

Operator Manual & Parts List

MAJOR FINISHING MOWER

MR-150

MR-180

MRP1-235



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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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EEC certificate of conformity for machines

(conforming to Directive 98/37/EEC)

Company: Major Equipment Ltd.
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declares in sole responsibility that the product:

MR and MRP1 FINISHING MOWER

When properly installed, maintained and used only for it's intended purpose, complies with all the essential Health & Safety requirements of:

- **THE SUPPLY OF MACHINERY (SAFETY) REGULATIONS 2008.**
- **S.I. No. 299 of 2007**, Safety, Health and Welfare at Work (General Application) Regulations 2007 (Ireland).
- **Health & Safety at Work, etc. Act 1974 (c.37) (UK).**
- **EN ISO 14121-1: 2007** 'Safety of machinery. Principles for risk assessment.
- **EN 745** - Agricultural Machinery - Rotary Mowers and Flail Mowers - Safety.
- **EN ISO 13857** - Safety of machinery: Safety distances to prevent hazard zones being reached by upper and lower limbs.
- EN ISO 13857:2008, EN ISO 4413:2010; EN ISO 4254-1:2015
- ISO 11684:2010; ISO 4254-13:2012

I certify on behalf of Major Equipment Int. Ltd., that this machine when properly installed and operated correctly, complies with all the essential Health & Safety requirements of all legislation referred to above.

Signature :



Managing Director

Date 11/05/2017

0. Introduction

0.1 - Introduction

The user of the mower (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 mower on the tractor.

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 mower. The user is responsible for ensuring that connection to the tractor and use of the mower comply 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 with your nearest dealer if in any doubt.

Note:

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 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. Please fill in your warranty registration form online as shown on the last page of this booklet.

0.2 - Symbols and Words used in this manual

The following symbols and words are used in the manual to call the reader’s attention to various levels of danger.



DANGER!!!

Warns of an imminent danger situation which, if not avoided, will cause death or serious personal injury.



WARNING!!!

Warns of a potential danger situation which, if not avoided, could cause death or serious personal injury, including dangers that occur when the shields are removed.



CAUTION

Warns of a potential danger situation which, if not avoided, could cause slight personal injuries or moderate wounds.



IMPORTANT

Symbol used to advise the user about procedures able to improve use of the mower and lengthen its life, preventing damage and optimising the job.



WARNING!!!

For explanatory purposes, some illustrations in this manual depict the mower or its parts with the protective guards or shields removed. Never ever use the mower in the absence of its shields or the safety protections listed in paragraph 1.4.



WARNING!!!

To prevent serious personal injury or death: avoid dangerous manoeuvres or maintenance operations; never operate or work on the implement without having read and become fully familiar with the contents of this manual.



IMPORTANT

References in 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 tractor's driving seat.

0.3 - Staff

Operator

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 operator must be familiar with the main hygiene and accident prevention regulations, and also the tractor on which the mower is mounted. He must be able carry out the tasks necessary for the functioning of the unit comprising the tractor and mower together and also the maintenance and everyday inspections. The operator must always use the machine with all the protective guards in place and in good condition.

Mechanical maintenance staff

This must be a qualified technician who is capable of working on all the mechanical parts.

0.4 - Technical assistance

In the event of faults or problems which require the assistance of a qualified technician, contact the manufacturer directly or your nearest dealer.

0.5 - Spare parts orders

To order spare parts, please refer to the "spare parts catalogue" and then contact the manufacturer directly or your nearest dealer.

0.6 - EC Declaration of conformity

All machines sold within the European Union are supplied with the EC Declaration of conformity. The owner of the machine is responsible for the safekeeping of the said declaration. The manufacturing company is not liable for the loss of the declaration and is not required to issue a copy.

1. Identification data

1.1 - Foreword

An exact description of the “machine model” and its “serial number” will ensure quick and pertinent answers from our Technical Assistance Service. Always exactly state the mower model in your possession together with its serial number when contacting our offices or your nearest dealer. We suggest you write the data pertaining to your mower in the following space.

1.2 - Identification data

Model No: _____

Serial No: _____

Date of Purchase: _____

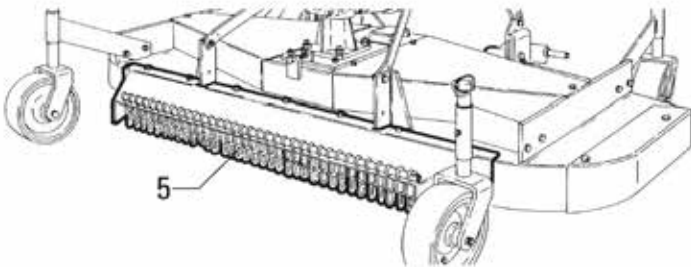
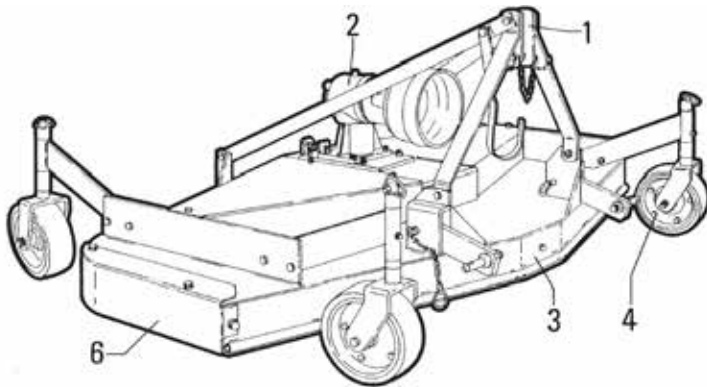
Dealer Name: _____

Dealer Telephone: _____

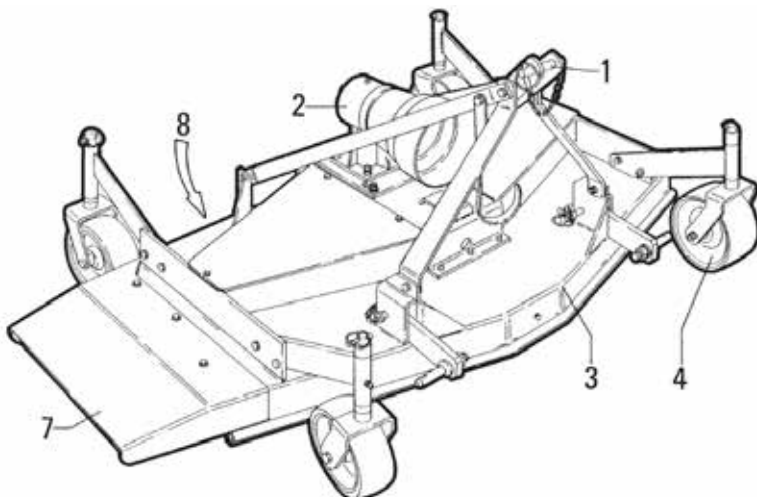
MAJOR EQUIPMENT INTL LTD BALLYHAUNIS, CO MAYO, IRELAND TEL: +353 (0) 9496 30572 EMAIL: info@major-equipment.com	CE 
MAJOR EQUIPMENT LTD (UK) MAJOR IND. ESTATE, HEYSHAM, LANCs, LA3 3JJ, UK TEL: +44 (0) 1524 850501 EMAIL: ukinfo@major-equipment.com	Serial Number/Seriennummer <input type="text"/>
MAJOR EQUIPMENT INTL LTD POSTBUS 29, NL-7700 AA DEDEMSVAART, NEDERLAND TEL: + 31 (0) 6389 19585 EMAIL: euinfo@major-equipment.com	Model/Modell <input type="text"/>
	Year of manufacture/Baujahr <input type="text"/>

1.3 - Main Parts

1.3.1 - Mower with rear discharge main parts



1.3.2 - Mower with side discharge main parts



- 1 - Three-point linkage connection
- 2 - Gearbox
- 3 - Body
- 4 - Castor wheels
- 5 - Rear discharge
- 6 - Side blanking plate
- 7 - Side discharge
- 8 - Rear blanking plate

1.3.3 - Machine description

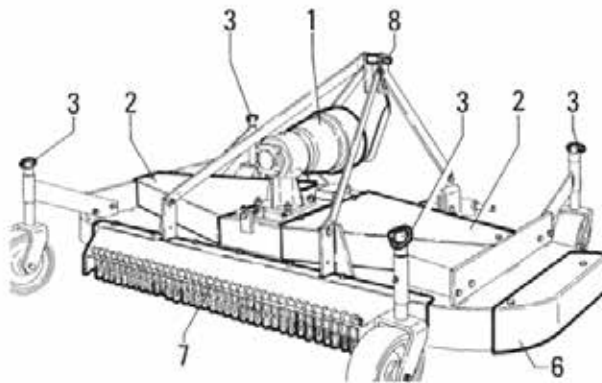
The main feature of this machine is its versatility, since the user (if in possession of the transformation kit) can modify the machine from the rear discharge version to the side discharge version and vice versa.



DANGER!!!

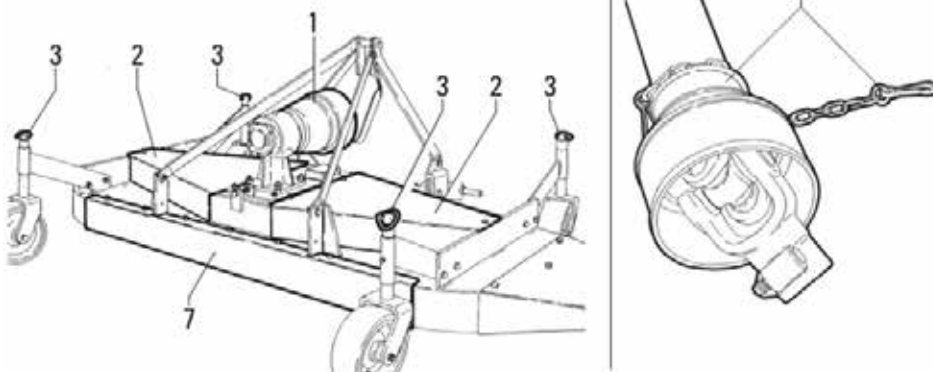
In compliance with the current provisions in force, your mower has been equipped with safety protections to safeguard the operator and any other people in the vicinity. Never ever tamper with the safety devices. Such action could cause serious injury to the operator and to others.

Rear discharge version



- 1 - PTO shaft guard.
- 2 - Drive belt guard.
- 3 - Snap pin.
- 5 - Driveline shield.
- 6 - Guard (only on the rear discharge version).
- 7 - Rear guards.
- 8 - Safety pin.

Side discharge version



1.5 - Work station

When working with the machine, the operator must only seat in the driving seat of the tractor used to tow the implement. No one else may approach the machine. Since objects thrown up by the machine may represent a hazard, the operator should always remain at a due distance (at least 50 metres - 160 feet) from passers-by, roads, animals etc. Leave the driver's position only after having:

- disengaged the power takeoff;
- inserted the brake;
- turned off the engine;
- removed the ignition key from the dashboard.

1.6 - Noise

Measurements of the noise issued by the machine indicate that the equivalent noise level is such as to maintain the daily level to which the operators are exposed within a value of less than 70 dBA.

This measurement was made with a sound level meter set at a distance of about 1.6 m from the machine and at a height of 2 m, operated (no-load) at a PTO rotation rate of 450 RPM on grassy land.

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. Also consult the prescriptions listed in the tractor use and maintenance manual.

1.7 - 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 m/ sec². to the operator's upper limbs and less than 0.5 m/sec². to the seated part of the operator's body. Consult the tractor manual for the vibrations transmitted by the tractor itself.

1.8 - Disclaimer

The mower 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 mower;
- use of the mower 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 contained in this manual;
- exceptional weather conditions.

1.9 - Applicable laws and regulations

The machine complies with the relevant safety standards in force.

1.10 - Residual risks

- Risk of severing. The rotating blades may cause serious injury to limbs.
- Risk of ejection of solid objects. The rotating blades may eject solid objects capable of hitting people, animals or anything else in the vicinity.
- Risk of entanglement. Clothes or limbs may become entangled in the rotating universal shaft causing serious damage or harm to the person involved.

1.11 - Designated use.

The machine is designed for use:

- outdoors, for cutting grass finely (e.g. for golf courses, football pitches, public gardens, lawns etc);
- grass has to be dry and not exceed 250-300mm (10" - 12") height.
- Any other use is strictly prohibited

1.12 - Environmental conditions

The machine is built to operate correctly in the following environmental conditions:

- dry ground and dry grass;
- minimum external temperature: -10°C (15°F);
- maximum external temperature: + 40°C (105°F)

To get the best cutting results though, it is advisable to work when the temperature is over 15°C (60°F).



IMPORTANT

The use of the finishing mower other than specified to points 1.11 and 1.12 is not allowed: otherwise the machine and its performance could be damaged. See also chapter 8.

1.13 - Lighting

The machine is not fitted with a lighting system so, to work at night, the user must arrange for the working area to be suitably lit. This lighting must not cause any hazardous situations.

2. Safety

2.1 - General safety regulations



DANGER!!!

The mower must only be used with a suitable tractor, see paragraph 4.2 and driven by an adequate driveline driven from 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. If the machine is used in the evening, follow the relevant instructions. Consult your dealer, the "Labour Health Service" or your nearest equivalent authority for information about the current safety provisions and specific regulations to comply with in order to ensure personal safety.

2.2 - Regulations for use of the driveline



DANGER!!!

The machine may be supplied with a driveline; the driveline is complete with shields able to ensure the operator's safety (see paragraph "1.4"). Keep the non-rotation 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 driveline 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 housings. Check that the retaining chains are correctly fixed to the tractor or mower in order to prevent the shields from turning together with the driveline.



DANGER!!!

The machine may be supplied with a driveline; the driveline is complete with shields able to ensure the operator's safety (see paragraph "1.4"). Keep the non-rotation 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 driveline 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 housings. Check that the retaining chains are correctly fixed to the tractor or mower in order to prevent the shields from turning together with the driveline.

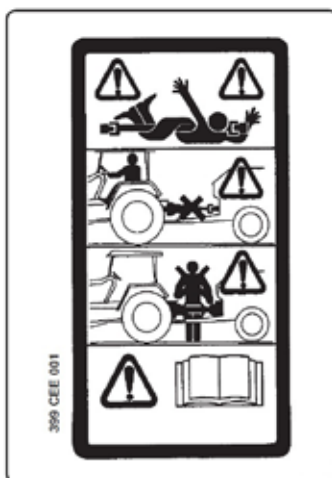


fig. 2.2.1



fig. 2.2.2

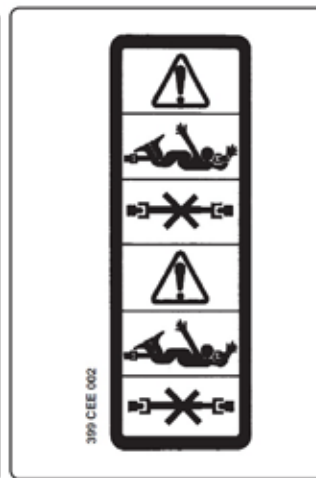


fig. 2.2.3



fig. 2.2.4

2.3 - Starting regulations



WARNING!!!

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.

Never allow inadequately trained personnel to use the implement. 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.

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. 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.



DANGER!!!

Never ever use the mower while under the influence of alcohol or the effect of medicines such as tranquillizers, sedatives, stimulants, drugs or any other substance as could slow or alter the reflexes or sight.

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.

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. Always check that children, adults and animals keep at an adequate safety distance from the mower when it is in use. 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 overturning. 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. 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.

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. 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 overgear 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.

Never smoke while refuelling.

Never refuel near smoldering, sparking material or open flames.



WARNING!!!

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. 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.

2.5 - Regulations for transit on public highways



WARNING!!!

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, 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. Never park the tractor and/or mower near crossroads, bends, level crossings or where the equipment could be a danger or obstruction to pedestrian traffic. Never drive on public highways when the implement or tractor are 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.

2.6 - Instruction for maintenance technicians



DANGER!!!

The implement must be stationary and the tractor PTO disengaged before any work is carried out on the implement.



WARNING!!!

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 specialized personnel must be allowed to service the implement. Contact your nearest dealer when maintenance work is required. 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 authorized by the competent authorities.

Never use compressed air or highly pressurized water to clean the implement. When this is absolutely inevitable, protect the eyes using goggles with side guards and use the lowest possible pressure. 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 paragraph 7.9.



DANGER!!!

Correctly remount all guards and shields that were removed during the maintenance and repair operations.

2.7 - Test regulations

WARNING!!!



Always operate the machine outdoors. If the machine connected to the tractor must inevitably be started in a closed room, eg. during tests after maintenance, always ensure that there is adequate ventilation to prevent harmful exhaust gas from accumulating.

Carry out various manoeuvres assisted by specialized personnel in order to simulate the different work conditions and acquire the necessary familiarity with the implement.

DANGER!!!



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 at even notable distances. Always operate within a protective cage, or at least near a solid wall.

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. Always disengage the PTO before driving the tractor to transport the implement from one place to the other.

2.8 - Warning and danger labels

DANGER!!!



Comply with the warnings on the stickers. Failure to comply with the given instructions could cause death or serious personal injury. 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).

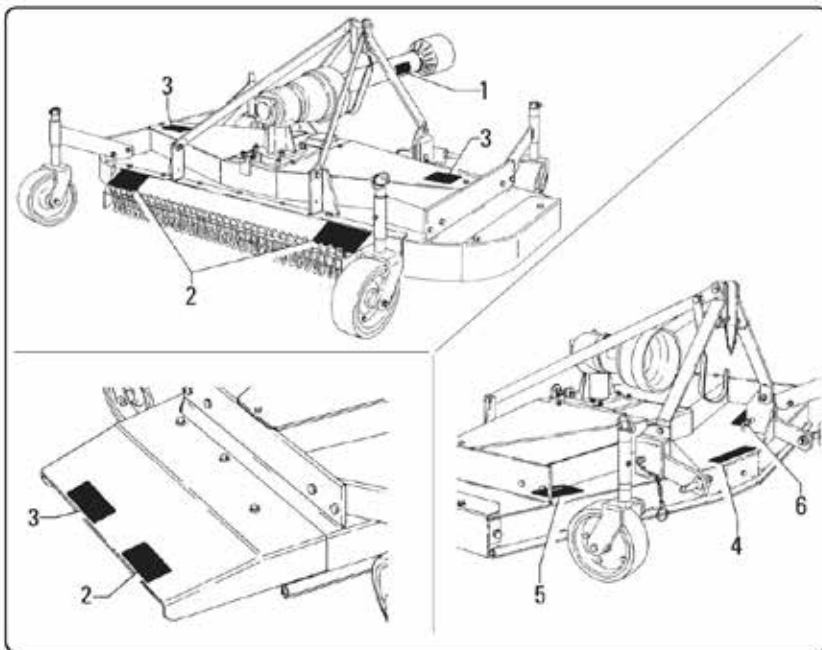


fig. 2.8.1



fig. 2.8.2

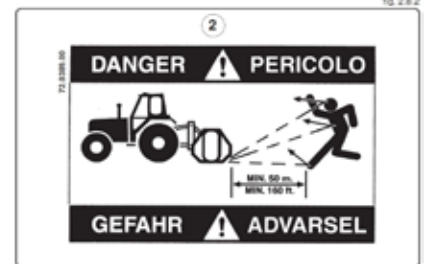


fig. 2.8.3

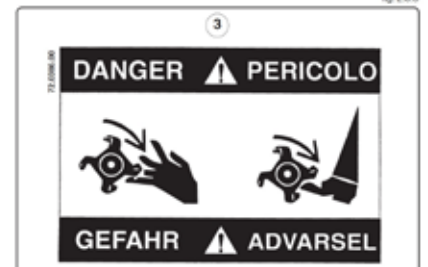


fig. 2.8.4

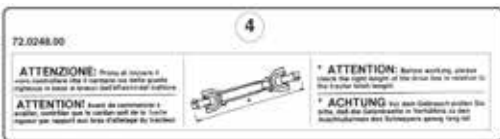


fig. 2.8.5



fig. 2.8.6



fig. 2.8.7

3. Testing and delivery of the mower

3.1 - Testing

All mowers are tested in our plants to ensure that all moving parts operate correctly.

3.2 - Delivery of the machine

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 machine is usually delivered partially disassembled and wrapped in a heat-sealed film. The disassembled parts are contained inside the packing, attached firmly to the machine.

3.3 - Hoisting and handling the packed machine



DANGER!!!

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

3.3.1 - Hoisting with a fork lift truck

Sometimes the machines are delivered on wooden pallets. In this case they must be hoisted using a fork lift truck.



DANGER!!!

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 3.3.4. 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.

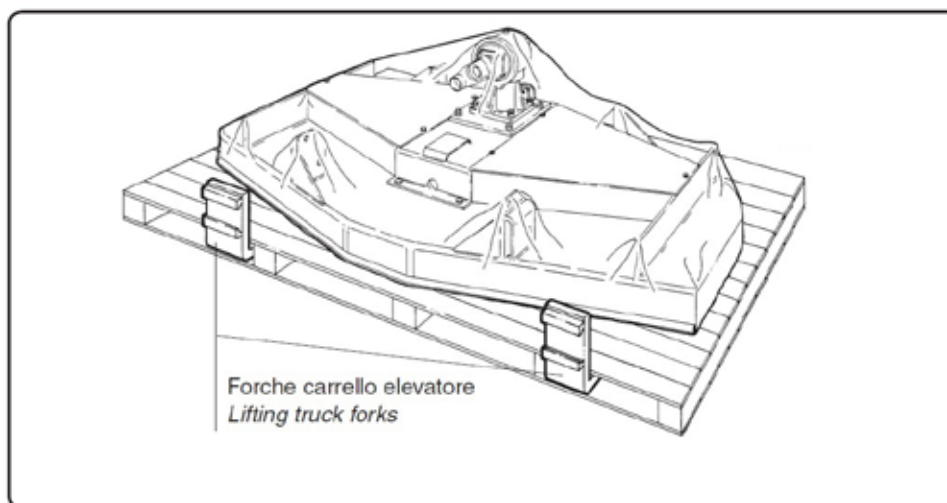


fig. 3.3.1

3.3.2 - Hoisting with a crane

DANGER!!!



