



Hydraulic Reach Mower AGHRM220-C100 OPERATION MANUAL



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INTRODUCTION

The Agpro Reach Mower with two-directional cutting head engine, double high-performance hydraulic system, in-cab remote control system, hydraulic cushioning with 100° rotation. Floating head system, height adjustable roller, front and back cutting guards. High quality manufacturing materials, grouted and grinded pins and bushings. Ideal for cutting grass, bushes, scrub and prunings. Suited for 25-45HP and 80-130 HP tractors..

They are designed to be mounted into agricultural tractor three point systems. When mounted the machine is stabilised by means of two biliser bars between the machine and the tractor.

NEVER use the machine for any other purpose than that for which it was designed (See this manual).

NEVER USE THE ARMS LIKE A CRANE

OPERATORS GUIDE

Congratulations and thank you for buying an AgPro hydraulic reach mower . This machine is built for a long and trouble free life, but this will depend on its correct use and maintenance.

It is essential to respect some simple rules

First of all, READ THIS MANUAL CAREFULLY

The most important points are as follows:

1. DO not exceed the maximum pto speed 540 rpm
2. Adjust the rotation of the rotor to suit the type of work to be carried out.
3. Grease the machine once a day
4. Replace the filter after 50 hours and check the oil level
5. Check all nuts and bolts on the cutting head regularly
6. Make sure that all hydraulic unions are kept tight and do not **leak**

this happens frequently , it indicates

- Too high a forward speed
- The rotor is turning the wrong way for the type of work
- The pto speed is incorrect
- There is a problem in the hydraulic system

The use of non-Original spare parts can invalidate the warranty

BASIC SAFETY AND HEALTH REQUIRMENTS

WARNING DANGER

NEVER try to assemble, connect or start the machine before understanding completely the functions, the controls and all the necessary safety precautions, as illustrated in the instruction manual.

Always follow **VERY CAREFULLY** all the instructions for both the hedge cutters and the tractor, especially those concerned with safety

NEVER LEAVE THE DRIVER'S SEAT OF THE TRACTOR AS LONG AS THE ENGINE OR THE MACHINE IS WORKING.

NEVER USE THE HEDGE ARM MOWER ARMS LIKE A CRANE IN ANY WAY.

After mounting the hedge mower to the tractor, it may be necessary to stabilize the whole by ballasting the back wheels of the tractor and/or by fitting the tractor with some counterbalance weights.

The track of the tractor can be widened; this will increase the stability of the unit.

VERY IMPORTANT

Understand the meaning of all the **DANGER** and **INSTRUCTION** labels that are on the machine; all precautions must be taken and all the instructions respected.

If you need some advice, or some help, or if you do not understand a part of this handbook, or of the machine, contact your dealer.

If you are not sure, NEVER SUPPOSE – DEMAND EXPLANATIONS.

The machine **MUST NOT** be rebuilt or modified in any part without the written authority of the manufacturer.

The manufacturer declines all responsibilities for a machine that has been modified without its written consent.

NEVER try to repair, adjust, or work on the machine in any way if it is not safely supported.

ALWAYS MAKE SURE THAT THE MACHINE IS LIFTED AND LOWERED IN SAFETY.

WARNING DANGER

Before executing any repair or operation on the tractor, or on the hedge cutters, **ALWAYS** make sure that the wheels of the tractor or another prime mover are positively blocked from any movement.

BEFORE ANY ADJUSTMENT, REPAIR OR CONTROL TO THE HEDGE CUTTER , ALWAYS STOP THE ENGINE OF THE TRACTOR.

Always be aware of all that is around you and use the machine with care. Fully take notice of your working area, with particular regard any buildings, power lines, steep slopes, wire, or any other hazardous material that may affect the working of the machine. Always keep all persons and animals well clear of the working area.

Drive and operate the machine taking in to consideration the weather conditions - sun, rain, ice, snow wind etc.

GENERAL DIRECTIONS

1 – Before connecting the machine to the tractor, make sure that it is standing safely on a solid and level surface. (It is important to take the machine off the tractor in a suitable place, so that it can be easily reconnect the next time it is needed)

Make sure that the machine is correctly supported and that the transport locks are in position to prevent the arm dropping when the machine is lifted.

2 – Before or during all manoeuvres of the tractor or vehicle concerned with the process of connecting the hedge mower, make sure that **NO ONE** is nearby.
Make sure that all persons keep at a safe distance; **ALWAYS** take care during manoeuvres in reverse and when aligning the hedge mower with the tractor.

