the damaged shields. Never continue work until all the shields installed by the manufacturer are efficient. Contact your nearest after-sales service centre if necessary. Always become familiar with shredder use before working with the implement. Make sure that you know how to quickly stop the work operations.

Step 1: Lower the machine until the four wheels are resting on the ground.

Step 2: If any further adjustments are necessary, carry out the work as described in the paragraph above – Adjusting the Cutting Height

Step 3: Accelerate the tractor by depressing the accelerator pedal to about half its travel and then engage the PTO.

Step 4: Advance with the tractor, setting the PTO to the required rpm rate (usually 540 or 1000 rpm). The travelling speed of the tractor must be selected according to the grass to be cut, its quantity and the cutting finish required. Optimum work speeds will be between 3 and 8 Km/hour (2/5 mph).

On shredders equipped with adjustable rear hoods, this part should be set in a closed position when work is carried out near roads, motorways, built-up or congested areas.

This will prevent damage or injuries to persons due to objects being thrown up. On particular jobs, where the rear hood must be left open in order to spread the shredded product, the implement may throw sharp objects such as stones and notable distances. Always check that the work area is free from any objects that could be hit or broken and thrown up by the knives or hammers.

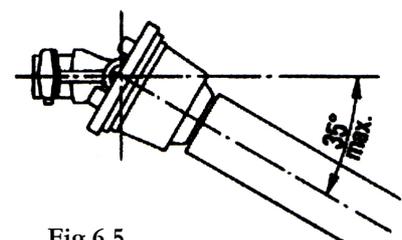
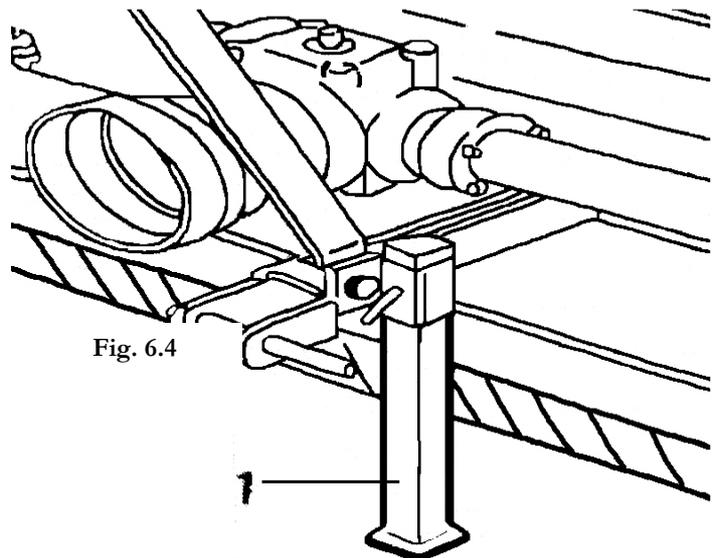
Check that no one moves into the field of action of the implement and always operate 40-50 m away from roads, built-up areas or places liable to be frequented by people.

After having completed the desired height adjustments, carry out the inspection listed in paragraph. After having lifted the support (anchoring it at the top in the work position), it will now be possible to use the implement. **(Fig. 6.4)**

The slower advancement is during work, the greater the shredding degree will be. Always raise the implement from the ground during manoeuvres, round bends and when reversing. After having worked for a few meters, stop and check whether the desired result is being obtained. Make any adjustments as may be necessary and then continue with the job.

Never reverse with the implement unless this is strictly necessary. In such cases, disengage the PTO and carefully check to see whether there are any obstructions at the rear.

Never lift the implement more than 250mm from the ground with the PTO engaged or the drive line could break and risk injury to the operator. The maximum tilt the drive can bear with the PTO engaged is 35° **(Fig. 6.5)**



## **SECTION 6 – OPERATION & USE OF THE SHREDDER – (cont'd)**

As soon as the PTO is disengaged, the rotor roller of the shredder will continue to turn for a few seconds by inertia, also causing the drive line to rotate. On tractors without dual clutch controls, this rotation also affects the PTO shaft of the tractor, driving the tractor itself forwards.

To prevent this, it is advisable to order the shredder with a drive line equipped with free wheel, available on request as an option. This safety system will not modify the behaviour of the shredder during work in any way, but it will prevent rotor inertia from being transmitted to the tractor PTO, thus stopping it from moving.

### **Demounting the Implement from the Tractor**

- Disengage the PTO. Set the implement on a flat surface. Stop the tractor and engage the parking brake.
- Rest the shredder on the ground by means of its support when installed. Failing this, safety lock the implement at a standstill.
- Switch off the tractor engine & remove the ignition key from the dashboard.
- Remove the driveline.
- Lower and lock the support foot.
- Detach the implement from the tractor by disconnecting the three-point hitch.
- Carry out the operations described in Section 5 (page 12) in reverse.

## **SECTION 7 – MAINTENANCE OF THE SHREDDER**

### **Foreword**



The machine must always be disconnected from the tractor before any cleaning, lubricating and servicing operations are carried out. If interventions must inevitably be carried out while the machine tool is still attached to the tractor, proceed as follows:

- Disengage the power takeoff;
- Insert the brake;
- Turn off the tractor engine;
- Remove the ignition key from the dashboard.

To prevent all risks, the operator should not merely trust in the hydraulic system of the tractor since this can be liable to leaks able to lower the machine even when the engine is off. Always block the machine with a rigid support when work must be carried out underneath.

Good, regular maintenance and correct use are essential if the shredder is to remain safe and long lasting. Respect the following rules, which can also be found on the plates attached to the machine.

#### **IMPORTANT NOTICE**

BEFORE OPERATING THIS MACHINE, BE SURE TO CHECK THE FOLLOWING CHECK-POINTS (HAVING FIRST STOPPED THE TRACTOR ENGINE, DISENGAGED THE PTO AND CAREFULLY READ AND UNDERSTOOD THE OWNER'S MANUAL):

1. Check oil levels (if necessary and SAE 90 EP oil)
2. Grease the driveline spiders
3. Grease all marked points on the machine
4. Check to be sure the nuts/bolts are snug on those parts which are under the most stress (tines, blades, front linkage bolts, gear box bolts etc)

### **Checks made in our Factory**

Your implement will have been subjected to various tests and trials both in our factory and on the dealer's premises. This procedure ensures that operation and the necessary adjustments will be correctly carried out. In particular, the following inspections are made:

1. The implement is checked to see that the serial number and all stickers have been affixed.
2. All points are greased as described in Fig 7.8. The oil level in the gearbox is also checked.
3. The transmission belts are checked to ensure that their tension is correct.
4. Check for oil leaks.
5. Check to see that all safety devices are installed and efficient.
6. General inspection during operation.

### **Inspection before use**

Inspect the knives to ensure that they are free from foreign bodies. Check the implement for wear and damage. Particularly check that the knives, the drive belts and wheels are in a good condition. Check that all nuts and bolts are fully tightened, with particular reference to the knife bolts. Check that the oil and greases in the various points are at the correct level, as described below. Despite the previous inspections, lubricant may have partially spilt during transport and need topping up.