There is a small eyelet in the upper part of the machine to facilitate its hoisting (bracket fig. 3.3.2). When hoisting the machine, only hook up to this eyelet, not any other part. Use the bracket "1" (fig. 3.3.2) to hoist together with hoisting means whose capacity is greater than the load to be hoist (see table 3.3.4).

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.

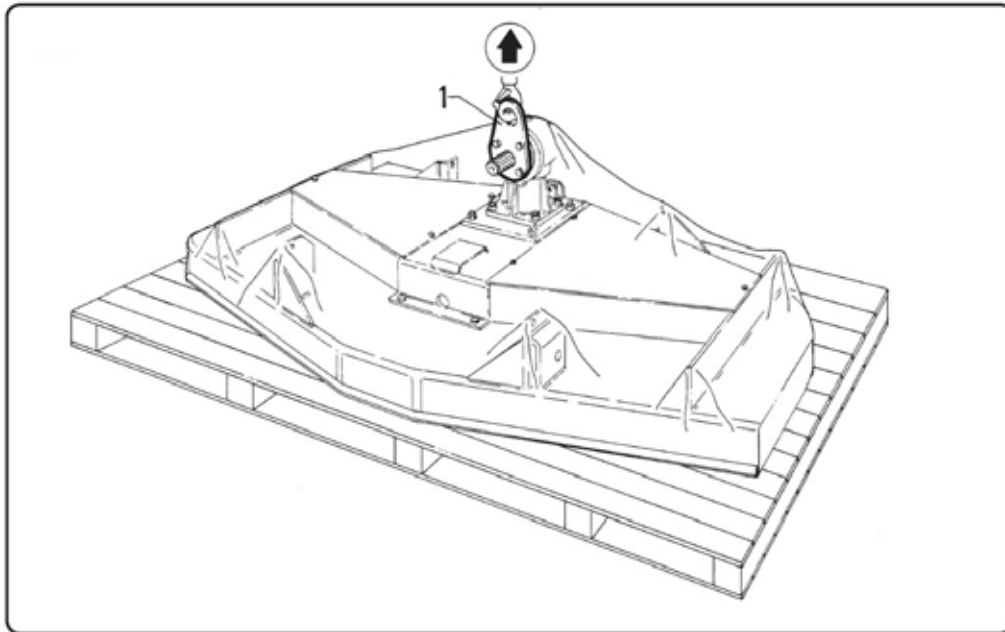


fig. 3.3.2

3.3.3 - Size and weight of packed machine

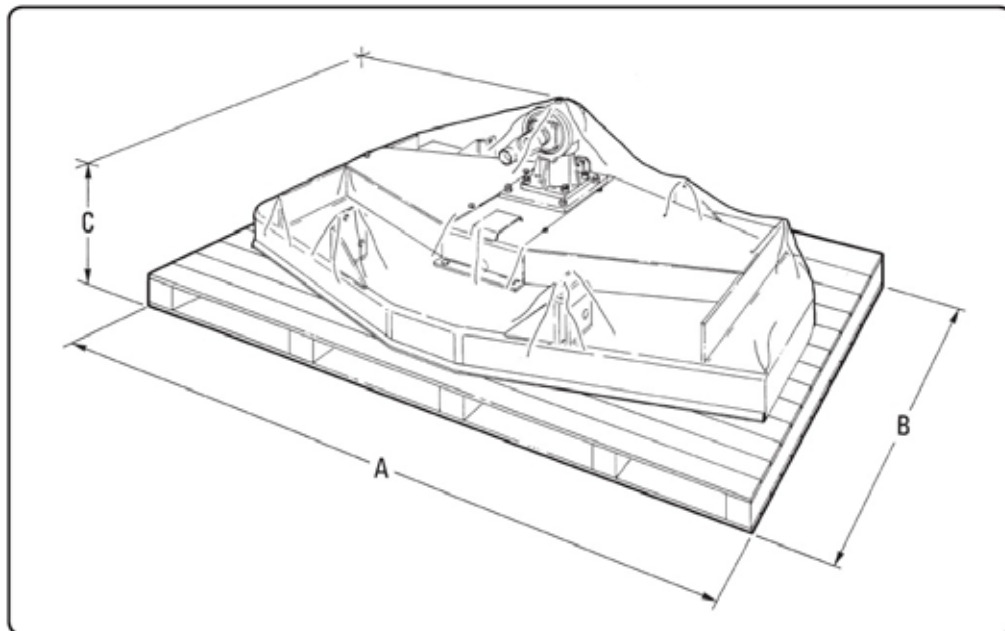


fig. 3.3.3

Table 3.3.4

<i>Model</i>	A. (max.)		B (max.)		C (max.)		Weight		
	mm	inch	mm	inch	mm	inch	kg	lbs	
MR	120	1240	49	675	27	470	19	180	392
	135	1380	55	730	29	470	19	190	414
	150	1540	61	805	32	470	19	210	458
	180	1840	73	900	36	470	19	245	534
	210	2140	84	1015	40	470	19	260	567
MRP1	235	2370	94	1020	40	530	21	310	680

4. Assembling the mower and hitching to the tractor

4.1 - Assembling the mower



DANGER!!!

Hoist and handle all the heavy parts with a hoisting means 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 dismounted and then remounted, it must be tested to check the new part has been mounted correctly (see part 2.7).



WARNING!!!




The screws must be tightened according to the table which follows. An incorrect tightening torque may result in the screws loosening and consequently causing damage or in the loss of parts of the machine which could cause injury to people in the vicinity or damage to the machine itself.

Proper torque for fasteners The charts below list correct tightening torque for fasteners (bolts, nuts, etc.). When bolts are to be tightened or replaced, refer to the charts to determine the grade of bolt and the proper torque.

Standard torque data for metric nuts and bolts

Nm = Recommended torque in Newton/ meters

Fp = Recommended torque in foot pounds

<i>Bolt diameter</i>	 Class 5.8		 Class 8.8		 Class 10.9	
	<i>Millimeters</i>	Nm	Fp	Nm	Fp	Nm
6	6,5	6	10	9	15	13
8	15,5	14	24,5	23	35	31
10	32	28	50	45	70	61
12	53	49	85	78	119	106
14	84	78	135	125	190	170
16	128	121	205	194	288	263
18	177	168	283	268	398	364
20	250	237	400	378	562	515
22	332	323	532	504	748	702
24	432	409	691	654	971	890

4.1.1 - Supply contents

The mower may be supplied in a variety of ways:

- 1) mower with rear discharge;
- 2) mower with side discharge;
- 3) mower with "mulching" kit;
- 4) mower with rear discharge and side discharge transformation kit;
- 5) mower with side discharge and rear discharge transformation kit;
- 6) mower with rear or side discharge and mulching transformation kit;
- 7) mower-machine base and transformation kit a rear and /or side discharge and/or for mulching model.

In addition to the above, the mower can be supplied with:

- 3 point linkage - cat. 1 standard
- 3 point linkage for front mount
- quick linkage for front mount.

Note

The only exception to the above is the MRP1 235 model which is only available with the standard 3 point linkage (i.e. to be attached to the rear of the tractor) and with rear discharge only.

Important

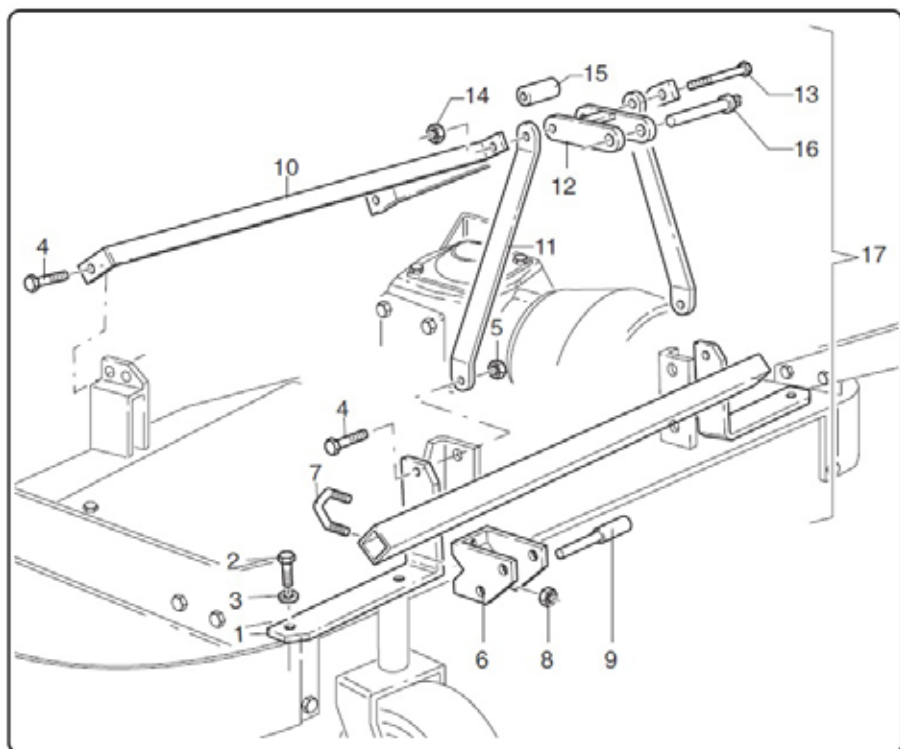
The user is responsible for the following:

- the assembly of the separate pieces;
- connecting the machine to the tractor;
- transforming the machine from rear to side discharge versions or vice versa.

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

The following notes (up to section 4.1.12) concern the MR 120, 150 and 180 models only.

4.1.2 - Mounting a standard front linkage



- 1 - Bracket
- 2 - M10x35 bolt
- 3 - M10 washer
- 4 - M12x40 bolt
- 5 - M12 locknut
- 6 - Bracket
- 7 - U bolt
- 8 - M12 locknut
- 9 - Pin
- 10 - Tie rod
- 11 - Tie rod
- 12 - Linkage
- 13 - M12x120 bolt
- 14 - M12 locknut
- 15 - Spacer
- 16 - Pin
- 17 - Front linkage

Mount the standard front linkage with its relevant screws, washers, nuts and pins.

fig. 4.1.1

4.1.3 - Mounting a quick front linkage

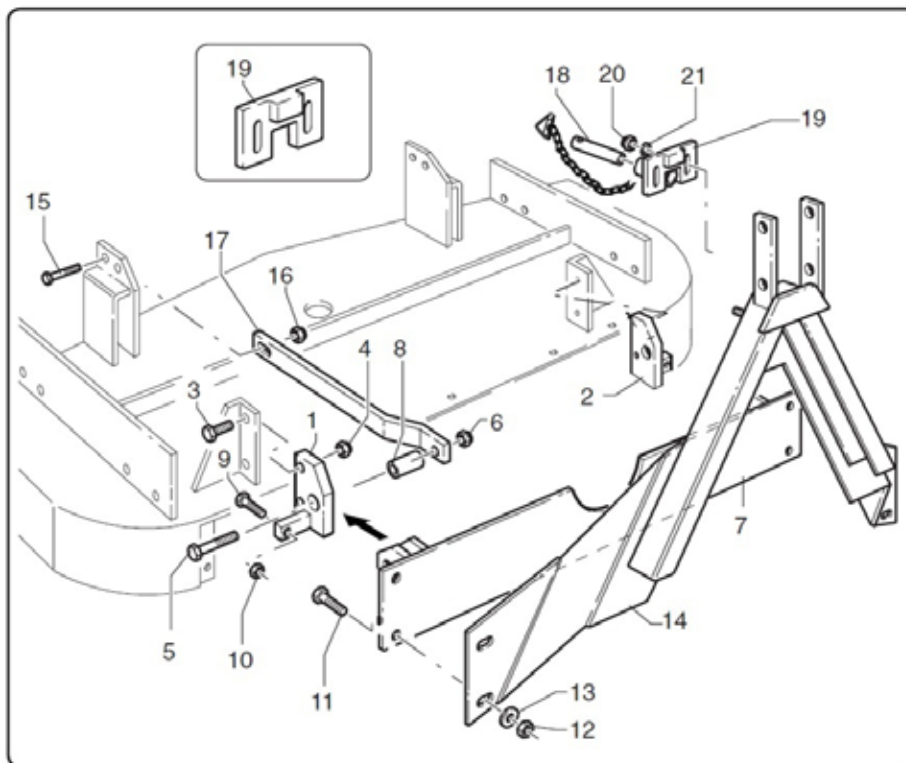


fig. 4.1.2

- 1 - Bracket
- 2 - Bracket
- 3 - M12x55 bolt
- 4 - M12 locknut
- 5 - M16x50 bolt
- 6 - M16 locknut
- 7 - Bracket
- 8 - Spacer
- 9 - M16x55 bolt
- 10 - M16 locknut
- 11 - M12x30 bolt
- 12 - M12 locknut
- 13 - Washer
- 14 - Linkage
- 15 - M12x35 bolt
- 16 - Tie rod
- 17 - M12 locknut
- 18 - Pin
- 19 - Blocking mechanism
- 20 - M8 locknut
- 21 - M8 washer

Mount the quick front linkage with its relevant screws, washers, nuts and pins.

4.1.4 - Assembling the mower with rear discharge

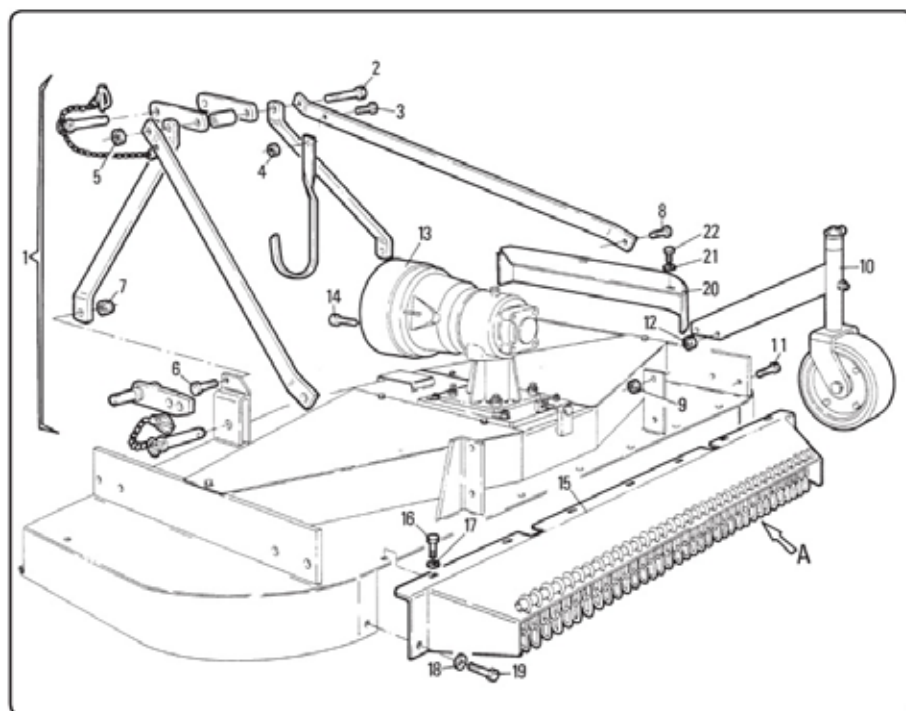


fig. 4.1.3

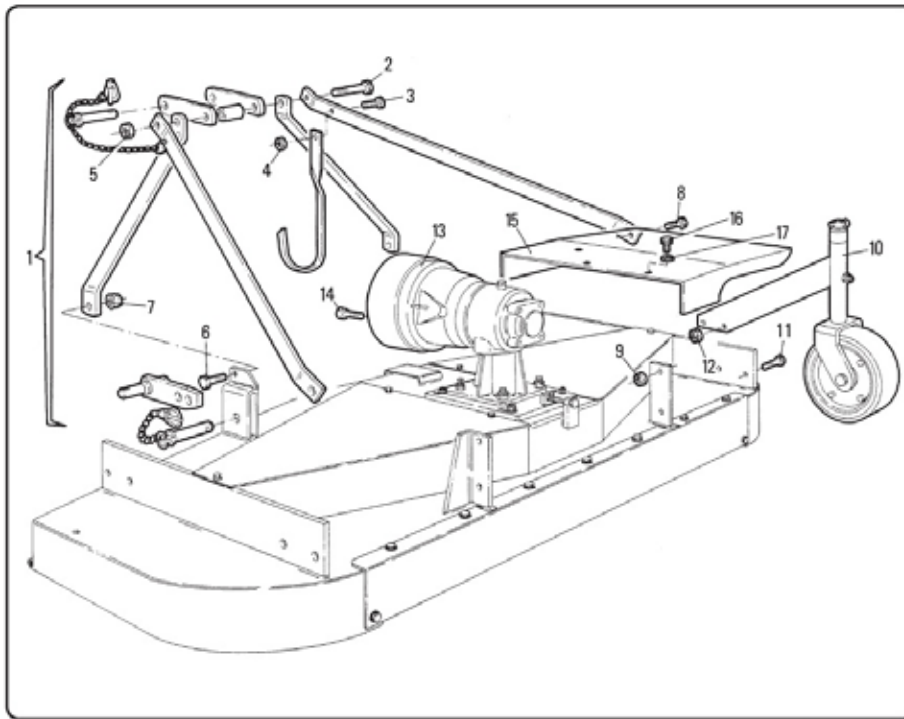
- 1 - Three-point linkage
- 2 - M12 x 20 bolt
- 3 - M10 x 30 bolt
- 4 - M10 nut
- 5 - M12 locknut
- 6 - M12 x 35 bolt
- 7 - M12 locknut
- 8 - M12 x 35 bolt
- 9 - M12 locknut
- 10 - Wheel with support
- 11 - M12 x 40 sbolt
- 12 - M12 locknut
- 13 - Guard
- 14 - M8 x 20 bolt
- 15 - Conveyor
- 16 - M10 x 20 bolt
- 17 - M10 washer
- 18 - M10 washer
- 19 - M10 x 20 bolt
- 20 - Guard
- 21 - M10 washer
- 22 - M10 x 20 bolt



WARNING!!! Make sure all the guard chains "A" are mounted in the correct position.

- Mount the three-point linkage "1" on the machine base using the relative screws, nuts and pins.
- Mount the guard 13 using the screws "14".
- Mount the four wheels "10" using the screws "11" and the nuts "12".
- Mount the conveyor "15" using the screws "16" and "19" and the washers "17" and "18".
- Mount the guard "20" using the screws "22" and the washers "21".

4.1.5 - Assembling the mower with side discharge

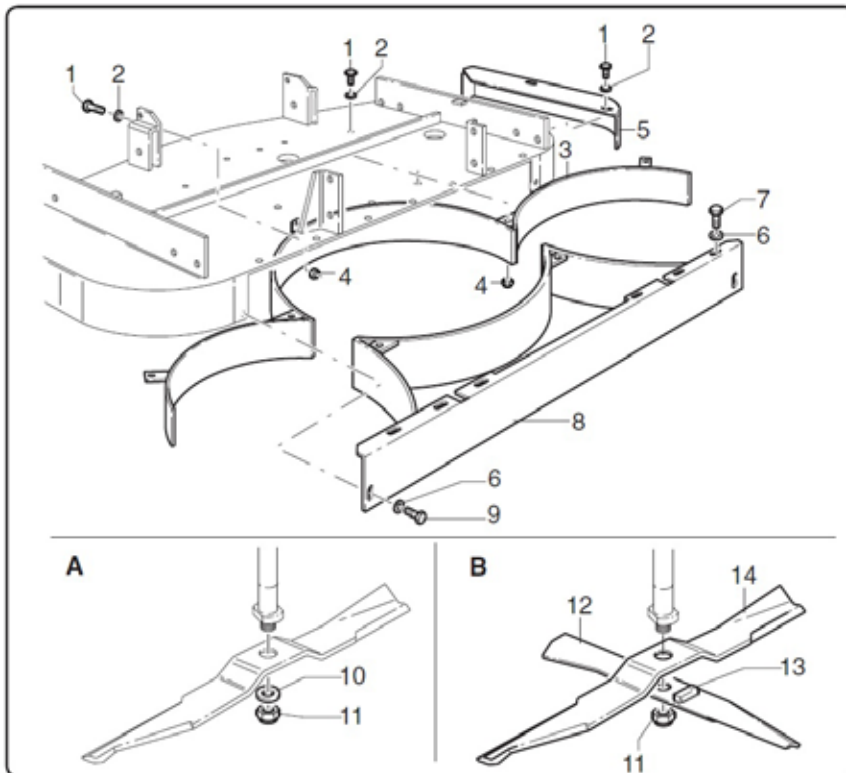


- 1 - Three-point linkage
- 2 - M12 x 20 bolt
- 3 - M10 x 30 bolt
- 4 - M10 nut
- 5 - M12 nut - auto-lock.
- 6 - M12 x 35 bolt
- 7 - M12 nut - auto-lock.
- 8 - M12 x 35 bolt
- 9 - M12 nut - auto-lock.
- 10 - Wheel with support
- 11 - M12 x 40 bolt
- 12 - M12 nut - auto-lock.
- 13 - Guard
- 14 - M8 x 20 bolt
- 15 - Conveyor
- 16 - M10 x 20 bolt
- 17 - M10 washer

fig. 4.1.4

- Mount the three-point linkage "1" on the machine base using the relative screws, nuts and pins.
- Mount the guard "13" using the screws "14".
- Mount the four wheels "10" using the screws "11" and the nuts "12".
- Mount the conveyor "15" using the screws "16" and the washers "17".

4.1.6 - Assembling the mower with mulching kit



- 1 - M10x20 bolt
- 2 - M10 washer
- 3 - Baffle
- 4 - Nut
- 5 - Guard
- 6 - M10 washer
- 7 - M10x20 bolt
- 8 - Rear guard
- 9 - M10x25 bolt

- Mount the baffle "3" with its relevant screws, washer and nuts.
- Mount the closing "5" with its relevant screws and washers.
- Mount the guard "20" with its relevant screws and washers.

fig. 4.1.5

- Unscrew the nut "11", remove the washer "10" (fig. 4.1.5 "A").
- Mount the mulching blade, making sure that the capstan striker plate "13" comes into contact with the blade "14".
- Screw the nut "11" back on (fig. 4.1.5 "B").