3 – **ALWAYS** ensure that the tractor brakes are applied correctly, so that the tractor can be kept in the chosen position during the mounting of the machine.
This will stop any movement to the vehicle, which could cause injury or damage.

4 – Make sure that the stabiliser bars and the top link are connected on the machine correctly. You must use only good quality pins on the three point linkage attachment.
Lock the pins with linch pins.

5 – If it is necessary to adjust or to overhaul the machine when it is connected to the tractor, you **MUST** put some suitable stands or supports under the machine to avoid any accidental lowering of the arms and/or the machine. Make sure that any stands are on firm and level ground

THE MACHINES MUST BE ALWAYS SUPPORTED AND LOWERED WHEN BEING ADJUSTED OR REPAIRED

6 – **NEVER** work, adjust, overhaul or repair any machine while it is in motion.
Before starting the adjustments, overhauls, repairs, always stop the machine and **TURN OFF THE ENGINE OF THE TRACTOR.**

BEFORE LEAVING THE DRIVER'S SEAT OF THE TRACTOR, TURN OFF THE ENGINE OF THE TRACTOR

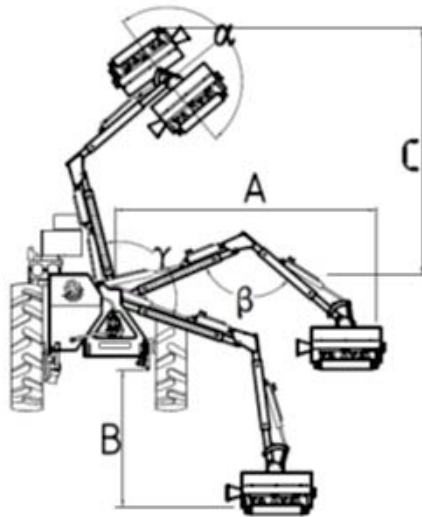
7 – In transit, always use the transport supports or the chains where provided.
In case of larger machines, the hedge mower is transported with the arms to the rear; this may make the tractor unstable. Make sure that there is enough front ballast to maintain stability.

8 – **ALWAYS** use the machine with care. Do not use it for any other works except that for which it was designed. Do not overload the machine because this could be the cause of damage to the machine and/or to the tractor.

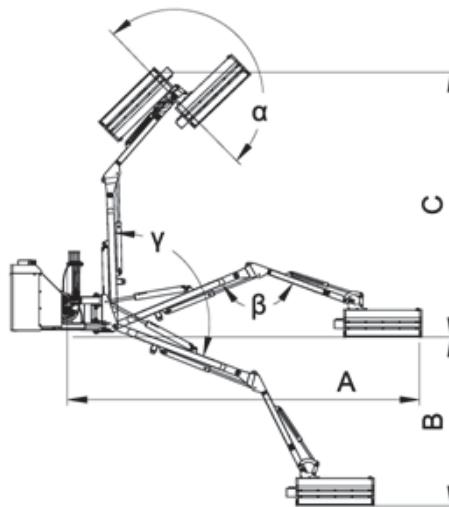
9 – When you take the machine off the tractor, make sure that the support feet are in a safe position. The machine must be parked in a place where it is not dangerous or a possible obstruction for other people.
Make sure that the ground is firm and level.

10 – Carry out regular and periodic maintenance during the working life of the machine to make sure that the machine is **ALWAYS** in a safe condition.

11 – **THE HEALTH AND SAFETY INSTRUCTIONS MUST BE ALWAYS RESPECTED.**



Mod.								α	β	γ	A	B	C	
	CM	Min.	Max.	KGS	L	n°	RPM	°	°	°	CM	CM	CM	KGS
HRM220-C60	60	25	40	800	55	24	1000	176	116	123	250	310	200	270
HRM220-C80	80	25	40	800	55	32	1000	176	116	123	270	330	220	285
HRM220-C100	100	25	40	900	55	40	1000	176	116	123	290	350	240	300



Mod.								α	β	γ	A	B	C	
	CM	Min.	Max.	KGS	L	n°	RPM	°	°	°	CM	CM	CM	KGS
HRM500-C130	130	90	120	3500	180	52	540	180	137	113	620	300	470	1050

CONNECTING THE REACH MOWER TO THE TRACTOR

WHEN THE MACHINE IS STANDING ON THE LEVEL GROUND:

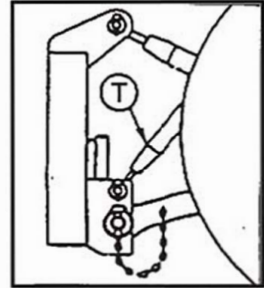
1 – Connect the bottom links of the tractor to the machine, making sure that the pins are securely locked with linch pins.