## **SECTION 7 – MAINTENANCE OF THE SHREDDER – (cont'd)**

### **Inspections to be made periodically**

#### **Every 8 hours service**

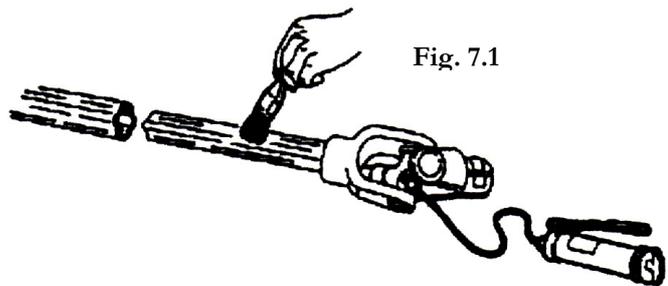
- Grease the rotary shaft supports (see diagram below).
- Check the condition of the driveline and grease the journals.
- Grease the wheel axles.

#### **Every 50 hours service**

- Check the belt tension.
- Check the oil level in the gearbox.
- Check the knives for wear. Replace them if necessary, in compliance with the instructions in paragraph below.
- Demount and clean the driveline. Be sure to remove all foreign bodies from the sliding parts of the shaft.
- Cover the sliding parts with grease before remounting the driveline. Check that all nuts and bolts are fully tightened.

#### **Every 250 hours service**

- Change the oil in the gearbox. Consult paragraph below for the recommended type of oil. The following operations must be performed when carrying out the work required:
- Using a clean brush spread a film of grease on the surfaces of the sliding section. (Fig 7.1) Consult paragraph below for the recommended type of grease.
- Grease the journals until grease oozes



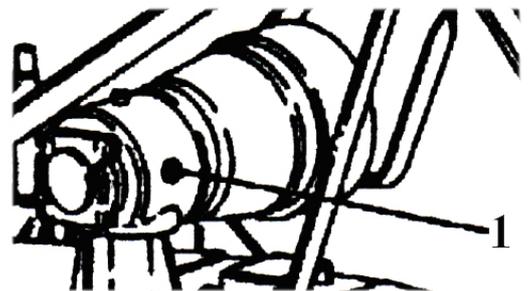
#### **Cleaning & Greasing the Driveline**

- Remove the splined parts.
- Using non-toxic and non-inflammable solvents, degrease the dirty parts, particularly the sliding grooved sections and universal couplings. Use non-toxic, non-inflammable solvents to prevent the risk of intoxication or fire

#### **Check & Changing the Oil in the Gearbox**

**IMPORTANT:** The used oil is a pollutant and must be disposed of correctly. Pour it into a suitable container and take it to the special oil collection points.

- Check the oil in the gearbox: Check the level of the lubricant through the plug “1”, the oil must reach the lower edge of the hole of level plug. (Fig 7.2)
- Changing the oil in the Gearbox: Change the first oil fill after the first 50 hours service. Following this, the oil should be changed after every 250 hours service. Consult below for the recommended type of oil.



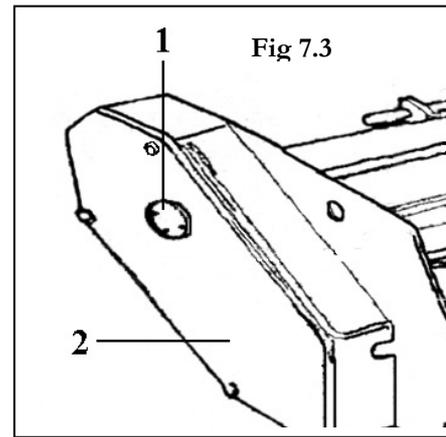
#### **Checking the Belt Tension**

Work should only be carried out on the transmission belts when the tractor has been turned off, the ignition key is not in the ignition, the parking break is in position and the drive has been disconnected. When possible, such operations should only be carried out after the shredder has been disconnected from the tractor.

The casing that protects the drive belts has an opening on certain models. This can be used to check the belt tension and is normally enclosed by a protective cover.

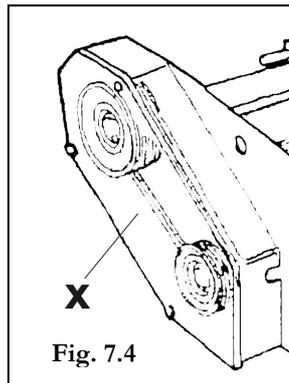
## SECTION 7 – MAINTENANCE OF THE SHREDDER – (cont'd)

- Remove protective cover “1”. (**Fig 7.3**)
- Press down on the belts, exercising a pressure of about 8 - 10 kg (20 lbs).
- The give on each belt must be within about 6mm (1/4 inch) (fig. 7.8.1) If yielding is excessive, the belt tension must be adjusted (see paragraph below).
- On models without cover “1”, protective casing “2” must be demounted and the belt tension checked as previously described.
- Check the belt tension after the first 8 hours service. Following this, it should be checked after every 50 hours service in normal work conditions or after every 30 hours service in heavy duty conditions.

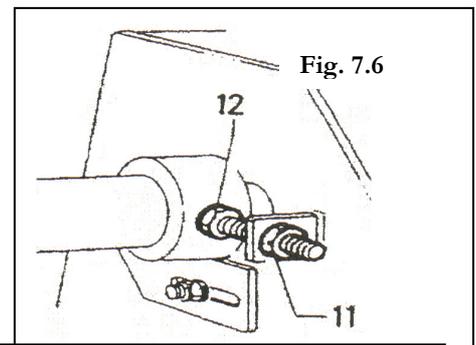
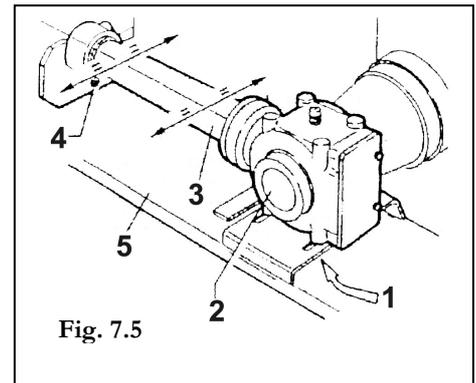


### Adjusting the Belt Tension

- Demount the protective casing and check yielding “x” (**Fig. 7.4**) of each belt. Belt give must not exceed the values indicated in paragraph above. Proceed in the following way if belt give exceeds these values:



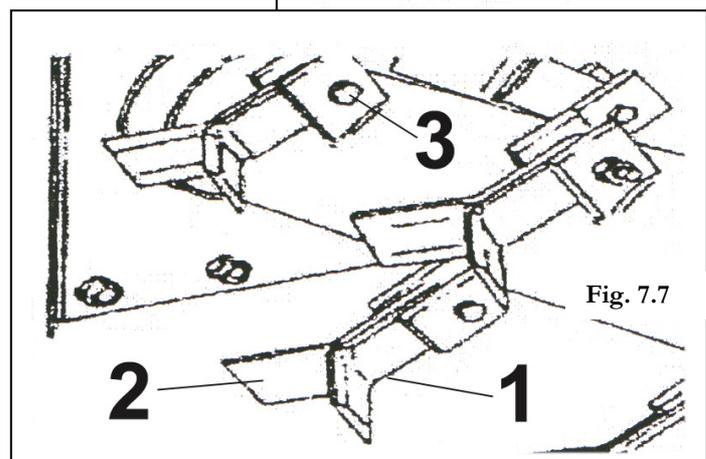
1. Slacken bolts “1” (**Fig. 7.5**) that fix the gearbox and bolt “4” that locks the chassis extension in place.
2. Release check nut “11” (**Fig 7.6**) of the belt tensioning screw.
3. Work on screw “12” until obtaining the right belt tension, then tighten the check nut again.
4. Shift the gearbox (**Fig 7.5**) “2” in the same direction and to the same extent in order to re-align extension tube “3” with chassis “5”.
5. Lock the bolts “1” fixing gearbox “2” to the chassis together with the bolt fixing extension “4”



### Check & Replacing Knives & Hammers

Always disengage the PTO and switch off the tractor engine before approaching the knife. When worn, always replace the complete set of knives or hammers in order to prevent the implement from becoming unbalanced.