4.1.7 - Transforming the rear discharge mower into the side discharge version

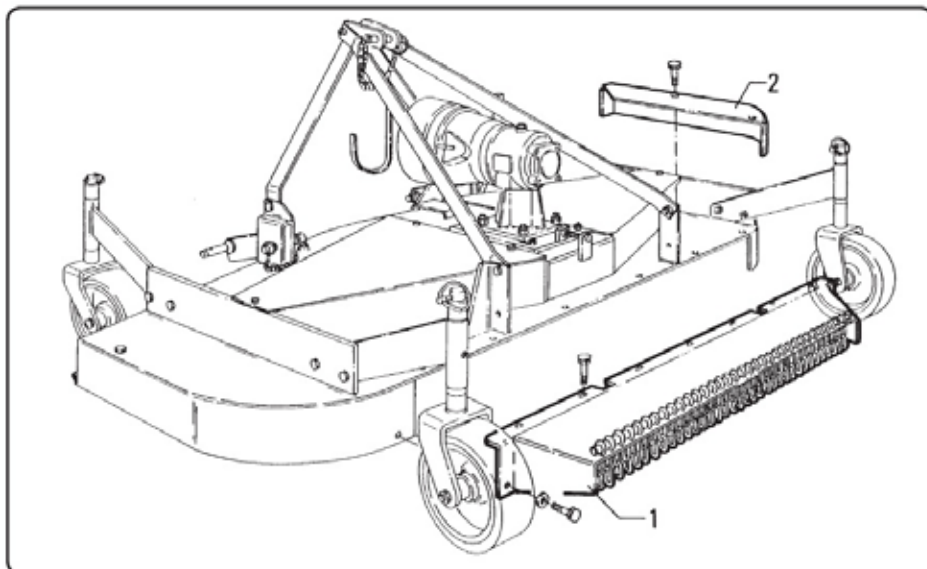


fig. 4.1.6

- Dismount the rear conveyor "1";
- Dismount the guard "2".

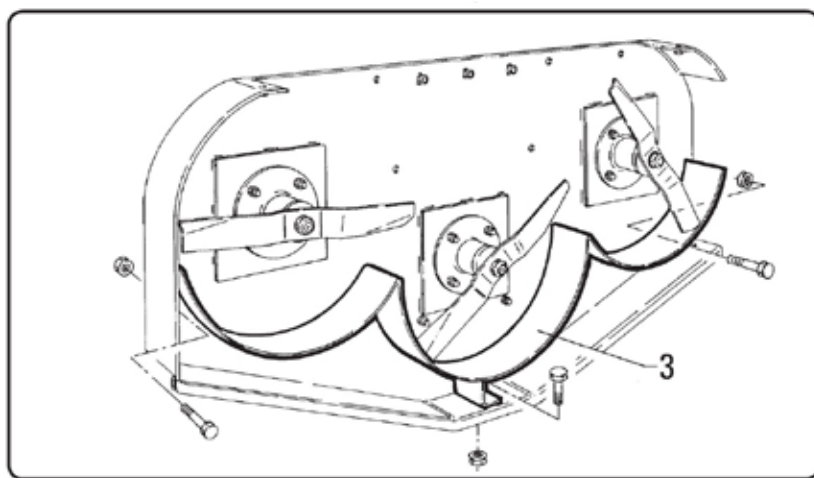


fig. 4.1.7

- Dismount the internal conveyor "3".

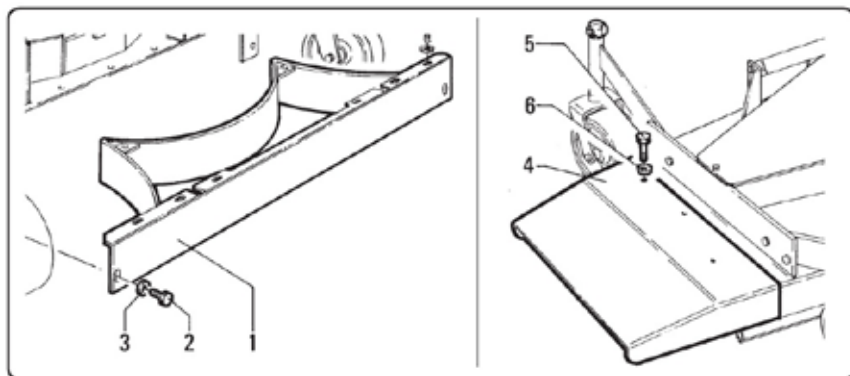


fig. 4.1.8

- Mount the rear guard "1" using the screws "2" and the washers "3".
- Mount the side conveyor "4" using the screws "5" and the washers "6".

4.1.8 - Transforming the side discharge mower into the rear discharge version

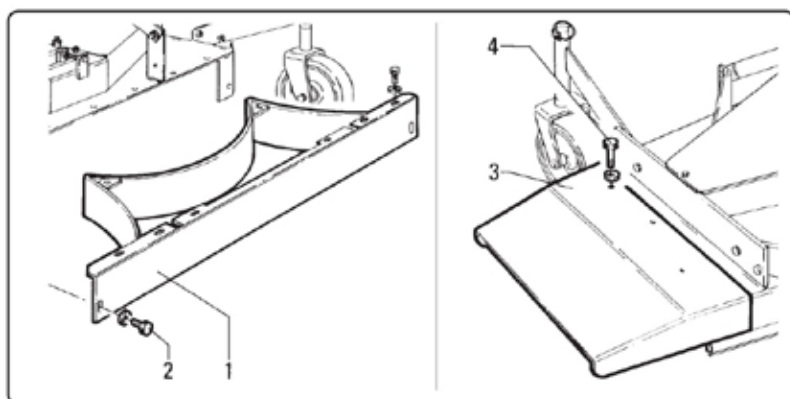


fig. 4.1.9

- Unscrew screws "2" and dismount the rear guard "1";
- unscrew screws "4" to dismount the side guard "3".

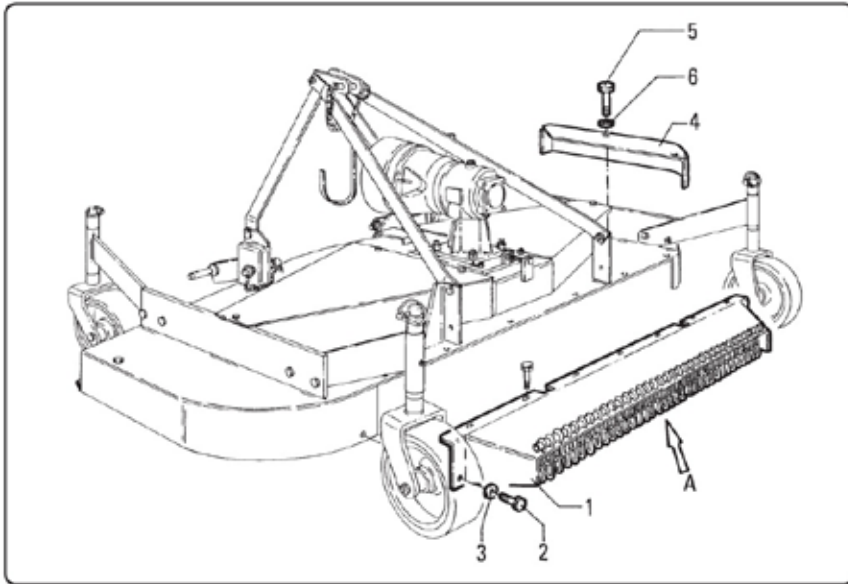


fig. 4.1.10

- Mount the rear conveyor "1" using the bolts "2" (M10 x 20) and the washers "3" (M10).
- Mount the side guard "4" using the bolts "5" (M10 x 20) and the washers "6" (M10).



WARNING!!!
Make sure all the guard chains "A" are mounted in the correct position.

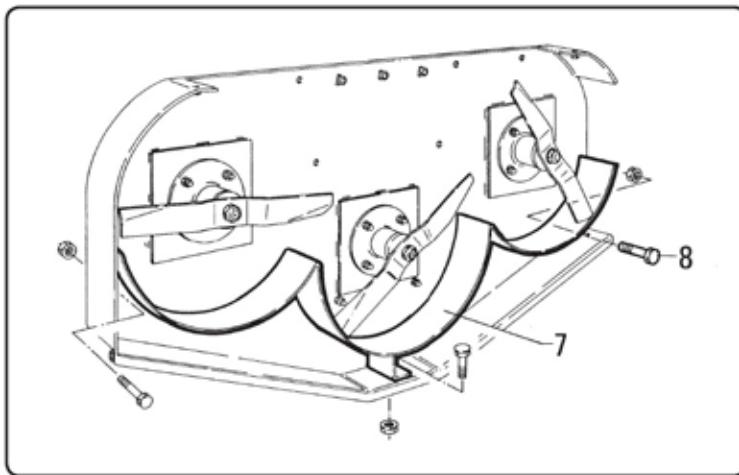


fig. 4.1.11

- Mount the conveyor "7" using the bolts "8".

4.1.9 - Transforming the mower from rear discharge to mulching

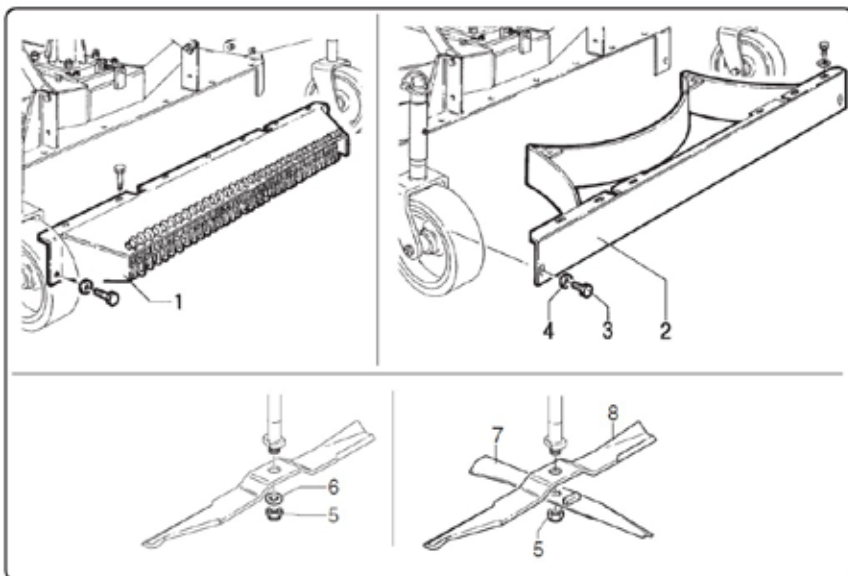


fig. 4.1.12

- Remove the rear conveyor "1", and mount the rear guard "2" using the M10x25 bolts "3" and the washers "4" M10.
- Unscrew the nut "5", and remove the washer "6".
- Mount the mulching blade "7", making sure that the capstan striker plate comes into contact with the blade "8".
- Screw the nut "5" back on.

4.1.10 - Transforming the mower from mulching to rear discharge

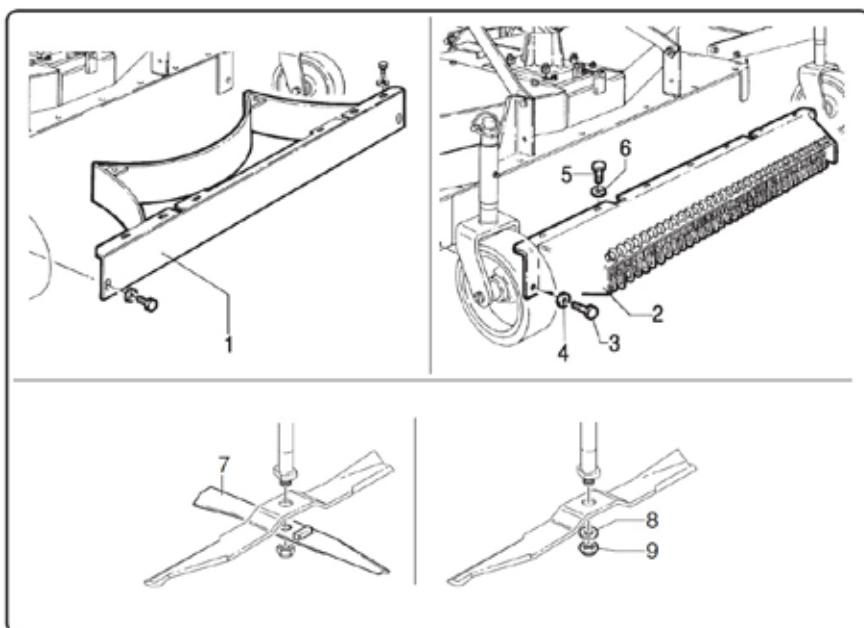


fig. 4.1.13

- Remove the guard "1".
- Mount the conveyor "2" using the M10x20 screws "3" and the Ø 10 washers "4"; the M10x20 screws "5" and the Ø 10 washers "6".
- Remove the mulching blade "7".
- Mount the Ø 18 washer "8" and screw the nut "9" back on.

4.1.11 - Transforming the mower from lateral discharge to mulching

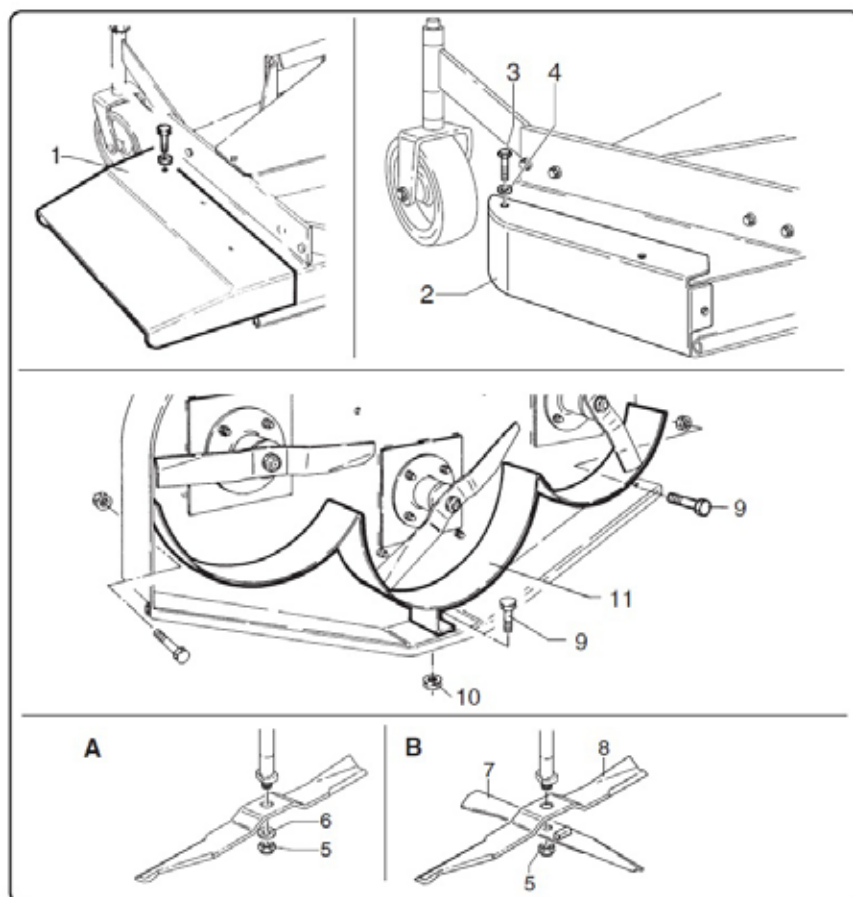


fig. 4.1.14

- Remove the lateral conveyor "1" and mount the guard "2" using the M10x20 screws "3" and the Ø 10 washers "4".
- Mount the conveyor "11" using the M10x20 screws "9", the washers and the nuts M10x1,5 nuts "10".
- Unscrew the nut "5", and remove the washer "6".
- Mount the mulching blade "7", making sure that the capstan striker plate comes into contact with the blade "8".
- Screw the nut "5" back on.

4.1.12 - Transforming the mower from mulching to lateral discharge

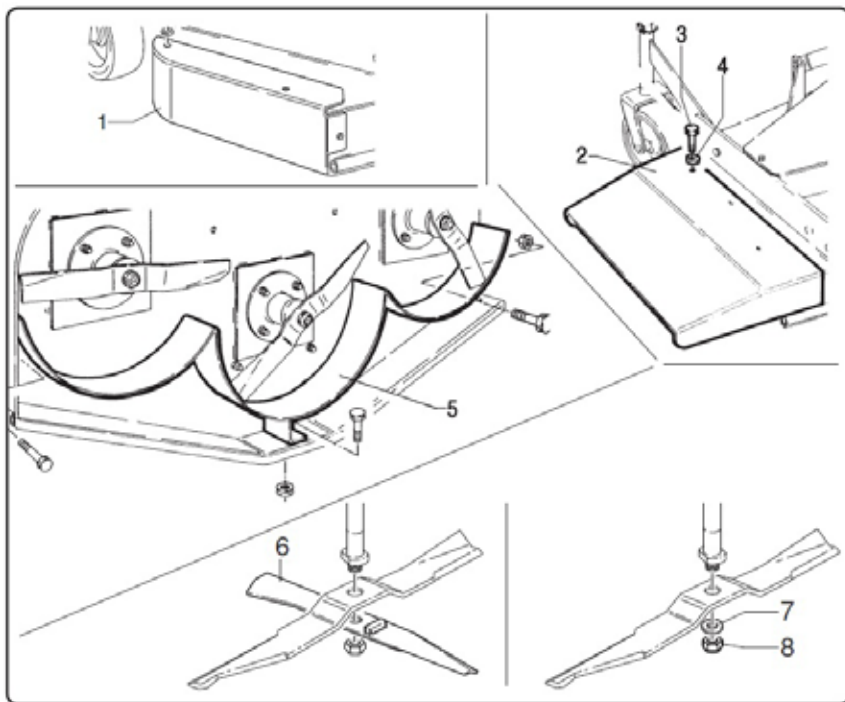


fig. 4.1.15

- Remove the lateral guard "1".
- Mount the lateral conveyor "2" using the M10x20 screws "3" and the 10 Ø washers "4".
- Remove the conveyor "5".
- Remove the mulching blade "6".
- Mount the Ø 18 washer "7" back on.
- Screw the nut "8" back on.

4.2 - Hitching the mower to the tractor

DANGER!!!



Check that all the guards and shields listed in paragraph 1.4 are installed and efficient. Always operate on a flat and levelled surface when hitching the implement to the tractor. This will prevent dangerous movements.

WARNING!!!



Keep the hands and feet well away from the knives when hitching the mower to the tractor. Never allow anyone to stand between the tractor and the mower.

WARNING!!!



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 paragraph 6.1.
- Maximum tractor power rating. Consult the values in the "Maximum power" column in paragraph 6.1.
- PTO speed. Consult the values in the "PTO speed" column in paragraph 6.1. when choosing the work speed. The user shall ensure that the implement is fit for use with the tractor in his possession.

CAUTION



Prevent damage to the gears by checking the level of lubricant in the gearbox before using the mower. Top up with oil of the same type if necessary. Check that the rotors supports have been greased. Consult paragraph 7.10 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 paragraph 7.8.

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.

- Reverse the tractor towards the mower, aligning the tractor lift links with the two side coupling pins "1" fig. 4.2.1.

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

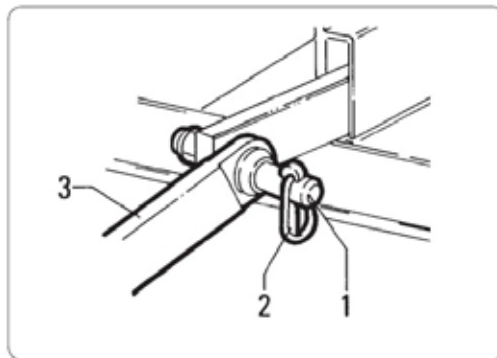


fig. 4.2.1

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

- Fix them in place by means of the relative safety pins "2" fig. 4.2.1.

- Fix the upper rod "12" fig. 4.2.2 of the three-point hitch "11" and adjust it until the PTO of the implement is parallel to the ground.

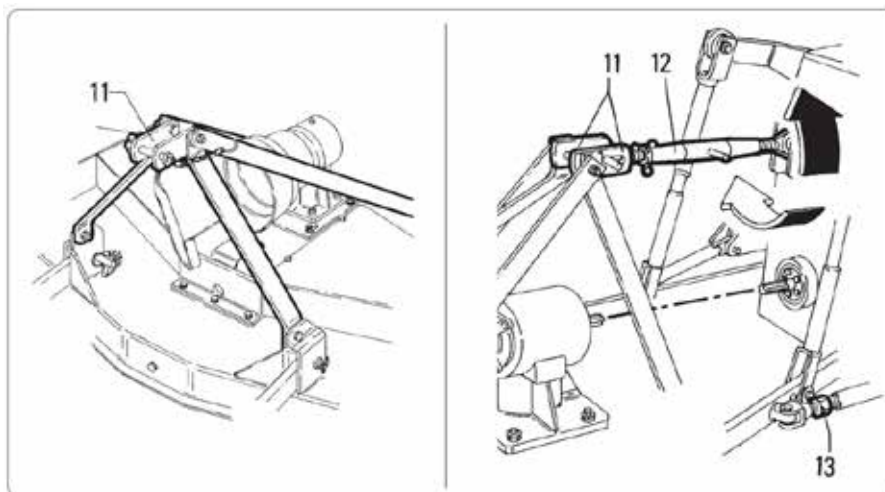


fig. 4.2.2

- If used on uneven land, fix rod "12" into the oval hole.

- Start the tractor engine and lift the mower from the ground. Now switch off the tractor engine.

- Operate lift link rod "13" to prevent excessive oscillations to the side.

Oscillation of about 50 mm each side (2 inches) is recommended.

- Level the mower at the sides by adjusting the tractor lift links.

The knives must be at the same distance from the ground on both sides of the implement.

- Mount the driveline, checking that it correctly meshes at both ends.

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 driveline is the correct length fig. 4.2.3.

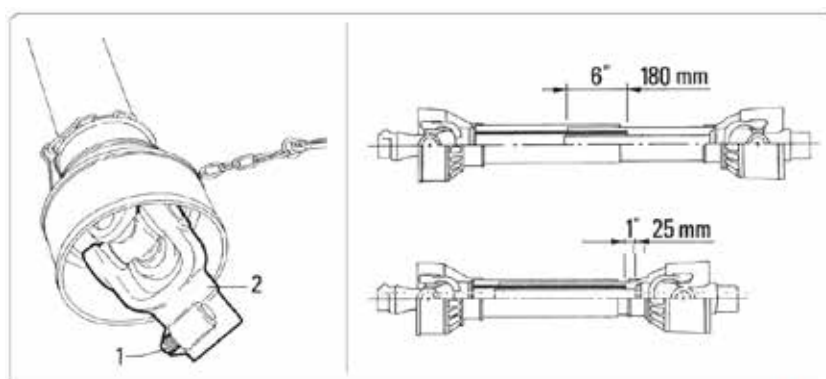


fig. 4.2.3

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. See fig. 4.2.3. These are the correct regulations for safe working conditions.



DANGER!!!

Always couple the two end forks of the driveline and check that they are perfectly locked in place. To achieve this condition, completely insert the pins and safety bolts “1” fig. 4.2.3 into the relative grooves in the PTO shafts on both the tractor and mower sides. An unlocked shaft could slip out of position, causing notable mechanical damage and serious injury to anyone near.

4.3 - How to shorten the PTO shaft

After the mower has been hitched to the three-point coupling of the tractor, it should be lifted and lowered to check that the driveline is the correct length. If the driveline is too short and tends to slip out of place, it must be replaced with a longer one.



CAUTION

Contact your nearest dealer or a specialized retail outlet if the driveline must be replaced with a longer one, since this must belong to the same power category and possess the same characteristics. An unsuitable driveline could easily break.

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

- Position the mower at the minimum distance from the tractor, clamp it, turn off the tractor and remove the key from the ignition.
- Separate the two halves of the Driveline. Insert the female part into the tractor pto and the male part into the mower PTO, checking that the position is correct by means of the fixing pins.
- Near the two halves of the driveline together, keeping them parallel.
- Using a felt tip pen, mark the place where the two halves must be shortened, measuring 25 mm from the beginning of each half, as shown in fig. 4.3.1.
- First cut shield “1” and, use part “2” as a reference to cut the splined shaft.

Proceed in the same way for the second half.

- Trim and chamfer the two cut ends of the driveline and clean off all swarf and shavings.
- Grease the two profiles and join the two halves of the driveline together again.
- Mount the driveline and check that its length is correct by lifting and lowering the machine.

The shaft must not reach the end of the tube or project from this. It is particularly essential to comply with the previously indicated values (25 and 180 mm).

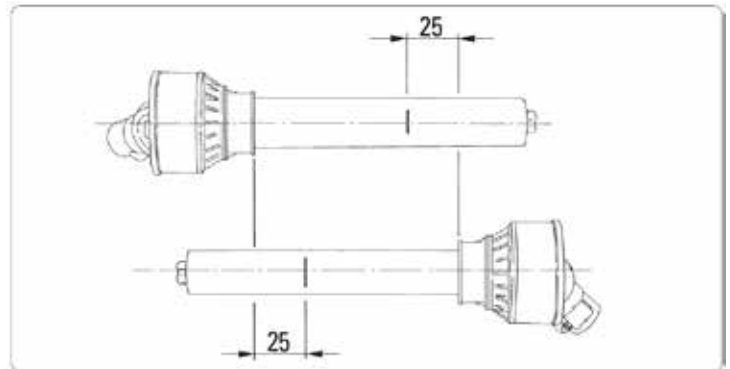


fig. 4.3.1

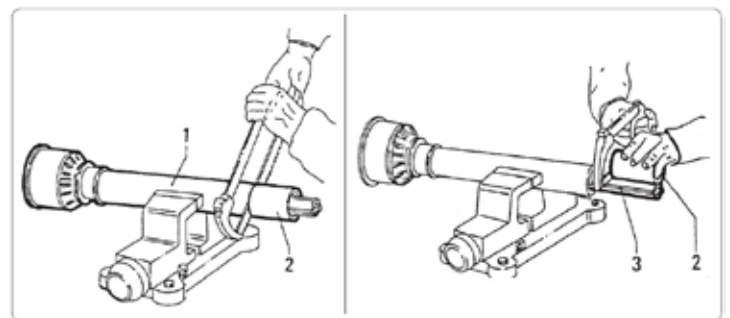


fig. 4.3.2

5. Use of the mower

5.1 - Driving on the roads



WARNING!!!

When driving on public roads with the mower 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 mower should be kept completely lifted with the PTO disengaged.



DANGER!!!

No one must be allowed to lean against and/or climb on to the mower during either work or transport.

5.2 - Preparing the mower for work



WARNING!!!

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 table 6.1).

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 the instructions in paragraph 5.2 in order to prevent early faults and damage to the implement.

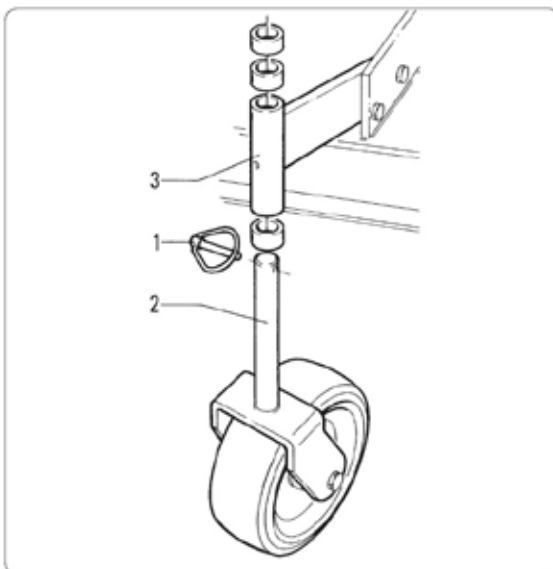


DANGER!!!

Every time the mower 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 cutting height is regulated by the four wheels. All four wheels must be adjusted in the same way so that the machine will cut the grass uniformly and will not be damaged.

5.2.1 - Adjusting the cutting height



To alter the cutting height, proceed as follows:

- remove the split pin "1";
 - slide out the wheel axle "2";
 - slide the spacers supplied with each wheel or parts of these spacers onto the wheel axis "2" according to the height required.
 - Mount the wheel axis "2" onto the wheel support "3", slide any remaining spacers on and lock them in place with the split pins 1 (see fig. 5.2.1). The spacers are all different-sized to enable the height to be altered as accurately as possible.
- The more spacers are placed below the wheel support "3", the further away the blades will be from the ground (until reaching the maximum cutting height). The more spacers are placed on the wheel support "3", the closer the blades will be to the ground (until reaching the minimum cutting height).

fig. 5.2.1



CAUTION

Always check that the driveline is unable to touch the implement when the mower is raised from the ground.

5.3 - Use of the mower



DANGER!!!

Before working always check that all the safety shields listed in paragraph 1.4 are installed, correctly mounted and efficient. If necessary, stop the mower 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 center if necessary.

Always make sure to check that there are no adults, children or animals in the vicinity before beginning work with the mower.

Always check that the work area is free from any objects that could be hit by the knives and ejected from the mower at great speed.

Check that no one moves into the field of action of the machine and always operate at least 50m (10 ft) away roads, built-up areas or places liable to be frequented by people.

Always become familiar with mower use before working with the implement.

Make sure that you know how to quickly stop the work operations.

Lower the machine until the four wheels are resting on the ground.

If any further adjustments are necessary, carry out the work as described in subparagraph 5.2.1.

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

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).



IMPORTANT

The cutting finish will be better if the tractor travels slowly while operating. 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.



DANGER!!!

Every time the equipment needs adjusting, the procedure must be as follows:

- disengage the power takeoff;
- apply the 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.

Begin work by starting slowly, then increase the advancement speed until reaching the desired value.



CAUTION

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 250 mm from the ground with the PTO engaged or the driveline could break and risk injury to the operator. The maximum tilt the driveline can bear with the PTO engaged is 20° (see fig. 5.3.1).

A greater inclination may cause strong vibrations and/or breaks.

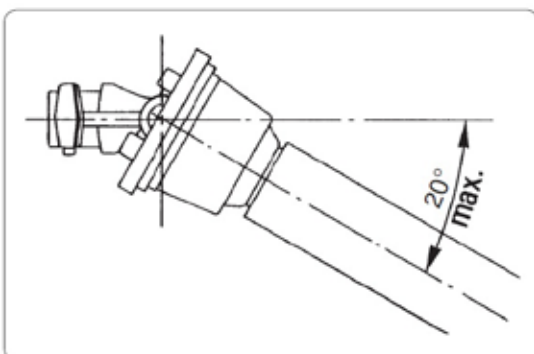


fig. 5.3.1



DANGER!!!

It is strictly forbidden to lean on and/or climb on to the mower during the work or transport phases.
The mower is an implement. It is NOT designed to carry persons or property.

5.4 - 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 mower on the ground.
- Switch off the tractor engine.
- Remove the ignition key from the dashboard.
- Remove the driveline.
- Block the mower's wheels with wedges or other suitable means.
- Detach the implement from the tractor by disconnecting the three-point hitch.

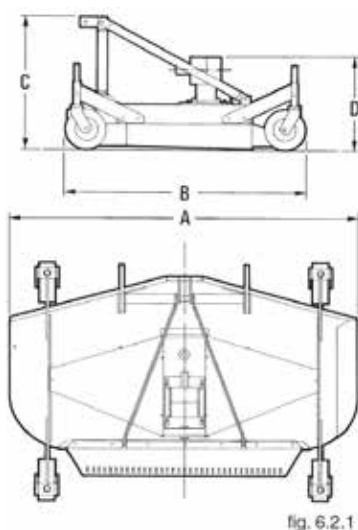
6. Technical specification

6.1 - Technical data

<i>Model</i>	<i>WORKING WIDTH</i>		<i>HP</i>		<i>P.T.O. speed</i> R.P.M.	<i>ROTOR SPEED</i> R.P.M.	<i>QTY</i> <i>BLADES</i>	
	(mm)	(inch)	Med.	Max.				
MR	120	1200	47	12-20	40	540	3250	3
	135	1350	53	15-23	40	540	3050	3
	150	1500	59	15-30	40	540	2590	3
	180	1800	71	20-30	40	540	2240	3
	210	2110	83	25-35	40	540	2000	3
MRP1	235	2330	92	30-40	40	540	2720	5

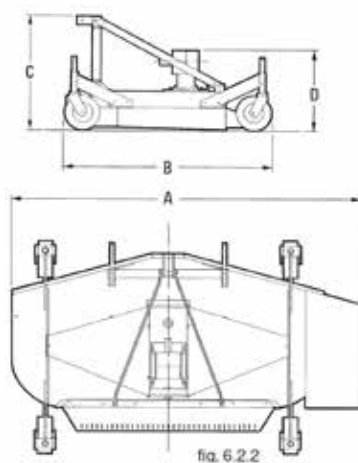
6.2 - Weight and overall dimensions

6.2.1 - Mower with rear discharge



<i>Model</i>	<i>A. (max.)</i>		<i>B. (max.)</i>		<i>C. (max.)</i>		<i>D. (max.)</i>		<i>Weight</i>		
	mm	inch	mm	inch	mm	inch	mm	inch	kg	lbs	
MR	120	1240	49	1020	40	680	27	470	19	180	392
	135	1380	55	1070	42	680	27	470	19	190	414
	150	1540	61	1150	45	680	27	470	19	210	458
	180	1840	73	1240	49	680	27	470	19	245	534
	210	2140	84	1360	54	680	27	470	19	260	567
MRP1	235	2370	94	1450	57	850	34	530	21	310	680

6.2.2 - Mower with side discharge



<i>Model</i>	<i>A. (max.)</i>		<i>B. (max.)</i>		<i>C. (max.)</i>		<i>D. (max.)</i>		<i>Weight</i>		
	mm	inch	mm	inch	mm	inch	mm	inch	kg	lbs	
MR	120	1440	57	1020	40	680	27	470	19	180	392
	135	1640	65	1070	42	680	27	470	19	190	414
	150	1740	69	1150	45	680	27	470	19	210	458
	180	2045	81	1240	49	680	27	470	19	245	534
	210	2400	95	1360	54	680	27	470	19	260	567

7. Maintenance

7.1 - Foreword



DANGER!!!

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 mower is to remain safe and long lasting.

Respect the following rules, which can also be found on the labels attached to the machine.

<p style="text-align: center;">IMPORTANT NOTICE</p> <p>BEFORE OPERATING THIS MACHINE, BE SURE TO CHECK THE FOLLOWING CHECK-POINTS (HAVING FIRST STOPPED THE TRACTOR ENGINE, DISENGAGED THE P.T.O. AND CAREFULLY READ AND UNDERSTOOD THE OWNER'S MANUAL):</p> <ol style="list-style-type: none">1. Check oil levels (if necessary add SAE 90 EP oil).2. Grease the driveline spiders.3. Grease all marked point on the machine.4. Check to be sure the nut/bolts are snug on those parts wich are under the most stress (tines, blades, front linkage bolts, gear box bolts, etc.). <p style="text-align: right;">(GB)</p>	<p style="text-align: center;">RECOMMANDATION IMPORTANTE</p> <p>TOUS LE JOURS, AVANT DE COMMENCER LE TRAVAIL, LE MOTEUR ÉTANT ÉTEINT ET LA PRISE DE FORCE DÉBRANCHÉE, EFFECTUER LES CONTRÔLES SUIVANTS (CONSULTER D'ABORD LE CAHIER D'UTILISATION ET D'ENTRETIEN):</p> <ol style="list-style-type: none">1. Contrôler le niveau d'huile (si nécessaire ajouter de l'huile SAE 90 EP).2. Graisser les croisillons du cardan.3. Graisser les points marqués sur la machine par le symbole "GREASE".4. Contrôler le serrage des vis des lames et des points soumis à effort (fixations avant, boîte d'engrenages, etc.). <p style="text-align: right;">(F)</p>
<p style="text-align: center;">AVVERTENZA IMPORTANTE</p> <p>OGNI GIORNO, PRIMA DI INIZIARE IL LAVORO ESEGUIRE, A MOTORE SPENTO E PRESA DI FORZA DISINSERITA, I SEGUENTI CONTROLLI (CONSULTARE PRIMA IL LIBRETTO USO E MANUTENZIONE):</p> <ol style="list-style-type: none">1. Controllare i livelli dell'olio (se necessario aggiungere olio SAE 90 EP).2. Ingrassare le crociere del cardano.3. Ingrassare i punti marcati col simbolo "GREASE" sulla macchina.4. Controllare il serraggio delle viti delle lame e dei punti più soggetti a sforzo (attacchi anteriori, scatola ingranaggi ecc.). <p style="text-align: right;">(I)</p>	<p style="text-align: center;">WICHTIGE ANWEISUNGEN</p> <p>VOR BEGINN DER ARBEIT SIND JEDEN TAG BEI ABGESTELTTEM MOTOR UND AUSGESCHALTETER ZAPFWELLE DIE FOLGENDEN PRÜFUNGEN DURCHFÜHREN (VORHER IN DER BETRIEBS - UND WARTUNGSANLEITUNG NACHLESEN):</p> <ol style="list-style-type: none">1. Die verschiedenen Ölstande prüfen (falls erforderlich, Öl der Sorte SAE 90 EP nachfüllen).2. Die Kreuzteile der Gelenkwelle schmieren.3. Die Schmierstellen der Maschine abschmieren, die mit der Bezeichnung "GREASE" gekennzeichnet sind.4. Die Schrauben zum Befestigen der Schlegel und der am stärksten beanspruchten Teile (Frontanschlüsse, Zahnradgetriebe etc.) auf festen Sitz prüfen. <p style="text-align: right;">(D)</p>

fig. 7.1.1

Only ever use genuine MAJOR spares to ensure the steady and reliable operation of your mower and prevent the warranty from becoming void.

7.2 - Factory presets

The following is checked at the factory:

- Oil level in the gearbox
- Tension of belts
- Blade tightness and rotation

7.3 - Inspections 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 in paragraph 7.9.
- Despite the previous inspections, check the amount of oil in the gearbox.

7.4 - Periodical inspections



DANGER!!!

The following procedures must be carried out after the machine tool has been disconnected from the tractor. If interventions must inevitably be carried out while the machine tool is still attached to the tractor, proceed as follows:

- disengage the power takeoff;
- engage the brake;
- turn off the tractor engine;
- remove the ignition key from the dashboard.

If work is required under the machine, check that this has been sufficiently raised and safely locked to prevent all risks of injury to the operator. 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.



IMPORTANT

The given frequencies with which the maintenance operations listed in this chapter must be carried out are indicative, since they refer to the machine when used in normal conditions.

These frequencies may be varied according to the type of work, the weather conditions, the texture and dust content of the soil.

If the machine is used in heavy duty conditions, the maintenance operations must be carried out more frequently. Thoroughly clean the lubricators before injecting grease. This will prevent impurities from penetrating the various components.

Make sure that the oil used top up the supply in the same type as that by the manufacturer.



ATTENTION!!!

Store the lubricant in a sheltered place, well away from children' reach. Always read the recommendations given on the lubricant containers. Prevent the lubricants from being splashed on the skin. Wash the effected part with water if this occurs. Old lubricants must be handed over to authorized disposal companies in compliance with the antipollution provisions locally in force.

After the first 30 minutes of work

- Check the belt tension (after that, every 8 hours).

Every 8 hours of work

- Grease the rotary shaft supports (see diagram in para. 7.9).
- Check the condition of the driveline and grease the journals.
- Grease the wheel axles.
- Check the belt tension.

Every 50 hours of work

- Check the oil level in the gearbox.
- Check the knives for wear. Replace them if necessary, in compliance with the instructions in para. 7.8.
- 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.

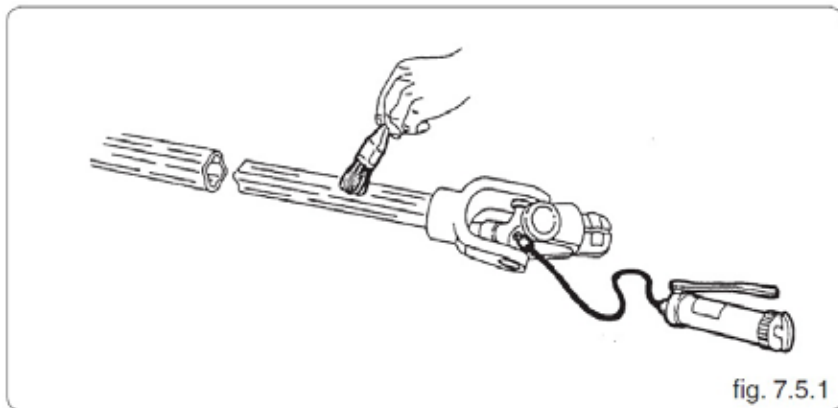
Every 250 hours of work

- Change the oil in the gearbox. Consult paragraph 7.10 for the recommended type of oil. The following operations must be performed when carrying out the work required.

7.5 - Cleaning and greasing the driveline (fig. 7.5.1)

1 - Remove the splined parts.

2 - Using non-toxic and non-flammable solvents, degrease the dirty parts, particularly the sliding grooved sections and universal couplings.



CAUTION

Use non-toxic, non-flammable solvents to prevent the risk of intoxication or fire outbreaks.

3 - Using a clean brush, spread a film of grease on the surfaces of the sliding section. Consult paragraph 7.10 for the recommended type of grease.

4- Grease the journals until grease oozes from all the articulations of each journal.

7.6 - Check and changing the oil in the gearbox



WARNING!!!

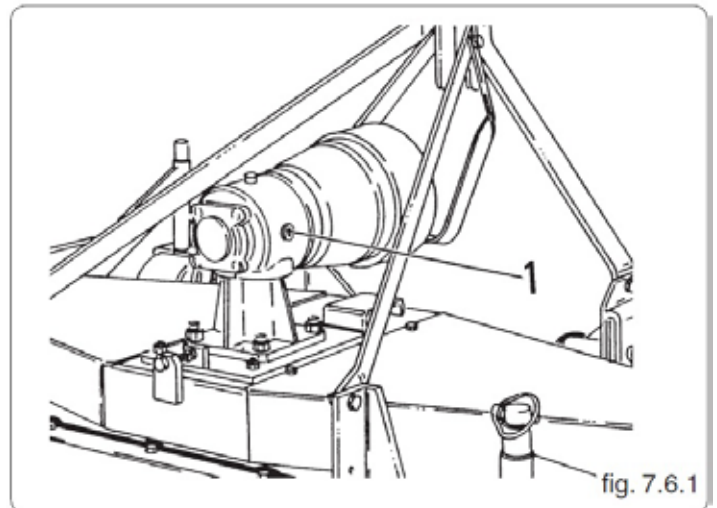
The used oil is a pollutant and must be disposed of correctly. Pour it into a suitable container and take it to the special oil collection points.

7.6.1 - 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.

7.6.2 - 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 paragraph 7.10 for the recommended type of oil.



7.7 - Checking the belt tension



DANGER!!!

Work must 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 brake 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.

- Dismount the casings "3".

- The belts are fitted correctly if, when pressing down, with one hand, halfway between the multiplier pulley and the rotary shaft, the belts yield by approximately 12 mm (1/2 inch).

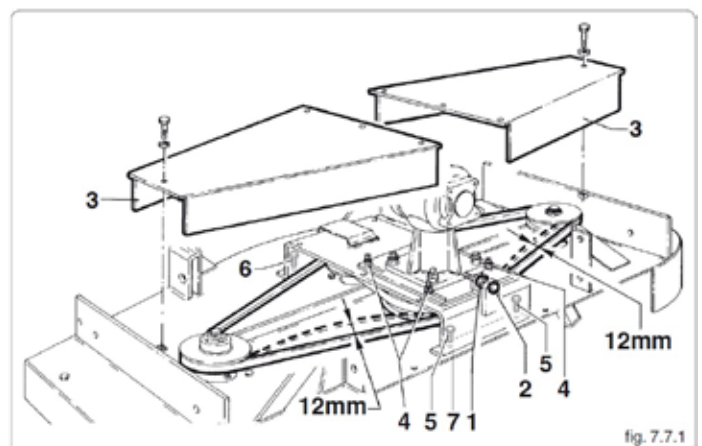
- To tighten the belts, first loosen the four nuts "4" then the nut "1" and turn the screw "2" until the belt is as tight as required.

- When the belt has been tightened as required, use the nuts "4" and the nut "1" to lock it in place.



IMPORTANT

Make sure the belts are intact, that they are not cracked and do not have ragged edges. If this is not the case, replace them with new belts.