If one or more broken knives or hammers need replacing, e.g. knife number “1” in Fig. 7.7 always replace diametrically opposite knife or hammer as well, i.e. number “2”, in order to prevent the rotor from becoming unbalanced.



- 1 Set the implement at a convenient height and fix it to adequate supports so that the operator is able to work safely.
- 2 Slacken fixing bolt “3” and replace the knife or hammer.
- 3 Check the knife fixing screw and bushes (if installed) for wear. Replace them if necessary.
- 4 Check the rotation direction of the roller when remounting the knives or hammers. The knives are reversible, while the hammers must operate in a certain direction. Remount the new hammers in the same direction as the old ones.

## SECTION 7 – MAINTENANCE OF THE SHREDDER – (cont'd)

### Cleaning the Machine

IMPORTANT: When cleaning the machine, only use non-toxic, non-inflammable solvents with water cleaning machines. Wear accident prevention gear which is suitable for the task in hand, e.g. goggles, gloves and waterproof overalls.

### Lubricant & Greasing Points – Fig. 7.8

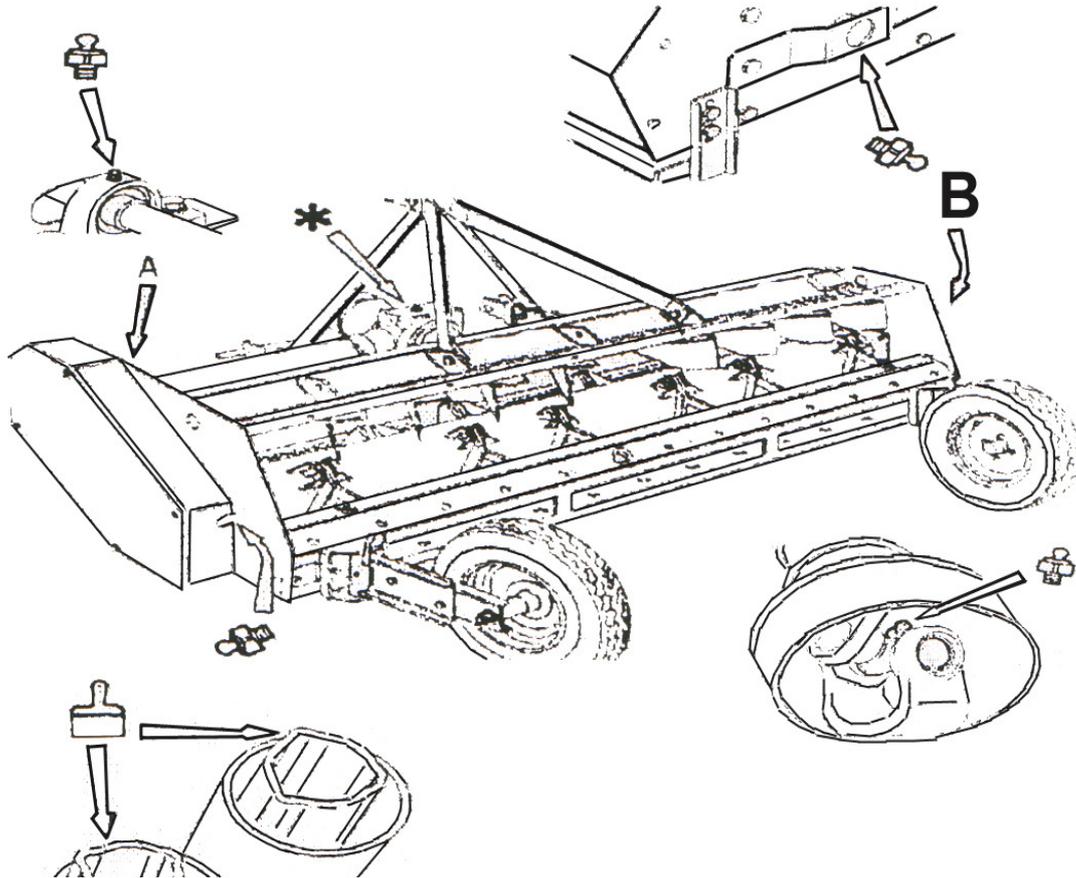


Table of Recommended Lubricants

	AGIP	ESSO	IP	SHELL
Gearbox Oil	ROTRA MP85W/140  BLASIA 460	GEAR OIL EP 320	MELLANA OIL 460	OMALA OIL 460
Hydraulic Oil	OSO 68 LH 46	NUTO H 68	IPHYDRUS Oil 68	TELLUS Oil 68
Grease	GREASE 30 GRUMU3	BEACOM E.P.3	ATNESIA GR3	SUPER GREASE R3

## **SECTION 7 – MAINTENANCE OF THE SHREDDER – (cont'd)**

### **How to Store the Shredder for Long Periods**

- Clean all dirt from the implement. Take particular care to remove any foreign bodies from the knives or hammers.
- Park the shredder on a flat surface, in a sheltered place inaccessible to either children or animals in a stable position to prevent it from moving (for this purpose it is advisable to stop the wheels with wedges or other suitable means), falling or being fitted over etc.
- When installed, use the relative parking foot and check that the implement stands on a firm floor surface or ground.
- Check that the weight of the machine is not too heavy for the surface on which it rests (consult the weight chart in this booklet)

### **Disposing of the Machine**

When scrapping the machine, the procedure to adopt is as follows: remember that it is almost completely made of ferrous material. The only potentially polluting components on the machine are the lubricants. To prevent them from polluting the environment, spread a waterproof tarpaulin on the ground, position the machine on this and then drain out the lubricants which must be collected in suitable containers. Now dismantle the machine, separating the components in the following way:

- Painted parts
- Ferrous parts
- Plastic parts
- Rubber parts

Contact those companies that are legally authorised to dispose of such materials.