7.7.1 - Replacing the belts

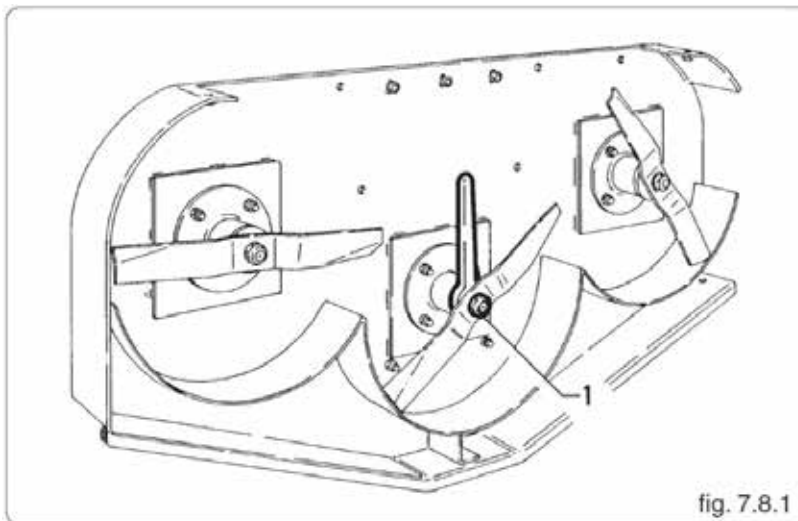
- Remove the casings "3".
- Loosen the four nuts "4".
- Loosen the tensioner of nut "1" and screw "2".
- Remove the two screws "5".
- Loosen the three screws "6".
- Lift the mount "7" by approximately 2 cm.
- Remove the belts.
- Fit the new belts, making sure they are taut and not twisted.
- Restore the screws "5" and "6".
- Tension the belts as described in section 7.7.
- Reassemble the casings "3".

7.8 - Checking and replacing the blades



IMPORTANT

It is advisable to replace all the blades at the same time to prevent the machine vibrating. When mounting the new blades, make sure the cutting edges are positioned in the direction the rotor rotates in.



- Place the machine at a comfortable height and lock it in position with sufficient support to guarantee the operator's safety.

- Prevent the blade rotating by locking the shaft with a key (the shaft is designed for this with two flat areas immediately above the blade).

- Using the key, unscrew the nut 1 and remove the blade.

- Check the state of wear of the pin and the nut and, if necessary, replace them.

- Mount the new blade, screw in the nut "1" fully and with force, keeping the shaft locked at the same time as described above.

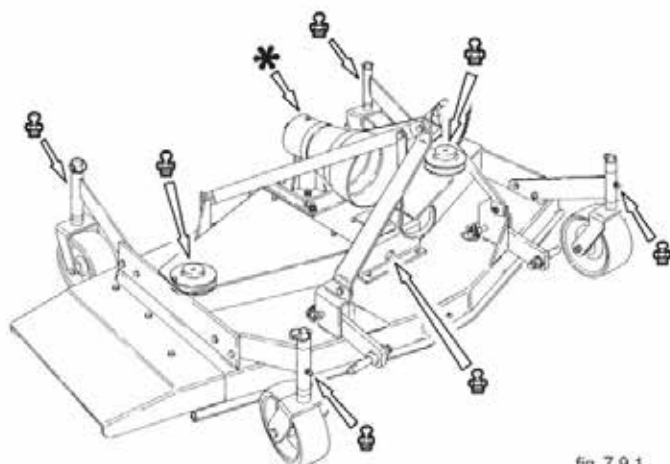
Cleaning the machine



CAUTION

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

7.9 - Lubrication and greasing points



7.10 - Recommended lubricants

* Oil - 80W/90 or similar

🔧 Grease - EP2 or similar



IMPORTANT
Never mix oils either together or with different types. This could jeopardize the condition and life of the parts in question.

7.11 - Storing the machine

Clean all dirt from the implement. Take particular care to remove any foreign bodies from the blade. Park the mower 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 tilted over etc..

7.12 - Scrapping 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 authorized to dispose of such materials.

8. Troubleshooting

Fault	Cause	Remedy
Leaves a streak of uncut or partially cut grass	Ground speed too fast	Reduce ground speed by shifting to a lower gear
	Blades dull or bent	Replace blades
	RPM too low	Use correct PTO speed
	Field conditions are so wet that the tractor tire is pushing grass into mud	Too wet to mow. Stop operation and wait until it is drier
	Grass is down from previous weather conditions	Mow in only one direction
	Possible build up of material under mower	Clean mower
Material discharges from mower unevenly; bunches of material along swath	Material too high and too much material	Reduce ground speed but maintain 540 RPM at tractor PTO, or make two passes over material. Raise mower for the first pass and lower to desired height for the second and cut a 90° to first pass.
	Grass wet	Allow grass to dry before mowing. Slow ground speed of tractor but keep engine running at full PTO RPM. Cutting lower will help.
Gearbox overheating	Low on lubricant	Fill to proper level
	Improper type lubricant	Replace with proper lubricant
	Excessive trash build-up around gearbox	Remove trash
Blade is scalping ground	Mower too low	Raise mower-reset wheels
	Field is ridged	Cut field at a different angle
	Field is too wet	Stop and wait until it is dried
Mower will not cut (shear bolt drive only)	Shear bolt sheared	Install new shear bolt
	Slipped belts	Stretch the belts
	Ripped belts	Replace the belts

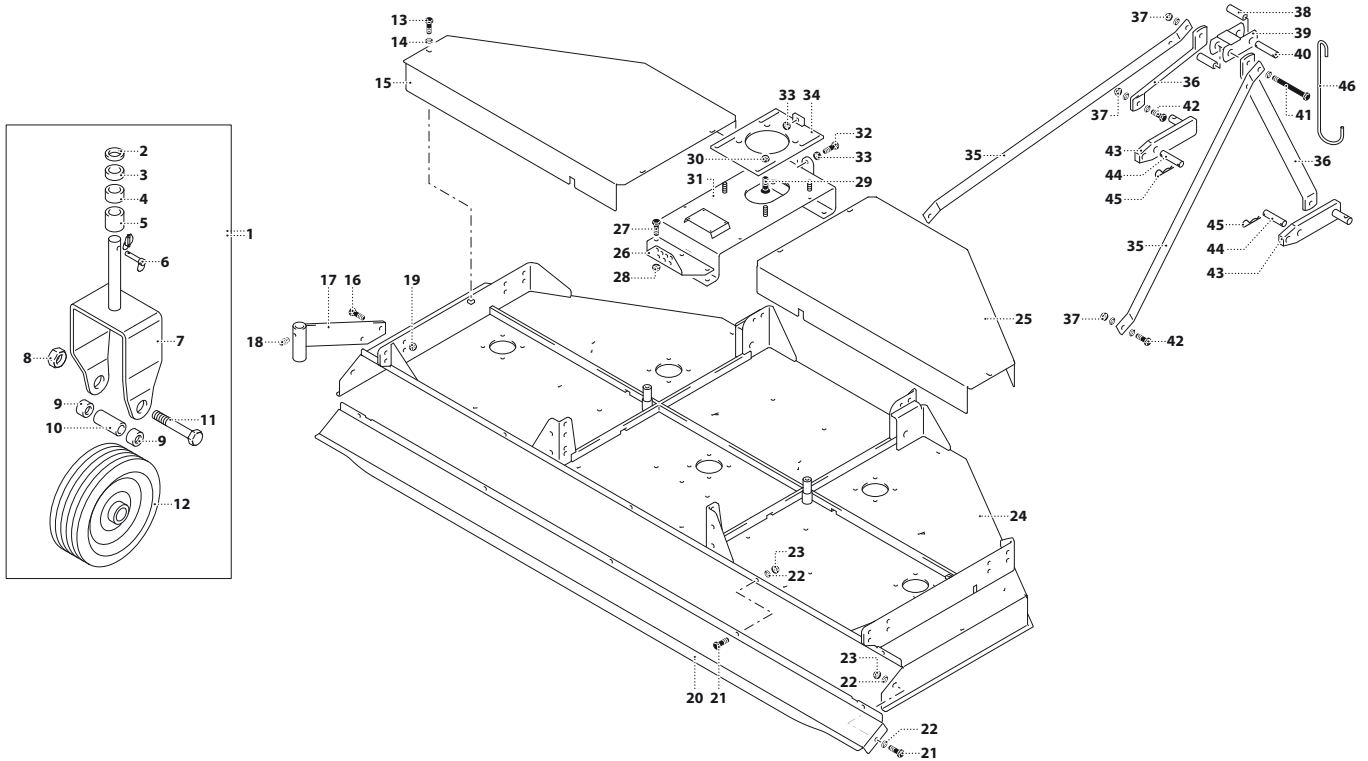
Drive line contacts mower front frame when raised	Raising mower too high or incorrect adjustment of tractor top link	Adjust top link or tractor lift stops (See attachment instructions)
Blades wear too fast	Cutting in sandy conditions	Increase cutting height
	Cutting in rocky conditions	Increase cutting height
	Blades hitting ground	Increase cutting height
Mower seems to require excessive power	Advancing into grass too rapidly	Reduce forward travel speed
	Hitting ground	Raise mower and reset wheels
	Worn or dull blades	Sharpen or replace blades
	Tractor not large enough	Use larger horsepower tractor
Excessive vibration	Check gearbox bolts	Tighten if loose
	Check for loose nuts on blades	Tighten if loose
	Blade broken	Replace blades, in set
	New blade or bolts matched with worn blade or bolts	Replace blades or bolts in sets
	Drivelines not phased correctly. Implement and tractor yokes must be in line	Phase the driveline. Replace if damaged
Gearbox noisy	Worn bearings	Replace bearings
	Low oil in gearbox	Check level and add oil
Gearbox leaking	Damaged oil seal	Replace seal
	Bent shaft	Replace oil seal and shaft
	Shaft rough in oil seal area	Replace or repair shaft
	Oil seal installed wrong	Replace seal
	Oil seal not sealing in the housing	
	Oil level too high	Drain oil to proper level
	Hole in gearbox	Replace gearbox
	Gasket damaged	Replace gasket
Bolts loose	Tighten bolts	

Note

Since the oil heats, the gearbox may reach a rather high temperature during work and its outer surface may become “hot” to touch. This is normal and will cause no damage. It is, however, important to always check that the oil is at the correct level and of the indicated type (consult the table in paragraph 7.10).

Spare parts

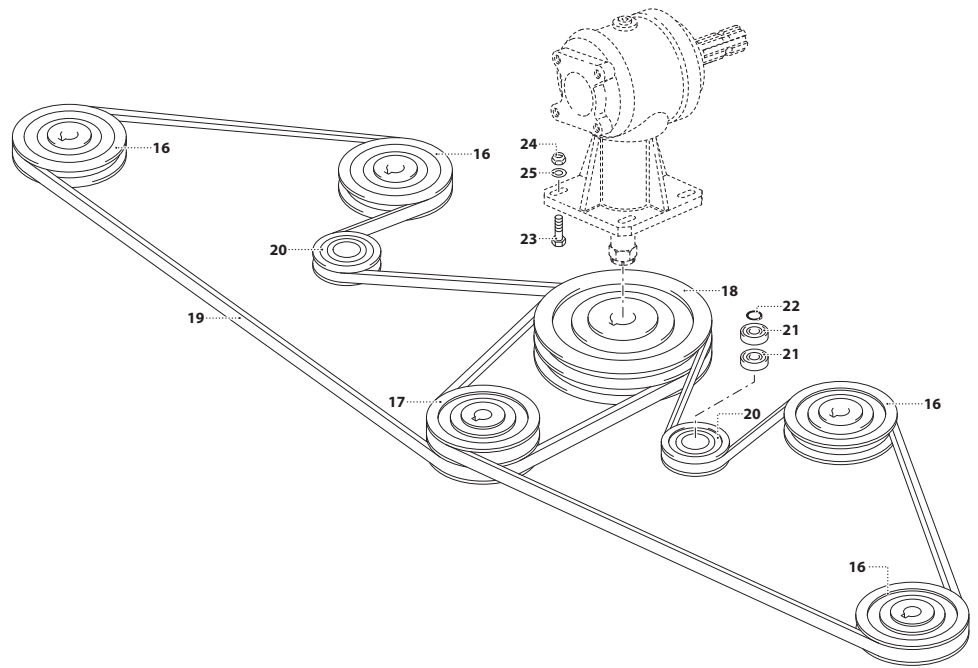
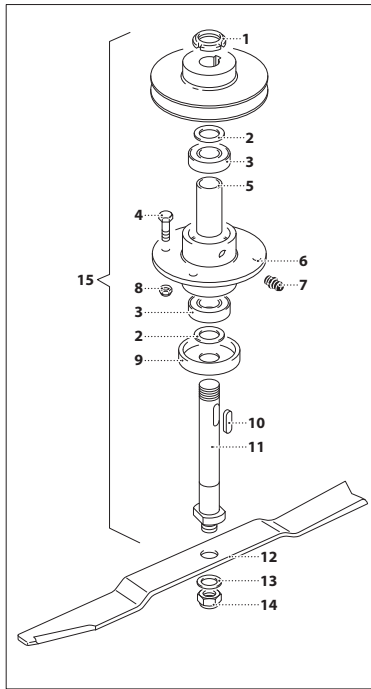
MRP1-235 - General Assembly



Item	Part No	Qty	Description	Other
1	45166800		WHEEL ASSEMBLY	
2	32174600		SPACER	H = 6
3	32174700		SPACER	H = 12
4	32174900		SPACER	H = 24
5	32175000		SPACER	H = 32
6	64004800		PIN	8
7	40234300		YOKE	
8	62010600		NUT	
9	32174900		SPACER	H = 24
10	38023500		BUSHING	
11	60033000		SCREW	TE 12 x 130 UNI 5737
12	68087600		WHEEL	
13	60015100	6	SCREW	TE 8 x 16 UNI 5739
14	61004700	6	WASHER	PIANA 8 UNI 6592
15	39351800	1	CASING (LH)	
16	60028200	8	SCREW	TE 12 x 40 UNI 5739
17	40234200	4	BRACKET	
18	64000200	4	GREASE FITTING	M 6 x 1 DIRITTO
19	62010600	8	NUT	M 12 x 1.75 AUTOBLOCC.
20	39350800	1	CONVEYOR	
21	60021600	7	SCREW	TE 10 x 20 UNI 5739
22	61004900	2	WASHER	PIANA 10 UNI 6592
23	62010400	7	NUT	M 10 x 1.5 AUTOBLOCC.
24	41133300	1	FRAME	
25	39351900	1	CASING (RH)	
26	39351700	1	SUPPORT	

Item	Part No	Qty	Description	Other
27	60017900	5	SCREW	TE 10 x 25 UNI 5739
28	62010400	5	NUT	M 10 x 1.5 AUTOBLOCC.
29	60033200	4	SCREW	TSEI 16 x 45 UNI 5933
30	62009000	8	NUT	M 16 x 2 UNI 5589
31	40234000	1	SUPPORT	
32	60030200	1	SCREW	TE 10 x 80 UNI 5739
33	62007000	2	NUT	M 10 x 1.5 UNI 5588
34	40233801	1	COUNTER PLATE	
35	30205400	2	TIEROD	
36	30178900	2	TIEROD	
37	62010600	5	NUT	M 12 x 1.75 AUTOBLOCC.
38	32021400	1	BUSHING	
39	40237800	1	ATTACHMENT	
40	38024100	1	PIN	
41	60011900	1	SCREW	TE 12 x 120 UNI 5737
42	60021200	4	SCREW	TE 12 x 35 UNI 5739
43	40239400	2	ARM	
44	38024100	2	PIN	
45	64000900	2	COTTER PIN	AR 3
46	38024500	1	HOOK	

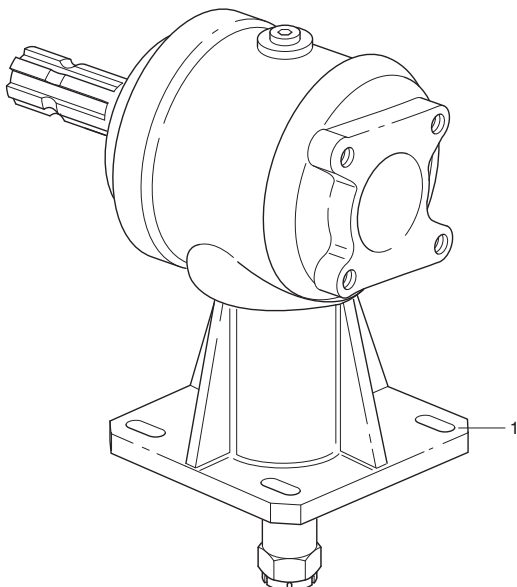
MRP1-235 - Transmission and Rotors



Item	Part No	Qty	Description	Other
1	62001200	1	RING NUT	M 25 x 1.5 AUTOBLOCC.
2	32174100	2	SPACER	
3	67016600	2	BEARING	6205 RS
4	60021300	4	SCREW	TE 10 x 30 UNI 5739 8.8 ZNT
5	32174000	1	SPACER	
6	40234100	1	SUPPORT	
7	64001800	1	GREASE FITTING	M 10 x 1 DIRITTO
8	62010400	4	NUT	M 10 x 1.5 AUTOBLOCC.
9	39261100	1	GUARD	
10	65001100	1	KEY	8 x 7 x 30 UNI 6604
11	31078600	1	SHAFT	
12	12017800	1	BLADE	150

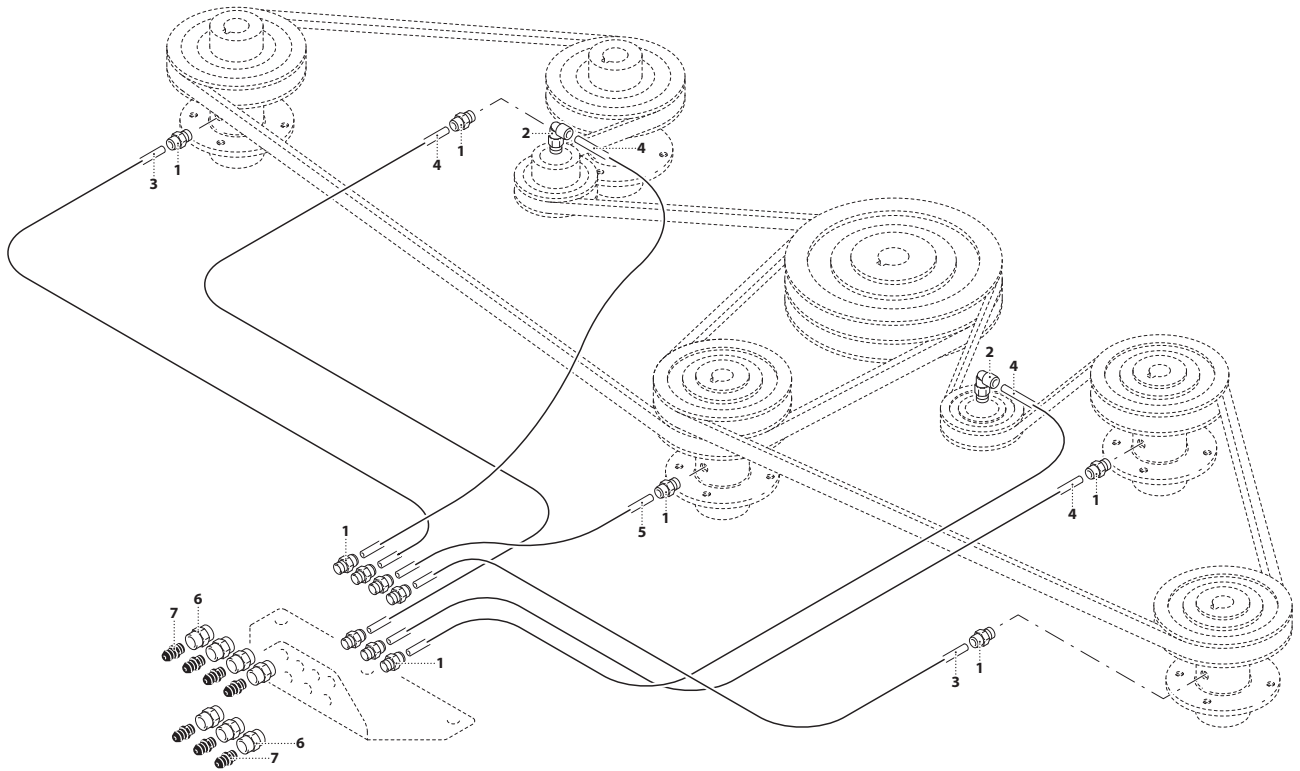
Item	Part No	Qty	Description	Other
13	39077800	1	WASHER	PIANA i 19 e 50 SP5
14	62011100	1	NUT	M 18 x 1.5 AUTOBLOCC.
15	45115100		SPINDLE ASSEMBLY	
16	68086700	4	PULLEY	
17	68086500	1	PULLEY	
18	68129600	1	PULLEY	
19	68092300	2	BELT	B120
20	68099600	2	PULLEY	
21	67016600	4	BEARING	6205 RS
22	63002200	2	SNAP-RING	25 E
23	60033200	4	SCREW	TSEI 16 x 45 UNI 5933
24	62009000	8	NUT	M 16 x 2 UNI 5589
25	61006400	4	LICKWASHER	16 UNI 1751

MRP1-235 - Gearbox



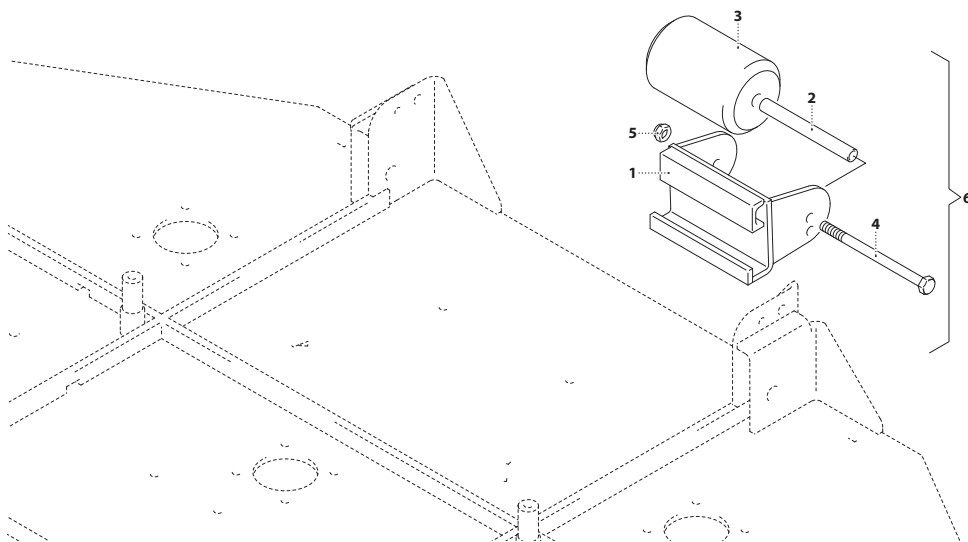
Item	Part No	Qty	Description	Other
1	46035200	1	COMPLETE GEAR BOX	

MRP1-235 - Grease kit



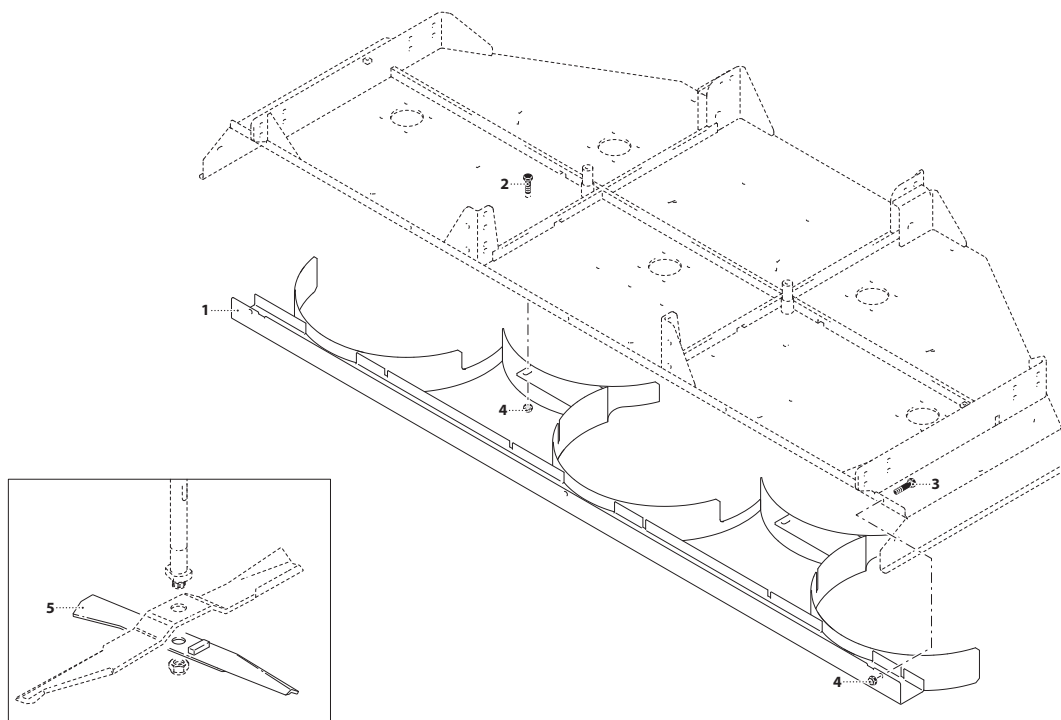
Item	Part No	Qty	Description	Other
1	68092400	12	CONNECTION	
2	68101200	2	CONNECTION	90°
3	68130900	2	TUBE	mm 1000
4	68096200	4	TUBE	mm 800
5	68095900	1	TUBE	mm 150
6	68092500	7	SLEEVE	
7	64001800	7	GREASE FITTING	M10 x 1 DIRITTO

MRP1-235 - Antiscalping roller



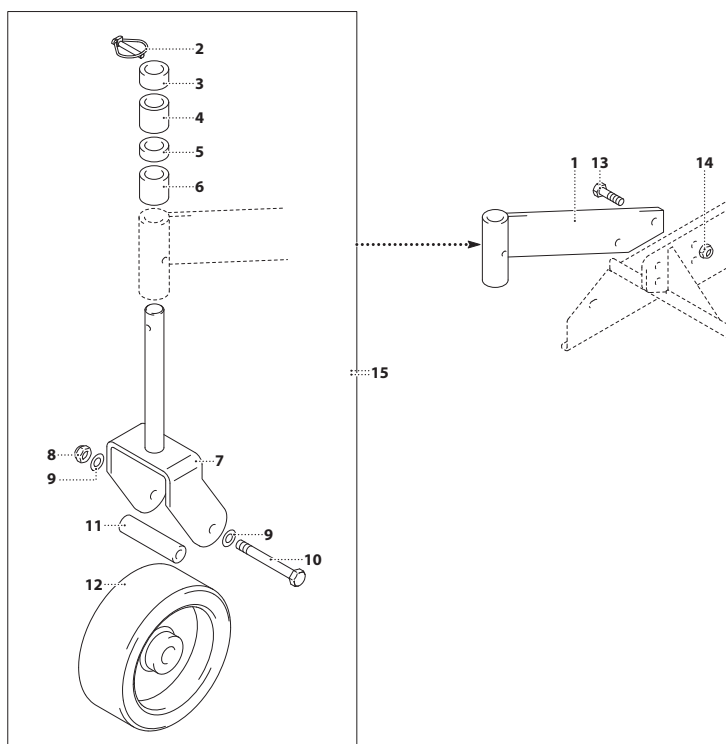
Item	Part No	Qty	Description	Other
1	40253600	1	SUPPORT	
2	32180200	1	SPACER	
3	68092700	1	DRUM	
4	60039600	1	SCREW	TE 12 x 150 UNI 5737
5	62010600	1	NUT	M 12 x 1,75 AUTOBLOCC.
6	45132100	1	ANTISCALPING ROLL KIT	

MRP1-235 - Muching kit



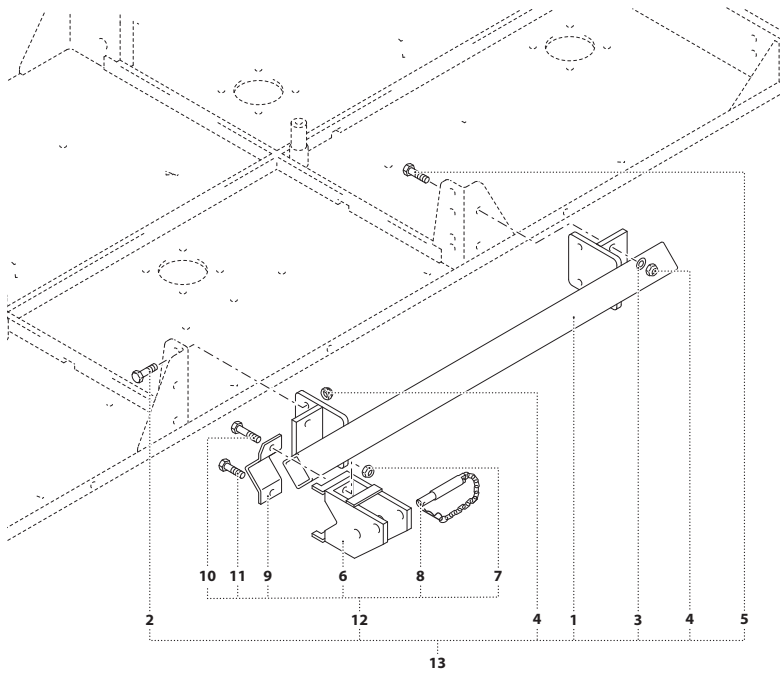
Item	Part No	Qty	Description	Other
1	40236500	1	FRAME	
2	60021600	2	SCREW	TE 10 x 20 UNI 5739
3	60017900	3	SCREW	TE 10 x 25 UNI 5739
4	62010400	5	NUT	M 10 x 1.5 AUTOBLOCC.
5	12018300	5	BLADE	

MRP1-235 - Wheel kit



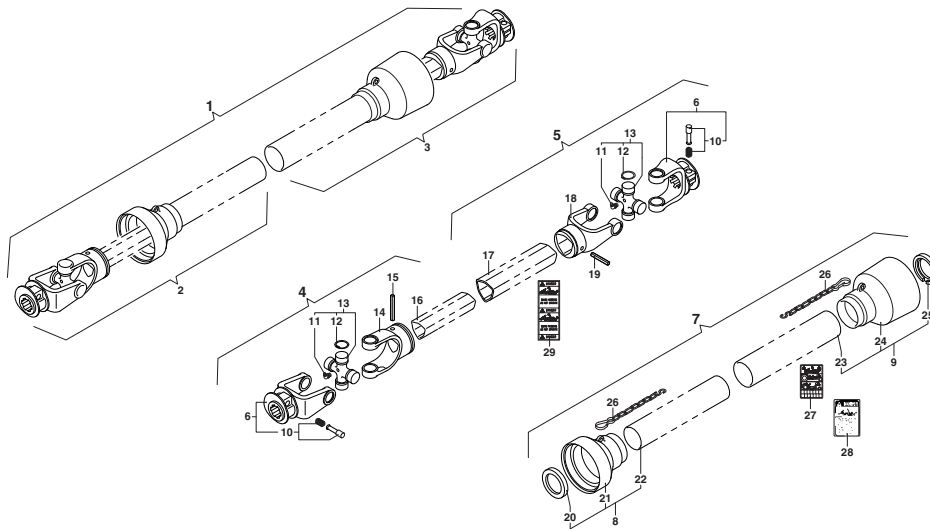
Item	Part No	Qty	Description	Other
1	40326300	4	BRACKET	
2	64004800	1	PIN	
3	32174600	1	SPACER	H = 6
4	32174700	1	SPACER	H = 12
5	32174900	1	SPACER	H = 24
6	32175000	1	SPACER	H = 32
7	40326200	1	YOKE	
8	62010600	1	NUT	M 12 x 1.75 AUTOBLOCC.
9	32174900	2	SPACER	H = 24
10	60043400	1	SCREW	TE 12 x 160 UNI 5737
11	38030100	1	SPACER	
12	68121400	1	WHEEL	
13	60028200	16	SCREW	TE 12 x 40 UNI 5739
14	62010600	16	NUT	M 12 x 1.75 AUTOBLOCC.
15	45191200		WHEEL	

MRP1-235 - Front Linkage



Item	Part No	Qty	Description	Other
1	40326400	1	ATTACHMENT	
2	60021200	4	SCREW	TE 12 x 35 UNI 5739
3	61005000	4	WASHER	PIANA 12 UNI 6592
4	62010600	8	NUT	M 12 x 1.75 AUTOBLOCC.
5	60028200	4	SCREW	TE 12 x 40 UNI 5739
6	40262101	2	BRACKET	
7	62010600	4	NUT	M 12 x 1.75 AUTOBLOCC.
8	68062300	2	PIN	
9	30197600	2	CLAMP	
10	60010100	2	SCREW	TE 12 x 65 UNI 5737
11	60045400	2	SCREW	TE 12 x 55 UNI 5737
12	51004200	1	BRACKET KIT	
13	45190900	1	LINKAGE KIT	

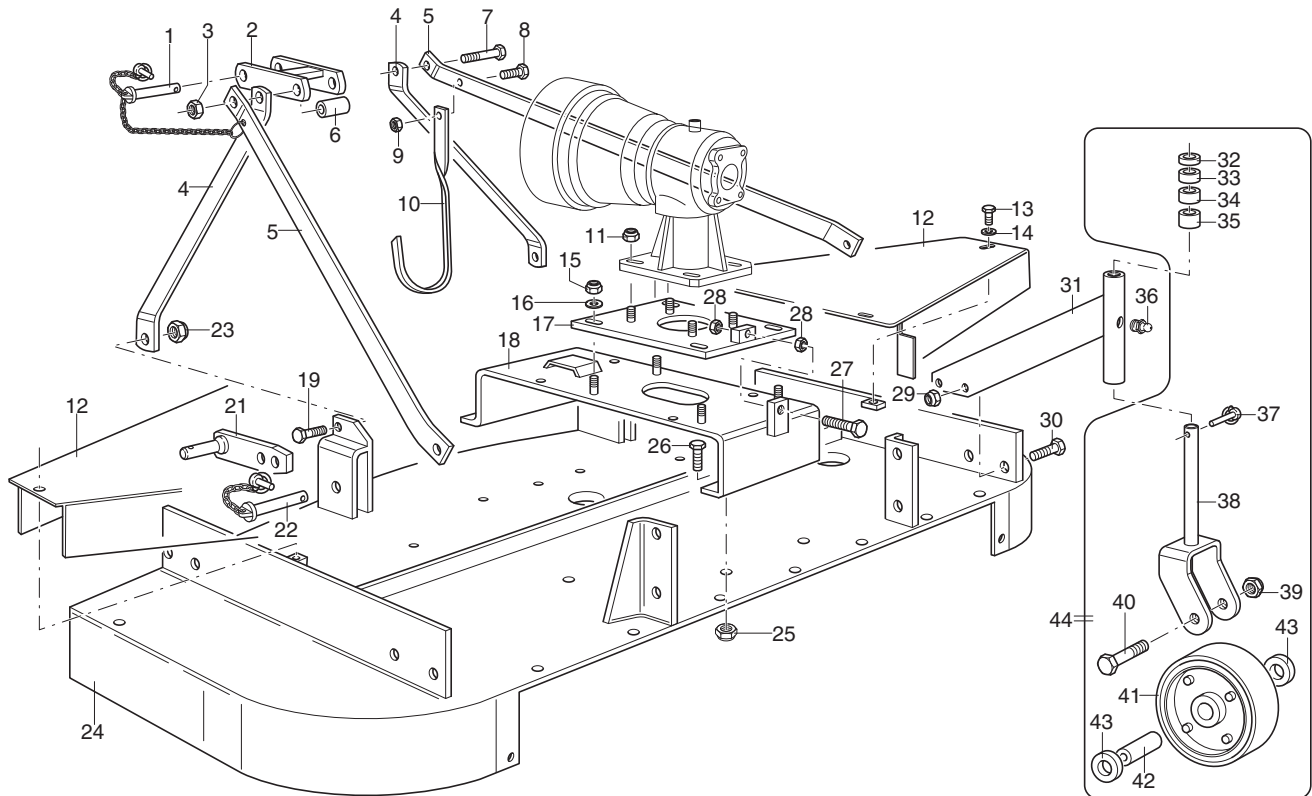
MRP1-235 - PTO shaft



Item	Part No	Qty	Description
1	AB408SFDO	1	PTO SHAFT
2	B4080B1	1	INTERNAL HALF SHAFT
3	B4080B2	1	EXTERNAL HALF SHAFT
4	B408001	1	INTERNAL HALF SHAFT
5	B408002	1	EXTERNAL HALF SHAFT
6	0800403	2	YOKE
7	083B04080	1	GUARD
8	083B040801	1	INTERNAL GUARD
9	083B040802	1	EXTERNAL GUARD
10	0986014047	2	PUSH BOTTON
11	09840081002	2	GREASE FITTING
12	09802027	8	SNAP-RING
13	08204	2	SPIDER
14	08004011	1	YOKE
15	098700855	1	ELASTIC PIN
16	09881364100	1	INTERNAL TUBE
17	09881433100	1	EXTERNAL TUBE
18	08004021	1	YOKE
19	098700860	1	ELASTIC PIN
20	0265240008	1	RING NUT
21	0256040425	1	GUARD
22	0988961B4080	1	INTERNAL TUBE
23	0988966B4080	1	EXTERNAL TUBE
24	0256040424	1	GUARD
25	0265240007	1	RING NUT
26	0252000001	2	CHAIN
27	99872003	1	LABEL
28	99872010	1	LABEL
29	99872006	1	LABEL

Spare parts

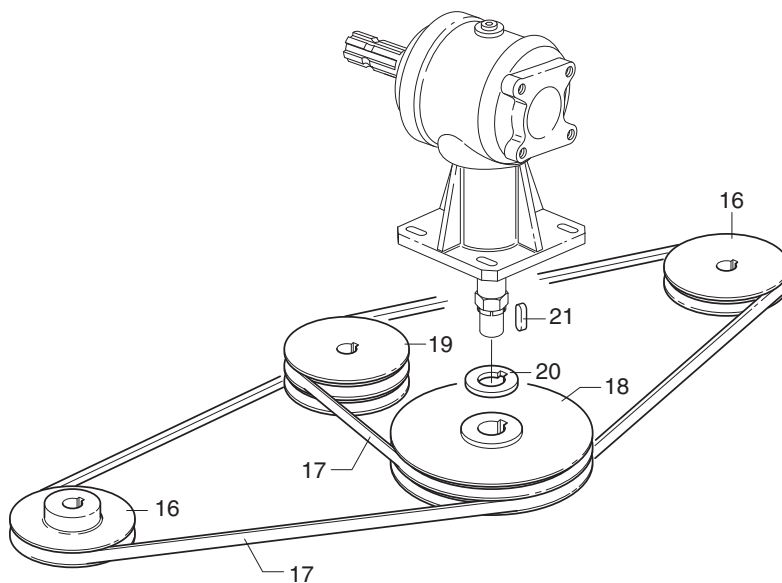
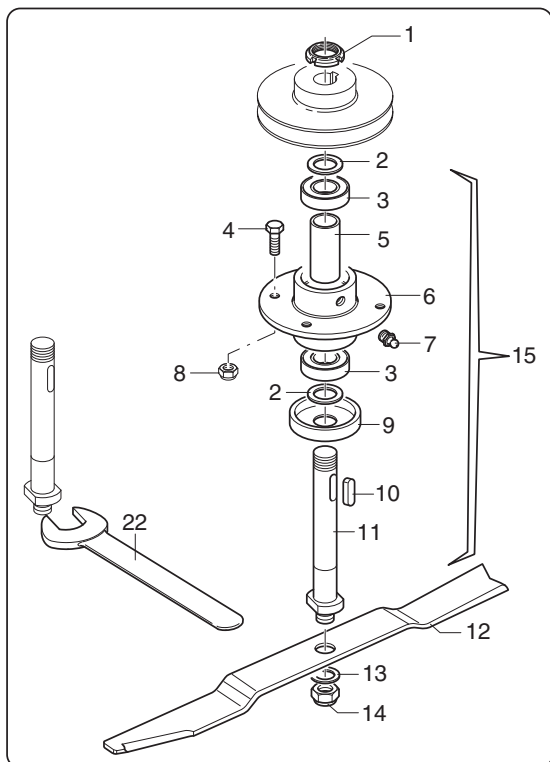
MR Range - General Assembly



Item	Part No	Qty	Description	Other
1	38024100	1	PIN	
2	40237800	1	ATTACHMENT	
3	62010600	1	NUT	M 12 x 1,75 AUTOBLOCC.
4	30178900	2	TIEROD	
5	30182800	2	TIEROD	120
5	30205300	2	TIEROD	135
5	30182900	2	TIEROD	150
5	30183000	2	TIEROD	180
5	30205400	2	TIEROD	210
6	32021400	1	SPACER	
7	60011900	1	SCREW	TE 12 x 120 UNI 5737
8	60021300	1	SCREW	TE 10 x 30 UNI 5739 8.8 ZNT
9	62010400	1	NUT	M 10 x 1,5 AUTOBLOCC.
10	30120100	1	HOOK	
11	62011000	4	NUT	M 16 x 2 AUTOBLOCC.
11	62009000	8	NUT	M 16 x 2 UNI 5933
12	39259200	2	CASING	120
12	39305000	2	CASING	135
12	39259300	2	CASING	150
12	39259400	2	CASING	180
12	39305100	2	CASING	210
13	60024600	6	SCREW	TE 8 x 12 UNI 5739
14	61004700	6	WASHER	PIANA 8 UNI 6592
15	62010400	4	NUT	M 10 x 1,5 AUTOBLOCC.
16	61004900	4	WASHER	PIANA 10 UNI 6592
17	45194700	1	COUNTER PLATE	