## SECTION 8. TROUBLESHOOTING

<ul style="list-style-type: none"> <li>- Irregular cut</li> </ul>	<ul style="list-style-type: none"> <li>- Shredder not levelled in relation to the ground.</li> <li>- Worn, broken or deformed knives or hammers</li> <li>- Knives or hammers missing</li> </ul>	<ul style="list-style-type: none"> <li>- Correctly level the shredder as described in paragraph 5.2</li> <li>- Replace the knives as in paragraph 7.9</li> <li>- Replace as above</li> </ul>
<ul style="list-style-type: none"> <li>- Torn cut or uneven distribution of the cut product</li> </ul>	<ul style="list-style-type: none"> <li>- Too many residuals accumulated under the chassis</li> <li>- Shredder not levelled</li> <li>- Worn knives</li> <li>- Wrong P.T.O. rpm</li> </ul>	<ul style="list-style-type: none"> <li>- Clean the implement</li> <li>- Level the shredder as in paragraph 5.2</li> <li>- Replace as in paragraph 7.9</li> <li>- Adjust the PTO to the correct rpm rate.</li> </ul>
<ul style="list-style-type: none"> <li>- Noisy shredder</li> </ul>	<ul style="list-style-type: none"> <li>- Loose parts</li> <li>- Insufficient oil in gearbox</li> <li>- Wrong PTO rpm rate</li> <li>- Insufficient grease in the rotor shaft supports</li> </ul>	<ul style="list-style-type: none"> <li>- Check all nuts and bolts are tightened fully.</li> <li>- Check oil level and top up if necessary.</li> <li>- Adjust to the correct rpm rate</li> <li>- Thoroughly grease the rotor shaft supports</li> </ul>
<ul style="list-style-type: none"> <li>- Drive belts excessively slack or worn</li> </ul>	<ul style="list-style-type: none"> <li>- The knives touch the ground during work</li> <li>- Belt tension is not parallel</li> </ul>	<ul style="list-style-type: none"> <li>- Check and increase knife height</li> <li>- Correctly tighten the belts and align the gearbox extension tube with the chassis, see paragraph 7.8</li> </ul>
<ul style="list-style-type: none"> <li>- Knives worn too quickly</li> </ul>	<ul style="list-style-type: none"> <li>- The knives touch the ground during work</li> </ul>	<ul style="list-style-type: none"> <li>- Check and increase the knife height as described in paragraph 5.2</li> </ul>

## **SECTION 9 - WARRANTY PROCEDURE**

### **Steps to take in the event of machine failure**

#### ***Dealer:***

- The warranty claim will be completed by the Major dealer and will be submitted either to head office or to the Major area representative. Any parts replaced under warranty must be tagged and retained until claim is resolved. When ordering replacement spare parts please notify the Major Stores person that this is a warranty claim.
- The Major dealer will sign off on the claim and submit it to Major for consideration.
- The Technical Service Department at Major will study the claim and may request parts to be returned for examination. Major will notify their conclusions to the dealer service person from whom the claim was received.
- Any replacement parts ordered for the machine must be flagged as such when contacting Major. The delivery note and invoice will be flagged with “Warranty Pending” and will be invoiced as normal.
- A warranty claim form will be sent by Major to the dealer for completion. Only when the completed warranty claim form has been received by Major will the claim be resolved.
- Dealers must notify the Major Representative within 10 days of breakdown and all warranty claims are to be settled within 90 days of breakdown notification.

#### ***Customer:***

Should a Major machine fail due to a defect in material and/or workmanship, the owner should make a warranty claim as follows:

- The machine must be taken to the dealer from where it was purchased or to an authorised Major dealer.
- The owner must present proof of warranty registration.
- The warranty claim will be completed by your Major dealer and will be submitted either to head office or to their Major area representative. Attention: Service Manager: Any parts replaced under warranty must be tagged and retained until claim is resolved.
- The Major dealer will sign off on the claim and submit it to Major for consideration.
- The Technical Service Department at Major will study the claim and may request parts to be returned for examination. Major will notify their conclusions to the dealer service person from whom the claim was received.
- The decision by the Quality/Service department at Major to approve or reject a Warranty claim is final and binding.
- 

NOTE: To process a warranty claim, it is necessary to quote the Model & Serial Number which are printed on the Major Serial Plate – see owners manual

This company warrants its products to be free from defects under the following terms and conditions:

#### ***1. Length***

All new Major products come with a one year limited warranty against defects in materials and workmanship from the original date of purchase from an authorised dealer. Products that have been repaired/replaced will be under warranty for the remainder of the original warranty period or thirty days, whichever is longer.

#### ***2. Transferability***

The warranty is non-transferable and is only valid for the original owner of the product.

## **SECTION 9 - WARRANTY PROCEDURE – (cont'd)**

### ***3. Coverage***

All Major products come with a limited warranty for the period of one year, unless otherwise stated. The warranty solely covers parts and labour of Major products. Major are not liable for products that have been damaged due to abuse or negligence, nor are we liable for incidental or consequential damages. Any normal wear and tear that occurs is not covered under Major's warranty. Consumables such as blades, belts and PTO shafts are not covered under Major's warranty.

The following will result in the warranty being voided

- any product where the serial number has been defaced, modified or removed
- Damage or failure due to abuse, neglect, usage outside of intended purpose & failure to read instructions.
- Unauthorised repairs
- Any non-superficial repairs
- Failure to supply serial number details and/or proof of purchase

The following are not covered under Major's warranty:

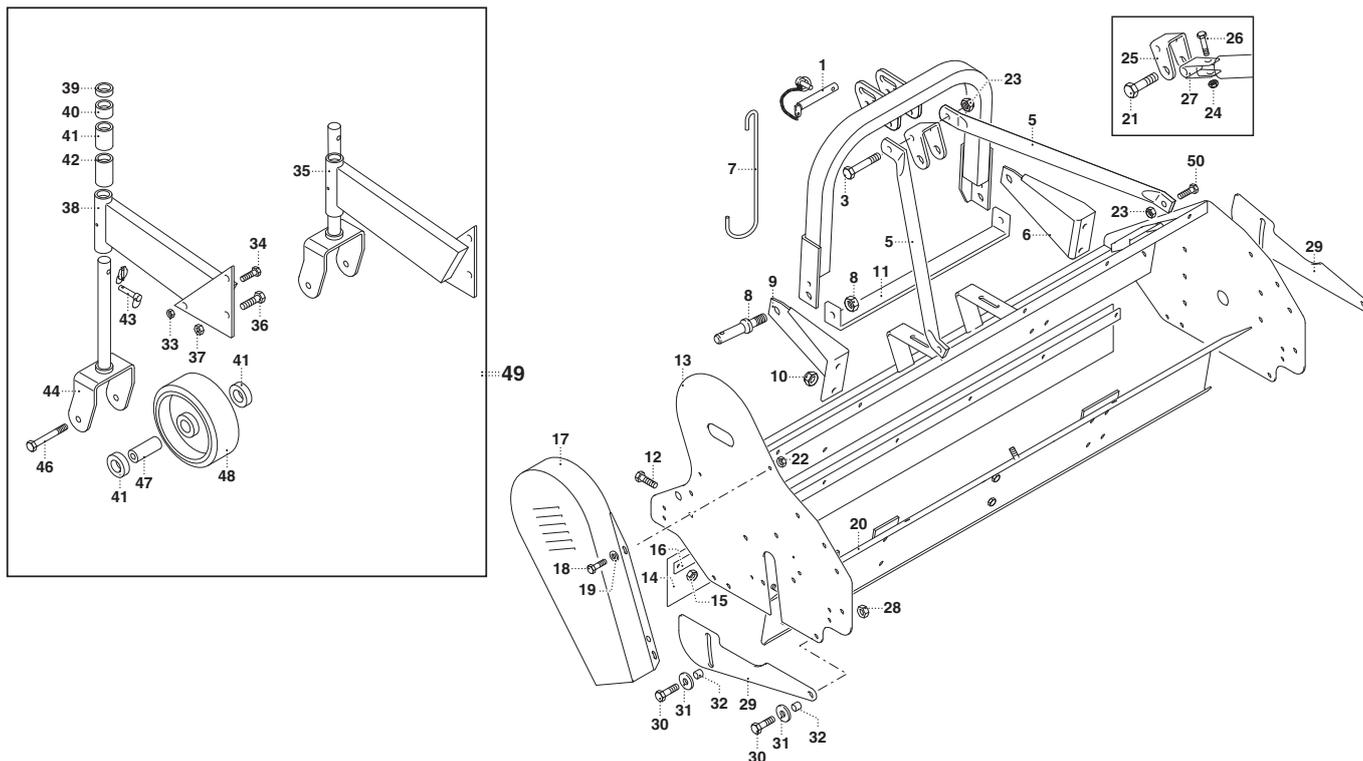
- items purchased second hand
- any problem pertaining to cosmetics, unless pre-existing
- failure to determine if the product is right for your intended purposes
- Any incidental or consequential damages that occur to products not made by Major

### ***4. Exclusion of Damages***

Major reserves the right to either repair or replace the defective product. Major shall not be held liable to the purchase or any third party for any incidental or consequential damages, including, but not limited to, damages resulting from interruption of service and loss of business. Major is solely responsible for products manufactured by Major and offers no warranties, expressed or implied, for any other products.

# **Spare Parts - MJ27-155 2015+**

# MJ27-155 Overview

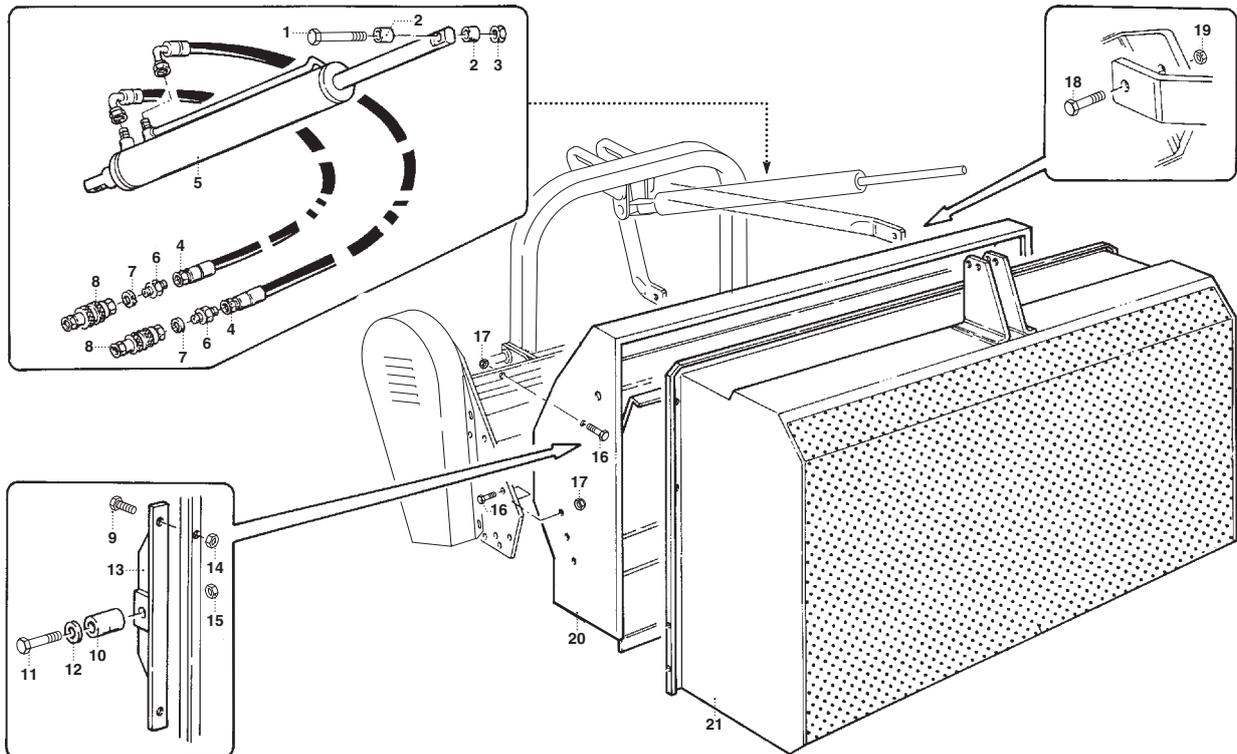


UN09-R-0203-GL

Item	Part No	Qty	Description	Other
1	68062000	1	PIN	
2	40315700	1	ATTACHMENT	
3	60033000	1	SCREW	
4	62010600	4	NUT	
5	32175200	2	TIEROD	
6	39169000	1	BRACKET (LH)	
7	38024500	1	HOOK	
8	68062500	2	PIN	
9	39168900	1	BRACKET (RH)	
10	62010600	4	NUT	
11	30199700	1	TIEROD	
12	60022800		SCREW	
13	41130100	1	FRAME	
13	41130200	1	FRAME	
14	68067900	1	STRAP	
14	68068000	1	STRAP	
15	62010200		NUT	
16	30125600	1	PLATE	
16	30125700	1	PLATE	
17	40227701	1	CASING	
18	60022800	4	SCREW	
19	61006200	4	WASHER	
20	40283600	1	REINFORCEMENT	
20	40283700	1	REINFORCEMENT	
21	60031800		SCREW	
22	62010200	4	NUT	

Item	Part No	Qty	Description	Other
23	62010600	3	NUT	
24	62011600	1	NUT	
25	39337100	1	YOKE	
26	60031400	1	SCREW	
27	40268400	1	YOKE	
28	62010400	4	NUT	
29	39295800	2	STRAP	
30	60021300	4	SCREW	
31	61003500	2	WASHER	
32	31079300	4	BUSHING	
33	62010600	4	NUT	
34	60020400	4	SCREW	
35	40268600	1	BRACKET (RH)	
36	60017900	2	SCREW	
37	62010400	2	NUT	
38	40268500	1	BRACKET (LH)	
39	32174600	4	SPACER	
40	32174700	4	SPACER	
41	32174900	8	SPACER	
42	32175000	2	SPACER	
43	64004800	2	PIN	
44	40234300	2	YOKE	
45	62010600	2	NUT	
46	60033000	2	SCREW	
47	38023500	2	BUSHING	
48	68087600	2	WHEEL	
49	45131800	1	WHEELS KIT	
50	60021200	2	SCREW	