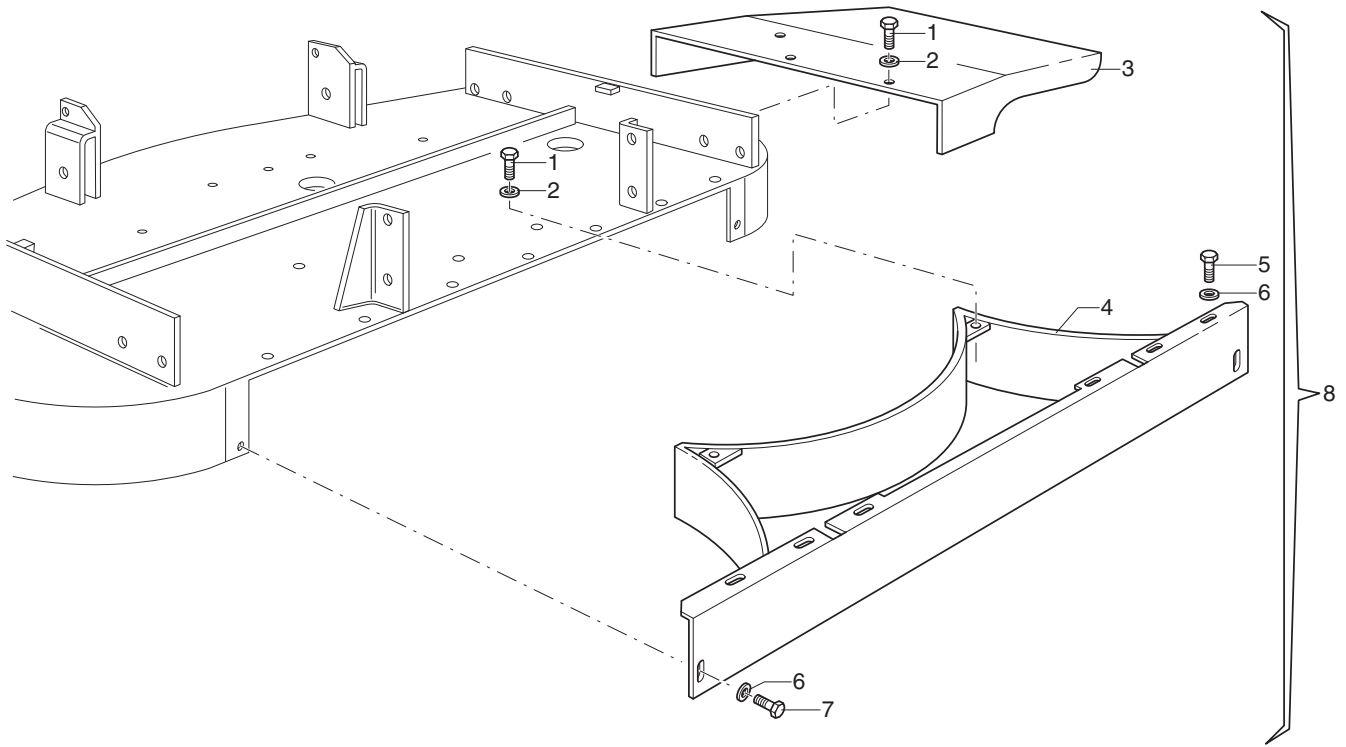
Item	Part No	Qty	Description	Other
18	40234000	1	SUPPORT	150-180
19	60021200	4	SCREW	TE 12 x 35 UNI 5739 8.8 ZNT
21	40239400	2	ARM	
22	38024100	2	PIN	
23	62010600	4	NUT	M 12 x 1.75 AUTOBLOCC.
24	41111300	1	FRAME	120
24	41122800	1	FRAME	135
24	41111400	1	FRAME	150
24	41111500	1	FRAME	180
24	41122900	1	FRAME	210
25	62010400	2	NUT	M 10 x 1.5 AUTOBLOCC.
26	60017900	5	SCREW	TE 10 x 25 UNI 5739 8.8 ZNT
27	60030200	1	SCREW	TE 10 x 80 UNI 5739
28	62007000	2	NUT	M 10 x 1.5 UNI 5588
29	62010600	8	NUT	M 12 x 1.75 AUTOBLOCC.
30	60028200	8	SCREW	TE 12 x 40 UNI 5739 8.8 ZNT
31	40234200	4	BRACKET	
32	32174600	4	SPACER	H = 6
33	32174700	4	SPACER	H = 12
34	32174900	4	SPACER	H = 24
35	32175000	4	SPACER	H = 32
36	64000200	4	GREASE FITTING	M 6 x 1
37	64004800	4	PIN	8
38	40234300	4	YOKE	
39	62010600	4	NUT	M 12 x 1.75 AUTOBLOCC.
40	60033000	4	SCREW	TE 12 x 130 UNI 5737
41	68087600	4	WHEEL	
42	38023500	4	BUSHING	
43	32174900	8	SPACER	
44	45168800		COMPLETE REINFORCED WHEEL	

MR Range - Transmission and Rotors



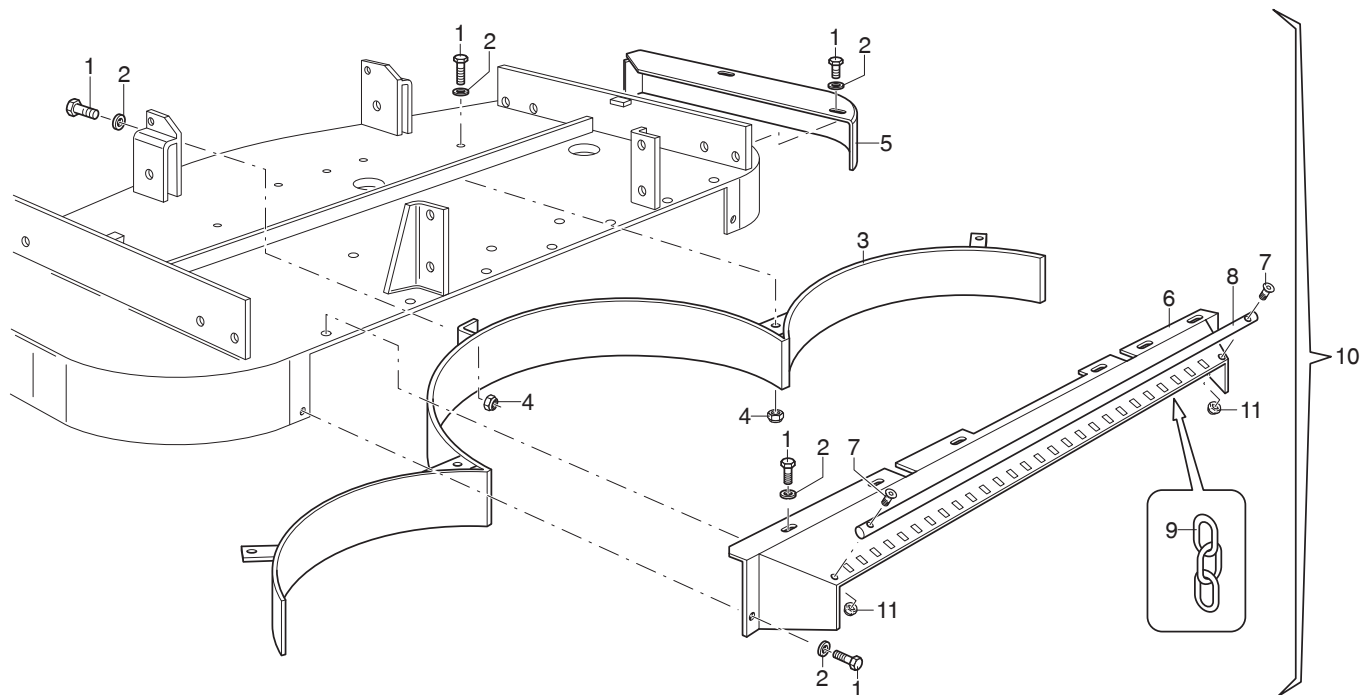
Item	Part No	Qty	Description	Other
1	62001200	3	RING NUT	M 25 x 1.5 AUTOBLOCC.
2	32174100	6	SPACER	
3	67016600	6	BEARING	6205 RS
4	60021300	12	SCREW	TE 10 x 30 UNI 5739 8.8 ZNT
5	32174000	3	SPACER	
6	40234100	3	SUPPORT	
7	64001800	3	GREASE FITTING	M 10 x 1 DIRITTO
8	62010400	12	NUT	M 10 x 1.5 AUTOBLOCC.
9	39261100	3	GUARD	
10	65001100	3	KEY	8 x 7 x 30 UNI 6604
11	31078600	3	SHAFT	
12	12017700	3	BLADE	120
12	12021200	3	BLADE	135
12	12017800	3	BLADE	150
12	12017900	3	BLADE	180
12	12021300	3	BLADE	210
13	39077800	3	WASHER	PIANA i 19 e 50 SP5
14	62011100	3	NUT	M 18 x 1.5 AUTOBLOCC.
15	45115100		SPINDLE ASSEMBLY	
16	68086600	2	PULLEY	120
16	68112500	2	PULLEY	135
16	68086700	2	PULLEY	150-180-210
17	68083500	2	BELT	XPB1320 (120)
17	68113000	2	BELT	B56 (135)
17	68086900	2	BELT	B67 (150)
17	68087000	2	BELT	B74 (180)
17	68113100	2	BELT	SPB2110 (210)
18	68086100	1	PULLEY	120-210
18	68086200	1	PULLEY	150
18	68086300	1	PULLEY	135-180
19	68086400	1	PULLEY	120
19	68112400	1	PULLEY	135
19	68086500	1	PULLEY	150-180-210
20	32173800	1	SPACER	
21	65000200	1	KEY	10 x 8 x 40 UNI 6604
22	81000100	1	KEY	

MR Range - Side discharge



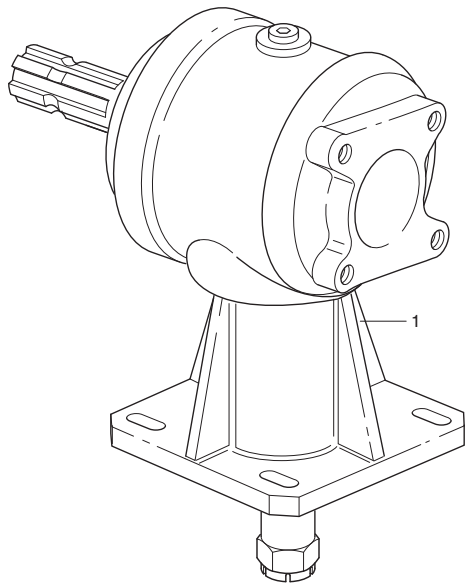
Item	Part No	Qty	Description	Other
1	60021600	6	SCREW	TE 10 x 20 UNI 5739 8.8 ZNT
2	61004900	6	WASHER	PIANA 10 UNI 6592
3	39259800	1	CONVEYOR	120
3	39305200	1	CONVEYOR	135
3	39259900	1	CONVEYOR	150
3	39260000	1	CONVEYOR	180
3	39305300	1	CONVEYOR	210
4	40232900	1	GRIPPING	120
4	40297600	1	GRIPPING	135
4	40233000	1	GRIPPING	150
4	40233100	1	GRIPPING	180
4	40297700	1	GRIPPING	210
5	60021600	6	SCREW	TE 10 x 20 UNI 5739 8.8 ZNT
6	61004900	8	WASHER	PIANA 10 UNI 6592
7	60038700	2	SCREW	TBCE 10 x 25 UNI 7380
8	45112700		KIT SEDE DISCHARGE	120
8	45158200		KIT SEDE DISCHARGE	135
8	45112800		KIT SEDE DISCHARGE	150
8	45112900		KIT SEDE DISCHARGE	180
8	45158300		KIT SEDE DISCHARGE	210

MR Range - Rear discharge



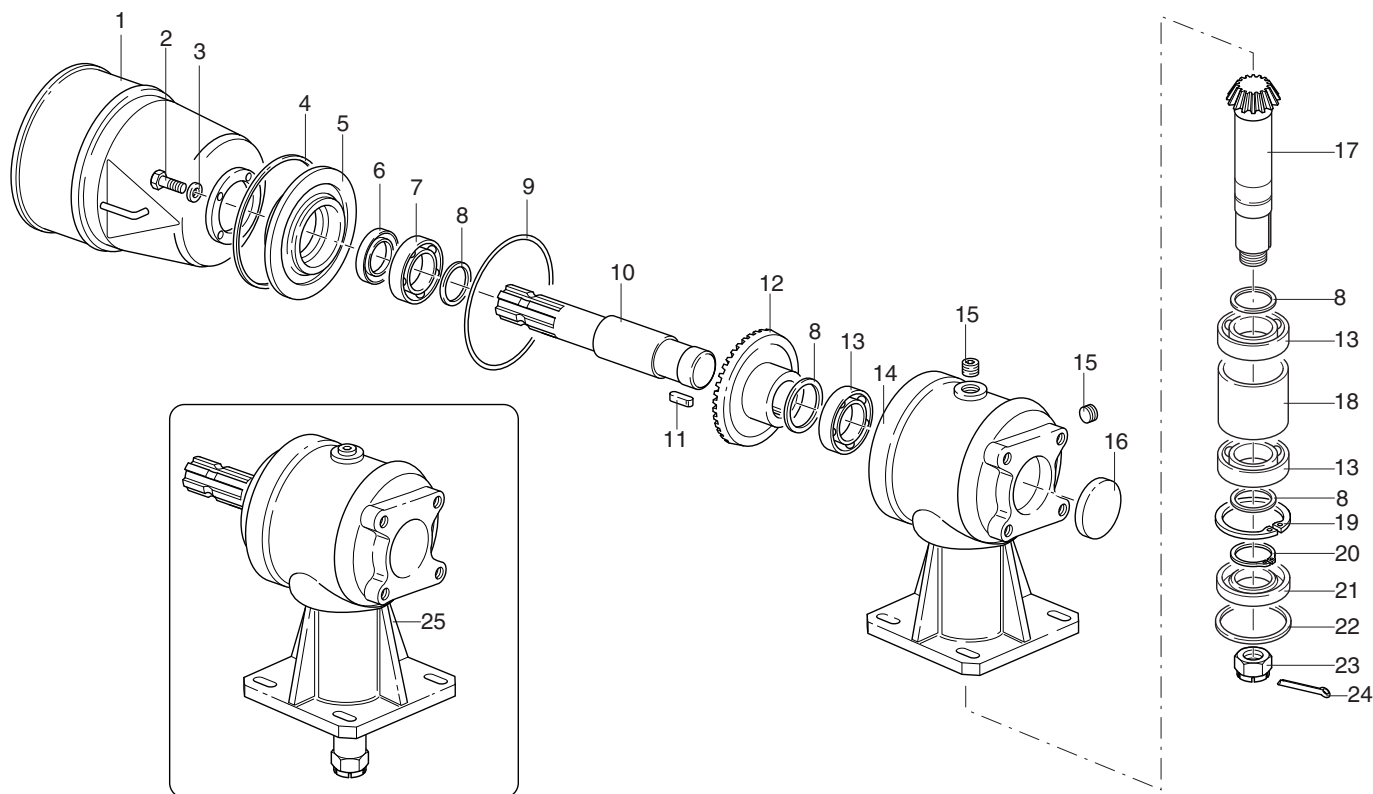
Item	Part No	Qty	Description	Other
1	60038700		SCREW	TBCE 10 x 25 UNI 7380
2	61004900		WASHER	PIANA 10 UNI 6592
3	40233500	1	DEFLECTOR	120
3	40298080	1	DEFLECTOR	135
3	40233600	1	DEFLECTOR	150
3	40233700	1	DEFLECTOR	180
3	40298100	1	DEFLECTOR	210
4	62010400	3	NUT	M 10 x 1.5 AUTOBLOCC.
5	40233200	1	GRIPPING	120
5	40297800	1	GRIPPING	135
5	40233300	1	GRIPPING	150
5	40233400	1	GRIPPING	180
5	40297900	1	GRIPPING	210
6	39260400	1	CONVEYOR	120
6	39305400	1	CONVEYOR	135
6	39260500	1	CONVEYOR	150
6	39260600	1	CONVEYOR	180
6	39305500	1	CONVEYOR	210
7	60015700	2	SCREW	TE 6 x 25 UNI 5739
8	31078300	1	PIN	120
8	31095000	1	PIN	135
8	31078400	1	PIN	150
8	31078500	1	PIN	180
8	31095100	1	PIN	210
9	68086000		CHAIN	
10	45113000		KIT REAR DISCHARGE	120
10	45158000		KIT REAR DISCHARGE	135
10	45113100		KIT REAR DISCHARGE	150
10	45113200		KIT REAR DISCHARGE	180
10	45158100		KIT REAR DISCHARGE	210
11	62010100	2	NUT	M 6 x 1 AUTOBLOCC.

MR Range - Gearbox



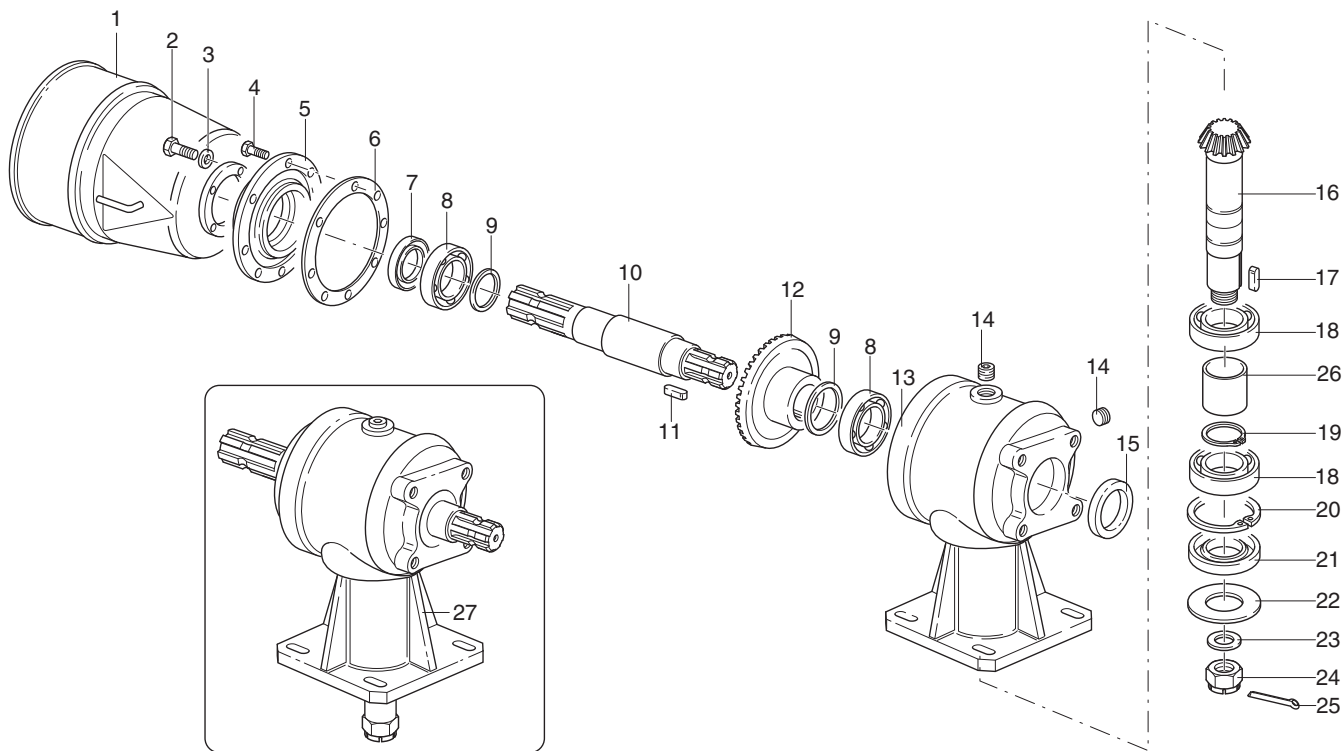
Item	Part No	Qty	Description	Other
1	46035200	1	COMPLETE GEAR BOX	

MR - Gearbox L



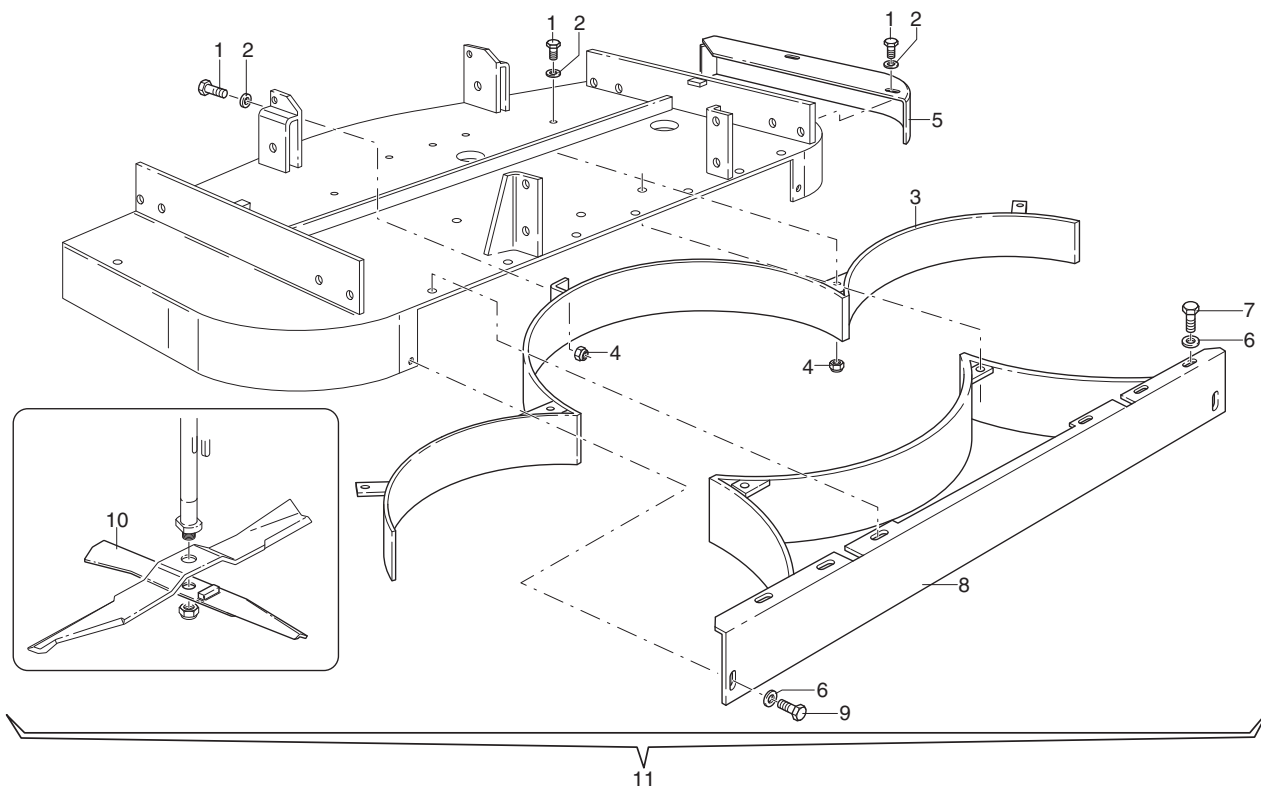
Item	Part No	Qty	Description	Other
1	68061501	1	GUARD	
2	60022800	4	SCREW	TE 8 x 20 UNI 5739 8.8 ZNT
3	61006200	4	WASHER	PIANA i 9 e 24 Sp.1,5
4	63006300	1	SNAP-RING	125 I UNI 7433
5	01017800	1	FLANGE	
6	66001600	1	JUNT RING	35 x 52 x 7
7	67018500	1	BEARING	6007
8	68052300		SPACER	35 x 48
9	66009100	1	JUNT RING	O. R. 4462
10	31079400	1	SHAFT	
11	65000600	1	KEY	10 x 8 x 30
12	10042800	1	CROWN	
13	67003700	3	BEARING	6207
14	01017700	1	GEARBOX	
15	68008700	2	PLUG	
16	68087700	1	CAP NUT	52 x 7
17	10042700	1	SHAFT	
18	32176100	1	SPACER	
19	63000300	1	SNAP-RING	72 I UNI 7437
20	63000600	1	SNAP-RING	35 E UNI 7435
21	66014800	1	JUNT RING	35 x 72 x 10
22	63000300	1	SNAP-RING	72 I UNI 7437
23	62007900	1	NUT	M 24 x 2 INTAGLI UNI 5594
24	64003000	1	COTTER PIN	5 x 50 UNI 1336
25	46036500	1	COMPLETE GEAR BOX	