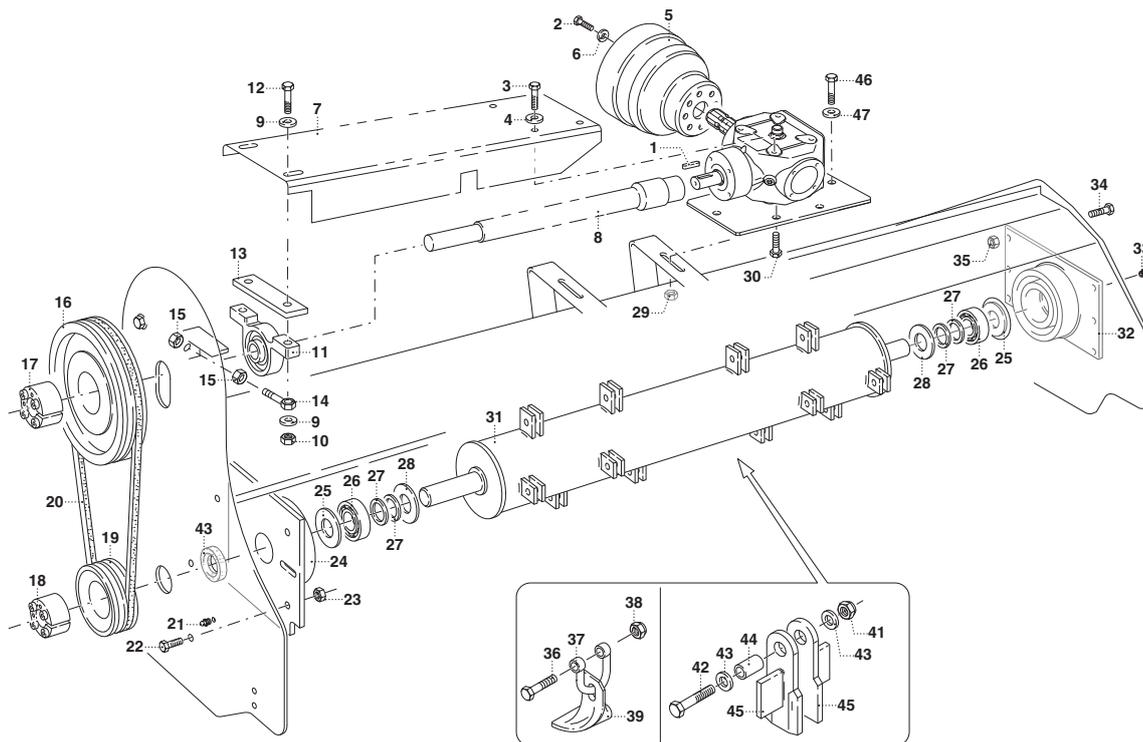
# MJ27-155 Hydraulic and grass collector



UN09-R-0204-GL

Item	Part No	Qty	Description	Other
1	60023400	1	SCREW	
2	32126700	2	SPACER	
3	62010800	1	NUT	
4	68048300	2	TUBE	
5	68062600	1	CYLINDER	
6	68048200	2	NIPPLE	
7	61007100	2	WASHER	
8	68043500	2	QUICKLINKAGE	
9	60021600	4	SCREW	
10	32095700	2	SPACER	
11	60035500	2	SCREW	
12	61006100	2	WASHER	
13	40182800	2	HINGE	
14	62010400	4	NUT	
15	62010600	2	NUT	
16	60021600	10	SCREW	
17	62010400	10	NUT	
18	60023000	2	SCREW	
19	62010600	2	NUT	
20	40160801	1	FRAME	
20	40160901	1	FRAME	
21	40160300	1	GRASS CATCHER	
21	40160400	1	GRASS CATCHER	

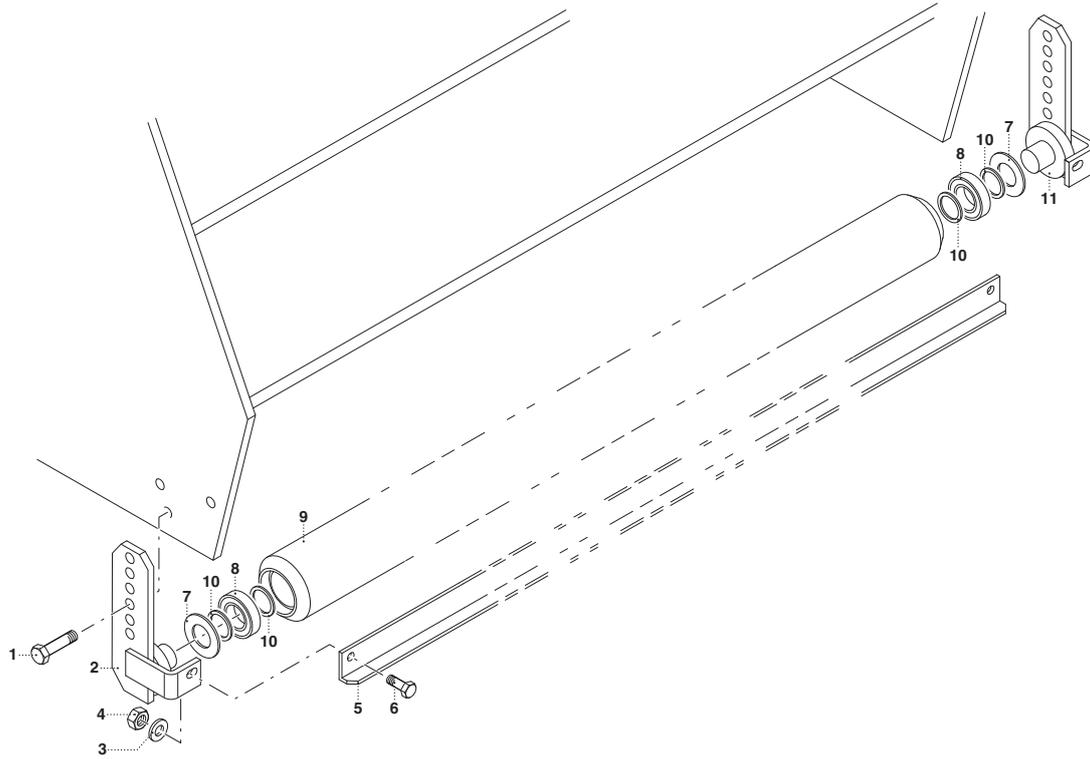
# MJ27-155 Rotor and Transmission



UN09-R-0205-GL

Item	Part No	Qty	Description	Other	Item	Part No	Qty	Description	Other
1	65001100	1	KEY		25	32068000	2	THICKNESS	
2	60015100	2	SCREW		26	67012900	2	BEARING	
3	60021600	2	SCREW		27	68068800		SPACER	
4	61004900	2	WASHER		28	39091100	2	DISC	
5	68074300	1	GUARD		29	62010600	2	NUT	
6	61004700	2	WASHER		30	60021600	4	SCREW	
7	40265901	1	GUARD		31	42045500	1	ROTOR	
7	40266001	1	GUARD		31	42045600	1	ROTOR	
8	40228601	1	EXTENSION		32	40084600	1	SUPPORT (RH)	
8	40228701	1	EXTENSION		33	64001800	1	GREASE FITTING	
9	61005000	3	WASHER		34	60020400	6	SCREW	
10	62010600	2	NUT		35	62010600	6	NUT	
11	67012600	1	SUPPORT		36	60007700		SCREW	
12	60010100	2	SCREW		36	60023300	2	SCREW	
13	30212500	1	SPACER		37	68074000		UBOLT	
14	40161400	1	TIEROD		38	62010800		NUT	
15	62007000	2	NUT		39	12015100		KNIFE	
16	68121200	1	PULLEY		40	66014000		JUNT RING	
17	68058900	1	LOCKING DEVICE		41	62010200		NUT	
18	68059000	1	LOCKING DEVICE		42	60034400		SCREW	
19	68059200	1	PULLEY		43	61006200		WASHER	
20	68121300	3	BELT		44	31067500		BUSHING	
21	64000200	1	GREASE FITTING		45	12016600		VERTICUT KNIFE	
22	60020400	4	SCREW		46	60023000	2	SCREW	
23	62010600	4	NUT		47	61005000	2	WASHER	
24	40228000	1	SUPPORT (LH)						