MR - Gearbox T



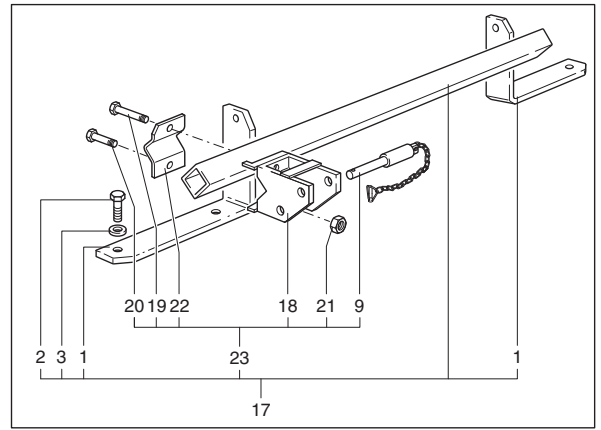
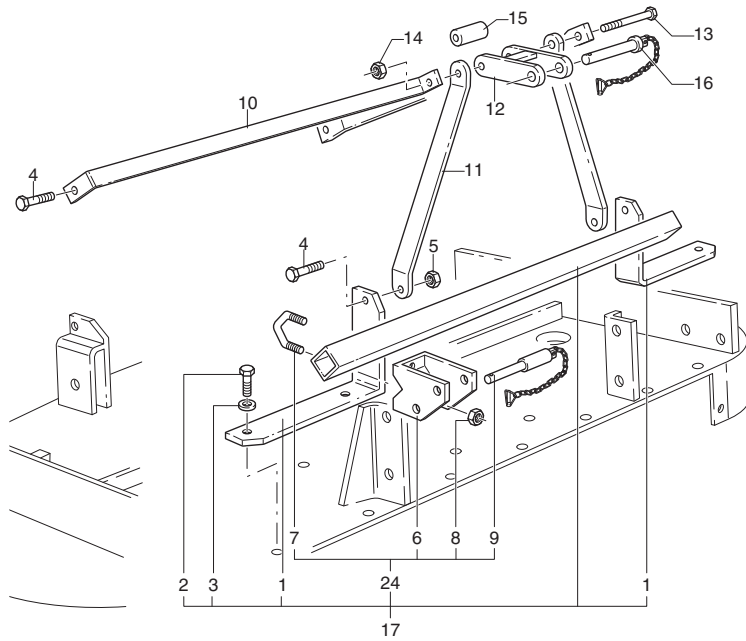
Item	Part No	Qty	Description	Other
1	68061501	1	GUARD	
2	60022800	4	SCREW	TE 8 x 20 UNI 5739 8.8 ZNT
3	61006200	4	WASHER	PIANA i 9 e 24 Sp.1,5
4	60039800	8	SCREW	TE 6 x 18 UNI 5739
5	10043300	1	FLANGE	
6	80015700	1	SEAL	
7	66005400	1	JUNT RING	40 x 56 x 8
8	67016700	2	BEARING	6008
9	68093800		SPACER	40 x 46 x 0,1
10	31085000	1	SHAFT	
11	65002500	1	KEY	12 x 8 x 30
12	10044000	1	CROWN	
13	01018100	1	GEARBOX	
14	68093900	2	PLUG	
15	66006200	1	JUNT RING	42 x 60 x 10
16	10044100	1	SHAFT	
17	65000100	1	KEY	10 x 8 x 40
18	67003700	2	BEARING	6207
19	63006900	1	SNAP-RING	35 E UNI 7436
20	63000300	1	SNAP-RING	72 I UNI 7437
21	66001500	1	JUNT RING	35 x 72 x 10
22	32182200	1	SPACER	
23	61000700	1	WASHER	PIANA 25 UNI 6592
24	62015100	1	NUT	M 24 x 2 INTAGLI UNI 5594
25	64000100	1	COTTER PIN	5 x 40 UNI 1336
26	32182200	1	SPACER	
27	46036500	1	GEAR BOX	

MR - Mulching kit



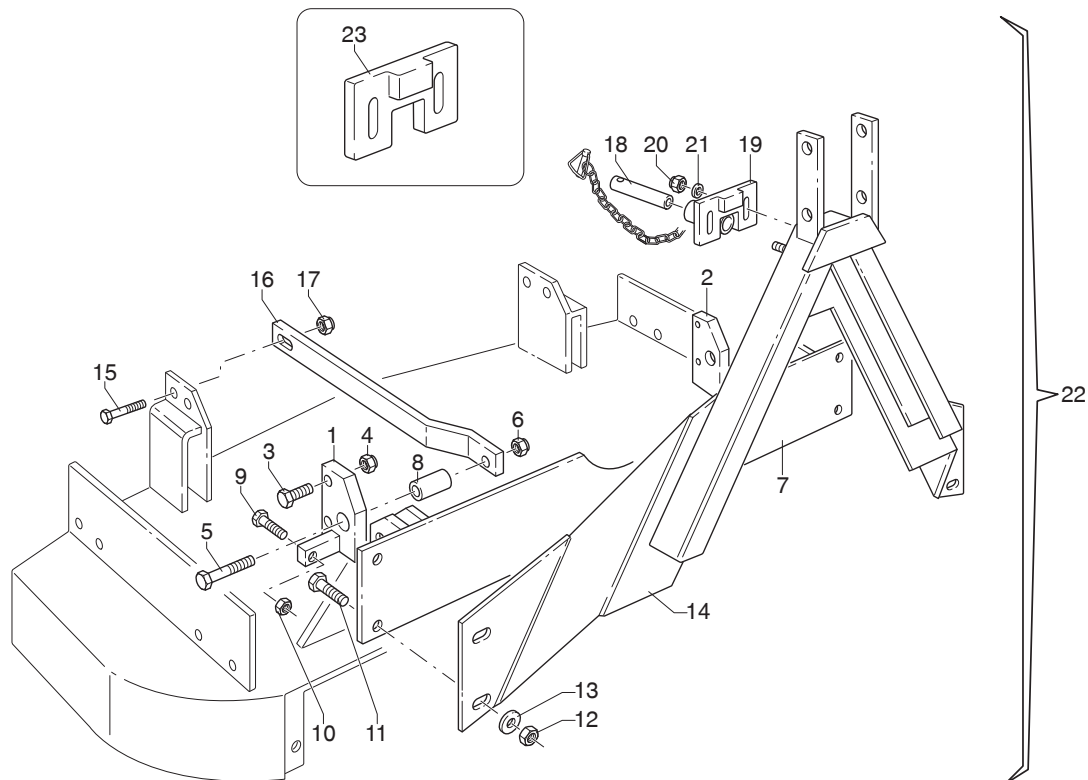
Item	Part No	Qty	Description	Other
1	60021600		SCREW	TE 10 x 20 UNI 5739 8.8 ZNT
2	61004900		WASHER	PIANA 10 UNI 6592
3	40233500	1	DEFLECTOR	120
3	40298080	1	DEFLECTOR	135
3	40233600	1	DEFLECTOR	150
3	40233700	1	DEFLECTOR	180
3	40298100	1	DEFLECTOR	210
4	62010400	3	NUT	M 10 x 1.5 AUTOBLOCC.
5	40233200	1	GRIPPING	120
5	40297800	1	GRIPPING	135
5	40233300	1	GRIPPING	150
5	40233400	1	GRIPPING	180
5	40297900	1	GRIPPING	210
6	61004900	8	WASHER	PIANA 10 UNI 6592
7	60021600	6	SCREW	TE 10 x 20 UNI 5739 8.8 ZNT
8	40232900	1	GRIPPING	120
8	40297600	1	GRIPPING	135
8	40233000	1	GRIPPING	150
8	40233100	1	GRIPPING	180
8	40297700	1	GRIPPING	210
9	60038700	2	SCREW	TBCE 10 x 25 UNI 7380
10	12.0182.00	3	"MULCHING" BLADE	120
10	12.0214.00	3	"MULCHING" BLADE	135
10	12.0183.00	3	"MULCHING" BLADE	150
10	12.0184.00	3	"MULCHING" BLADE	180
10	12.0215.00	3	"MULCHING" BLADE	210
11	45114800		KIT "MULCHING"	120
11	45158400		KIT "MULCHING"	135
11	45114900		KIT "MULCHING"	150
11	45115000		KIT "MULCHING"	180
11	45158500		KIT "MULCHING"	210

MR - Linkage 1



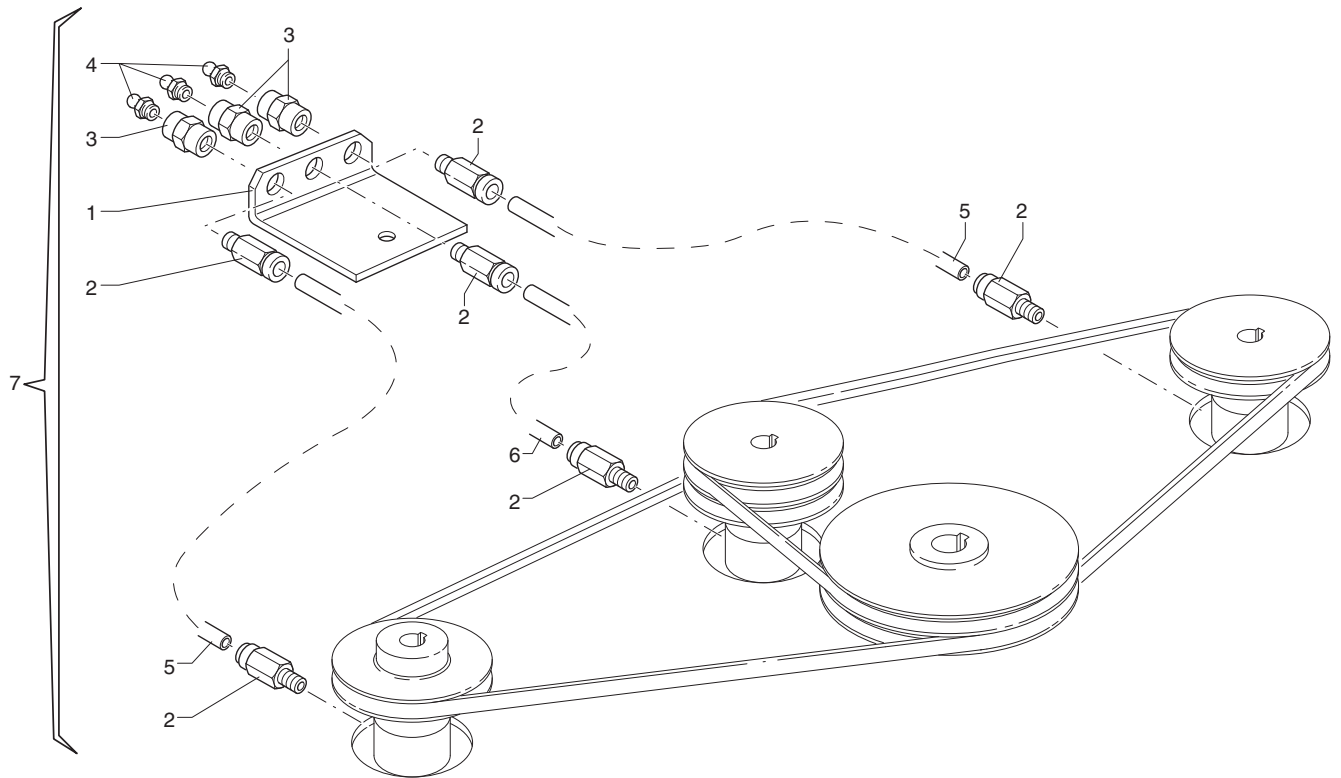
Item	Part No	Qty	Description	Other
1	40234400	1	BRACKET	120-135
1	40234500	1	BRACKET	150-180-210
2	60023500		SCREW	TE 10 x 35 UNI 5739 8.8 ZNT
3	61004900		WASHER	PIANA 10 UNI 6592
4	60028200	4	SCREW	TE 12 x 40 UNI 5739 8.8 ZNT
5	62010600	4	NUT	M 12 x 1.75 AUTOBLOCC.
6	40262100	2	BRACKET	
7	38022301	2	UBOLT	
8	62010600	4	NUT	M 12 x 1.75 AUTOBLOCC.
9	68062300	2	PIN	
10	30182800	2	TIEROD	120
10	30205300	2	TIEROD	135
10	30182900	2	TIEROD	150
10	30183000	2	TIEROD	180
10	30205400	2	TIEROD	210
11	30178900	2	TIEROD	
12	40237800	1	ATTACHMENT	
13	60011900	1	SCREW	TE 12 x 120 UNI 5737
14	62010600	1	NUT	M 12 x 1.75 AUTOBLOCC.
15	32021400	1	SPACER	
16	38024100	2	PIN	
17	45113300		FRONT LINKAGE KIT	120-135
17	45113400		FRONT LINKAGE KIT	150-180-210
18	40262101	2	BRACKET	
19	60010100	2	SCREW	TE 12x65 UNI 5737
20	60045400	2	SCREW	TE 12x55 UNI 5737
21	62010600	4	NUT	M12x1,75 AUTOBLOCC.
22	30197600	2	CLAMP	
23	51004200	1	BRACKET KIT	
24	51001300	1	BRACKET KIT	

MR - Linkage 2



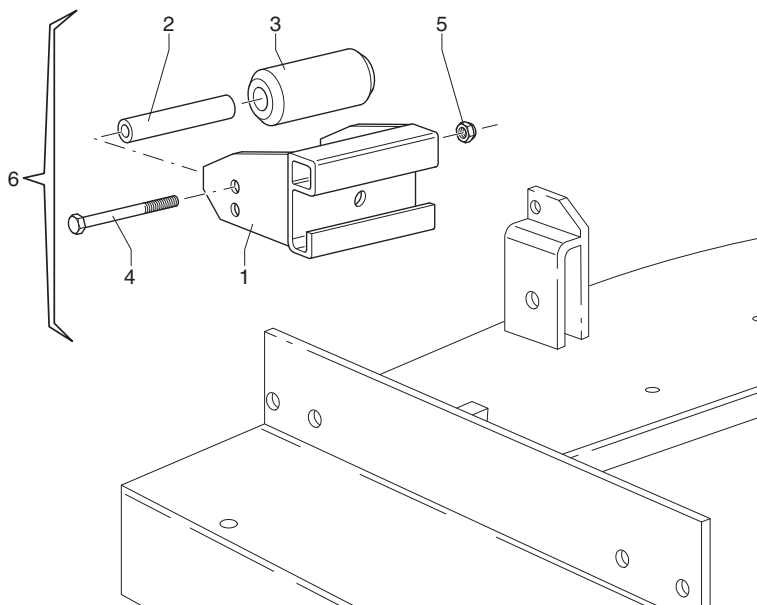
Item	Part No	Qty	Description	Other
1	40238200	1	BRACKET (RH)	
2	40238100	1	BRACKET (LH)	
3	60028100	4	SCREW	TE 12 x 55 UNI 5739
4	62010600	4	NUT	M 12 x 1.75 AUTOBLOCC.
5	60014300	2	SCREW	TE 16 x 65 UNI 5737
6	62008900	2	NUT	M 16 x 2 UNI 5588
7	40238300	1	BRACKET	
8	32167400	2	SPACER	
9	60042400	2	SCREW	TE 16 x 45 UNI 5739
10	62011000	2	NUT	M 16 x 2 AUTOBLOCC.
11	60023000	4	SCREW	TE 12 x 30 UNI 5739 8.8 ZNT
12	62010600	4	NUT	M 12 x 1.75 AUTOBLOCC.
13	61005000	4	WASHER	12 PIANA UNI 6592
14	40308900	1	ATTACHMENT	
15	60021200	2	SCREW	TE 12 x 35 UNI 5739 8.8 ZNT
16	30191300	2	TIEROD	120
16	30205500	2	TIEROD	135
16	30191400	2	TIEROD	150
16	30191500	2	TIEROD	180
16	30205600	2	TIEROD	210
17	62010600	2	NUT	M 12 x 1.75 AUTOBLOCC.
18	68087100	1	PIN	
19	40246700	1	LOCK	
20	62010200	2	NUT	M 8 x 1.25 AUTOBLOCC.
21	61004700	2	WASHER	8 PIANA UNI 6592
22	45119200		FRONT LINKAGE KIT	120
22	45158600		FRONT LINKAGE KIT	135
22	45119300		FRONT LINKAGE KIT	150
22	45119400		FRONT LINKAGE KIT	180
22	45158700		FRONT LINKAGE KIT	210
23	40246600	1	LOCK	

MR - Grease kit



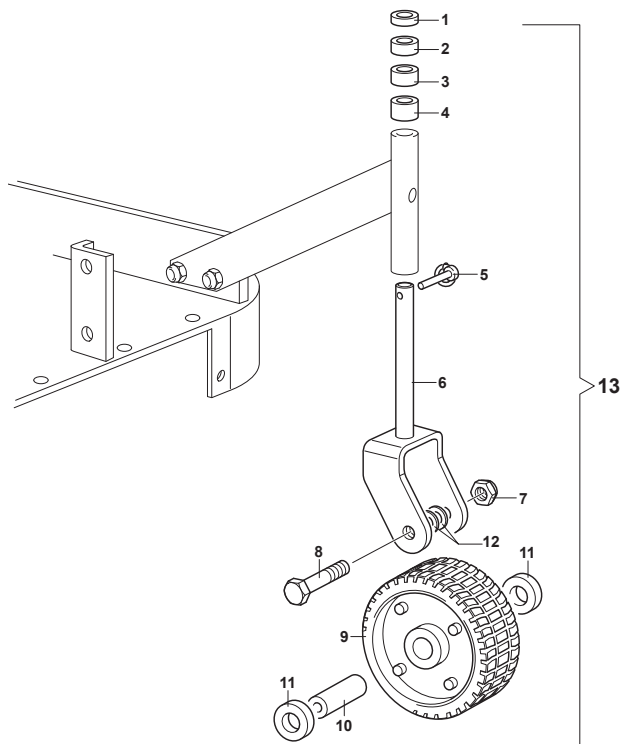
Item	Part No	Qty	Description	Other
1	30195700	1	SUPPORT	
2	68092400	6	CONNECTION	
3	68092500	3	SLEEVE	
4	64001800	3	GREASE FITTING	M10 x 1 DIRITTO
5	68096000	2	TUBE	120
5	68096100	2	TUBE	135-150
5	68096200	2	TUBE	180
5	68112600	2	TUBE	210
6	68095900	1	TUBE	
7	45142100		GREASE KIT	120
7	45142200		GREASE KIT	135-150
7	45142300		GREASE KIT	180
7	45158800		GREASE KIT	210

MR - Antiscalping roller



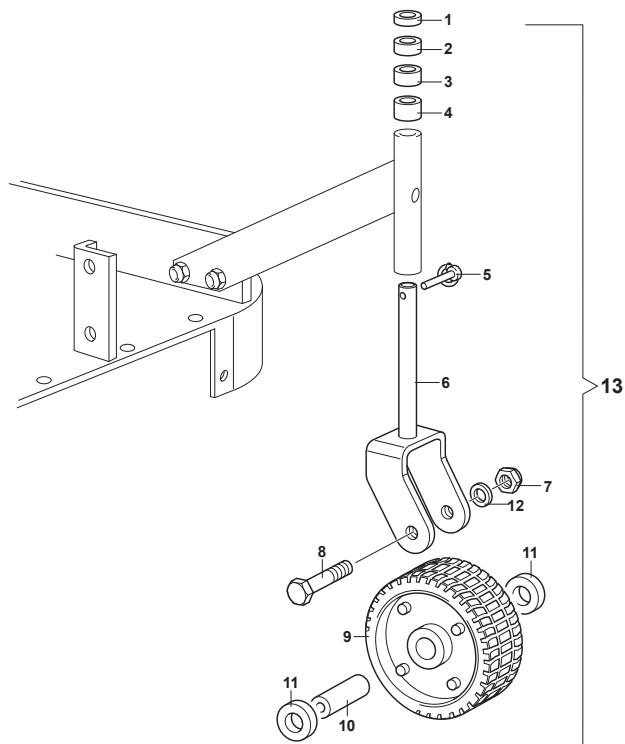
Item	Part No	Qty	Description	Other
1	40253600	1	SUPPORT	
2	32180200	1	SPACER	
3	68092700	1	DRUM	
4	60039600	1	SCREW	TE 12 x 150 UNI 5737
5	62010600	1	NUT	M 12 x 1,75 AUTOBLOCC.
6	45132100	1	ANTISCALPING ROLL KIT	

MR - Wheel kit (type 1)




Item	Part No	Qty	Description	Other
1	32174600	1	SPACER	H = 6
2	32174700	1	SPACER	H = 12
3	32174900	1	SPACER	H = 24
4	32175000	1	SPACER	H = 32
5	64004800	1	PIN	8
6	40234300	1	YOKE	
7	62010600	1	NUT	M 12 x 1.75 AUTOBLOCC.
8	60025200	1	SCREW	TE 12 x 140 UNI 5737
9	68093600	1	WHEEL	
10	38023500	1	BUSHING	
11	68115600	2	BUSHING	
12	61005000	2	WASHER	12 PIANA UNI 6592
13	45155500		WHEEL ASSEMBLY	

MR - Wheel kit (type 2)



Item	Part No	Qty	Description	Other
1	32174600	1	SPACER	H = 6
2	32174700	1	SPACER	H = 12
3	32174900	1	SPACER	H = 24
4	32175000	1	SPACER	H = 32
5	64004800	1	PIN	8
6	40309800	1	YOKE	
7	62010600	1	NUT	M 12 x 1.75 AUTOBLOCC.
8	60025200	1	SCREW	TE 12 x 140 UNI 5737
9	68119300	1	WHEEL	
10	38027800	1	BUSHING	
11	68119800	2	BUSHING	
12	61005000	1	WASHER	12 PIANA UNI 6592
13	45171100		WHEEL ASSEMBLY	

Warranty: This machine is guaranteed for 12 months. No warranty is given where the machine is being used as a hire machine. Warranty is against faulty workmanship or parts, with the exception of components not of MAJOR'S manufacture or design, i.e. hydraulic components, universally jointed shafts, chains and tyres, etc., which are subject to the original manufacturers conditions. To register your machine for warranty, please go to the support section of our website www.major-equipment.com and enter your details.

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