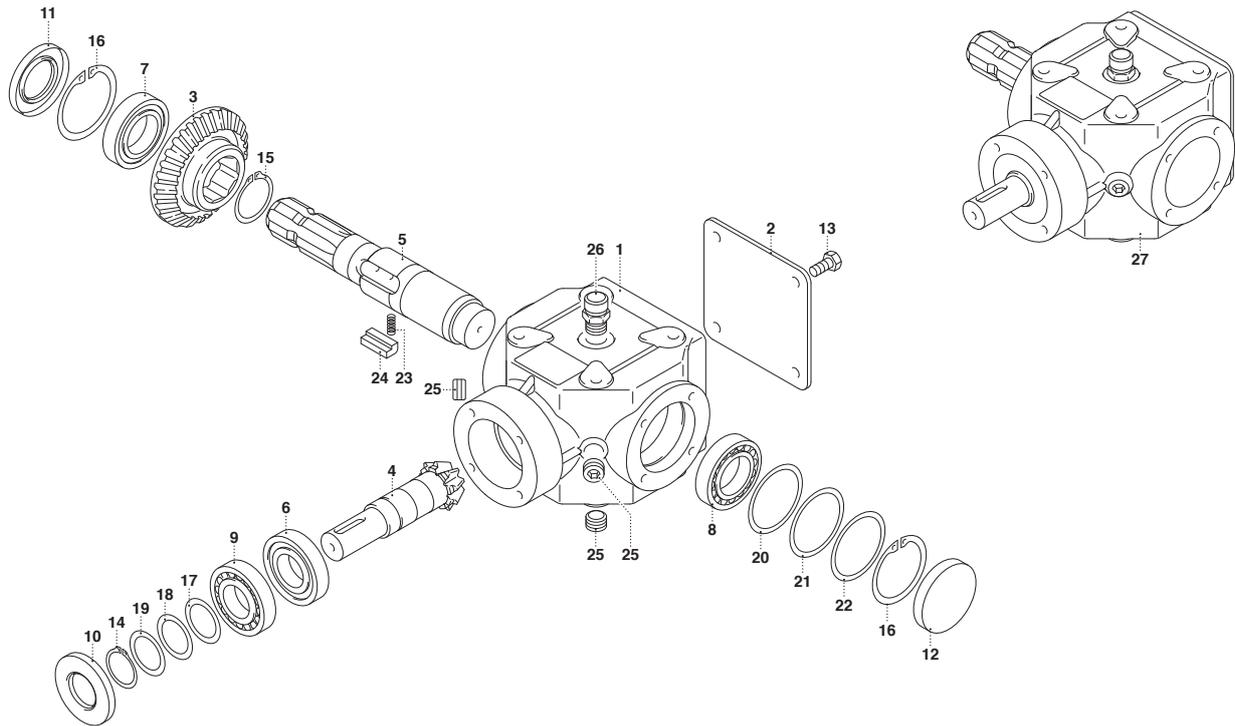
# MJ27-155 Rear roller



UN09-R-0201-GL

Item	Part No	Qty	Description	Other
1	60017900	4	SCREW	
2	40234700	1	SUPPORT (LH)	
3	61004700	2	WASHER	
4	62010200	2	NUT	
5	34011000	1	SCRAPER	
5	34012400	1	SCRAPER	
6	60022800	2	SCREW	
7	39200500	2	DISC	
8	67017500	2	BEARING	
9	42.0711.00	1	REAR ROLLER	
9	42.0712.00	1	REAR ROLLER	
10	68028400	2	SPACER	
11	40234800	1	SUPPORT (RH)	

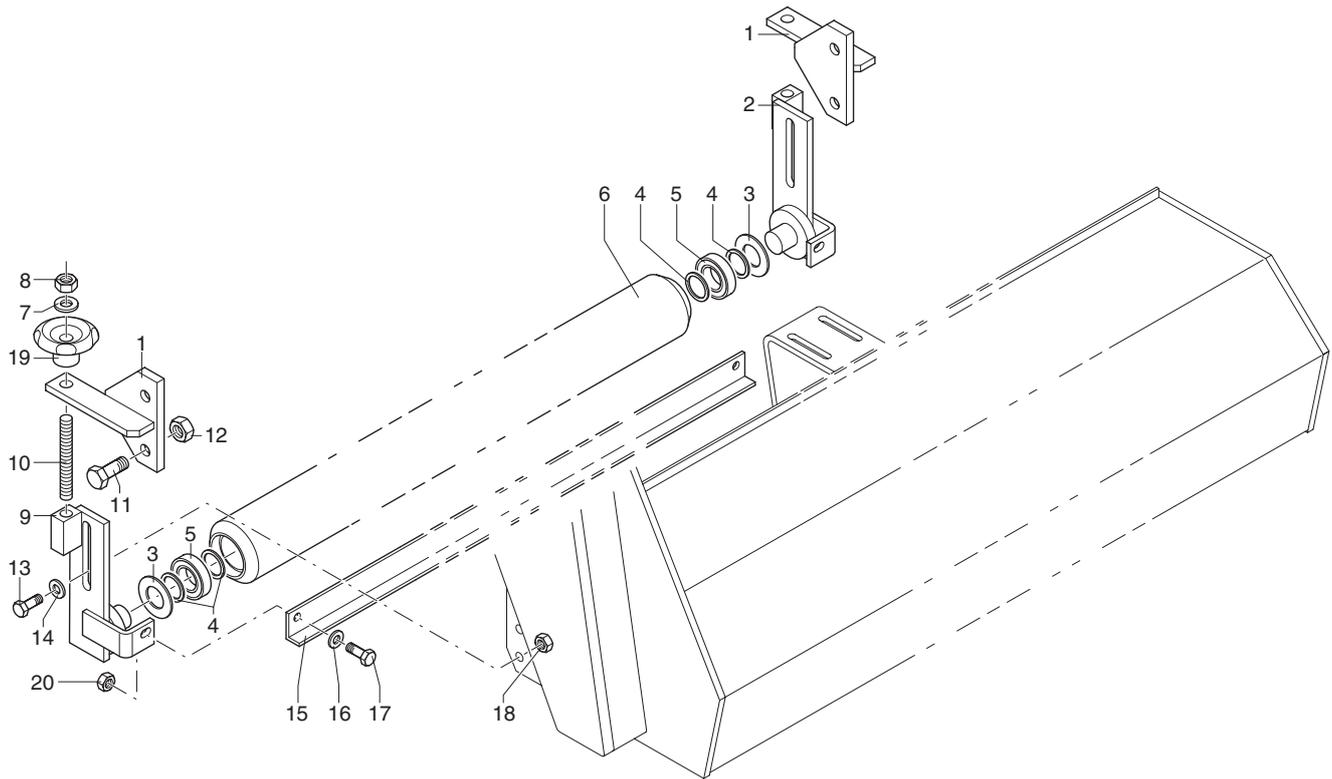
# MJ27-155 Gearbox



UN09-R-0182-GL

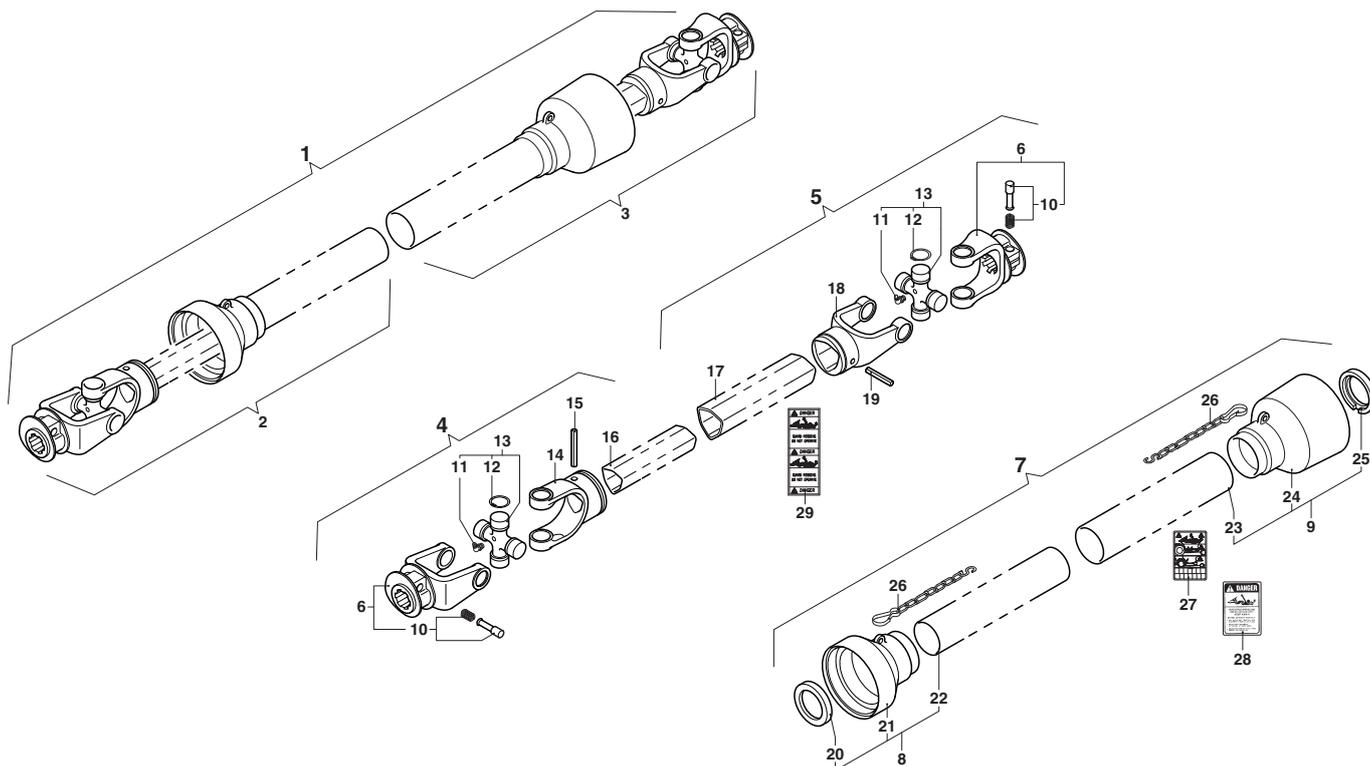
Item	Part No	Qty	Description	Other
1	01020400	1	GEARBOX	
2	39340600	1	COVER	
3	10050900	1	CROWN	
4	10051000	1	PINION	
5	31099200	1	SHAFT	
6	67015700	1	BEARING	
7	67017200	1	BEARING	
8	67018500	1	BEARING	
9	67018600	1	BEARING	
10	66019700	1	JUNT RING	
11	66011600	1	JUNT RING	
12	68123900	1	CAP NUT	
13	60015100	4	SCREW	
14	63005700	1	SNAP-RING	
15	63005000	1	SNAP-RING	
16	63001700	1	SNAP-RING	
17	68124000	1	SPACER	
18	68124100	1	SPACER	
19	68124200	1	SPACER	
20	68039000	1	SPACER	
21	68124300	1	SPACER	
22	68011500	2	SPACER	
23	68124400	6	SPRING	
24	65003500	3	SPLINE	
25	68124500	3	PLUG	
26	68085600	1	PLUG	
27	46042000	1	CLOCKWISE GEAR BOX	
27	46042200	1	COUNTERCL. GEAR BOX	

# MJ27-155 Front roller



Item	Part No	Qty	Description	Other
1	40268700	2	BRACKET	
2	40268300	1	SUPPORT (RH)	
3	39200500	2	DISC	
4	68028400		SPACER	
5	67017500	2	BEARING	
6	42071100	1	REAR ROLLER	
6	42071200	1	REAR ROLLER	
7	61006600	2	WASHER	
8	62010800	2	NUT	
9	40268200	1	SUPPORT (LH)	
10	40268800	2	SCREW	
11	60023000	4	SCREW	
12	62010600	4	NUT	
13	60021300	4	SCREW	
14	61004900	4	WASHER	
15	34011000	1	SCRAPER	
15	34012400	1	SCRAPER	
16	61004700	2	WASHER	
17	60022800	2	SCREW	
18	62010400	2	NUT	
19	68096600	2	KNOB	
20	62010200	2	NUT	

# MJ27-155 Gearbox AB207SF



UN09-R-0080-BF

Item	Part No	Qty	Description	Other
1	AB207SF	1	PTO SHAFT	
2	B2070B1	1	INTERNAL HALF SHAFT	
3	B2070B2	1	EXTERNAL HALF SHAFT	
4	B207001	1	INTERNAL HALF SHAFT	
5	B2070002	1	EXTERNAL HALF SHAFT	
6	0800203	2	YOKE	
7	083B02070	1	GUARD	
8	083B020701	1	INTERNAL GUARD	
9	083B020702	1	EXTERNAL GUARD	
10	0986014047	2	PUSH BOTTON	
11	09840081002	2	GREASE FITTING	
12	098020224	8	SNAP-RING	
13	08202	2	SPIDER	
14	08002011	1	YOKE	
15	098700850	1	ELASTIC PIN	
16	09881294100	1	INTERNAL TUBE	
17	09881363100	1	EXTERNAL TUBE	
18	08002021	1	YOKE	
19	098700855	1	ELASTIC PIN	
20	0265220008	1	RING NUT	
21	0256010425	1	GUARD	
22	0988955B2070	1	INTERNAL TUBE	
23	0988961B2070	1	EXTERNAL TUBE	
24	0256010424	1	GUARD	
25	0265220007	1	RING NUT	
26	0252000001	2	CHAIN	
27	99872003	1	LABEL	
28	99872010	1	LABEL	
29	99872006	1	LABEL	