2 – Attach the top link and secure with the linch pins. Lift the machine, so that the P.T.O. of the tractor is at the same level and in line with that of the machine.

Adjust the check chains or sway blocks so that the machine is not free to swing sideways:

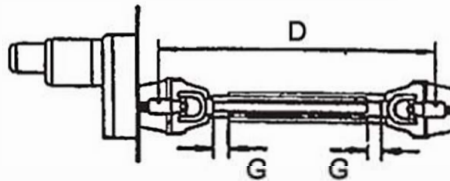
Check that the safety linch pins are in position and that all lock nuts are tightened.

WARNING DANGER: NEVER stand between the tractor and the machine during the hook up operations.



3 – P.T.O shaft:

Before this operation READ CAREFULLY the instructions that are included in the handbook given with the pto shaft.



Make sure that the input shaft of the mower and the PTO shaft of the tractor are in line and at the same height. Measure the distance D between the recesses on the tractor pto shaft and that of the input shaft on the machine gearbox: adjust the length of the pto shaft to give a clearance G of at least 50 mm [2"] at each end of the shaft. Make sure that all PTO shaft guards are refitted and in good condition

NEVER USE THE PTO SHAFT WITHOUT ALL OF ITS GUARDS FITTED AND IN GOOD CONDITION
Always attach the chains on both ends of the PTO guard to an appropriate point so that the guard cannot turn.

4 – Fitting of stabilizer turnbuckles " T "

The machine has two STABILIZER TURNBUCKLES: for their assembly and disassembly it is ESSENTIAL TO READ the following instructions:

- raise the main body of the machine up to work position
- fix the two turnbuckles with the pins provided between the top hole of the bottom linkage attachment points on the machine (see picture) and the holes provided in the top link yoke of the machine.
- Tighten the turnbuckles so that the machine is locked and will not move. Lower the linkage making sure that there is no upwards pressure on the stabilizers.

FOR CORRECT AND SAFE USE OF THE MACHINE THE TWO TURNBUCKLES " T " MUST BE FITTED AT ALL TIMES

SEMI – AUTOMATIC HOOK UP TO THE REACH MOWER

Raise the quick hitch bar to the height of the bottom link connection points on the mower, remove the lock pins from the mower and back in slowly until the hitch bar is fully located.

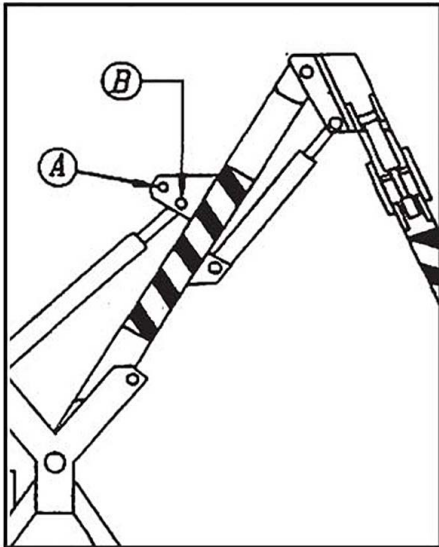
Lock the bar into place with the lock pins. Fit the PTO shaft and top link.

Raise the machine to its correct working height and fit the stabilizers as described above.

CONNECTING THE REACH MOWER TO THE TRACTOR

5 - ADJUSTMENT OF THE WORK POSITION

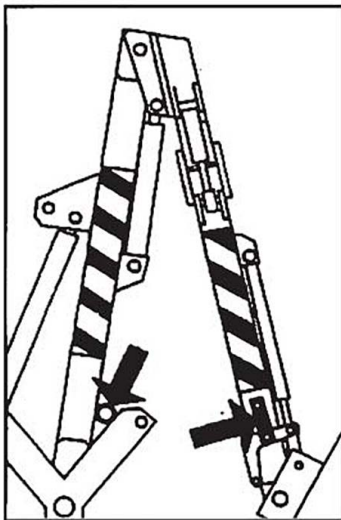
The work position (distance 4 - 5 cm from ground) is obtained working on the back roller: if, after lowering completely the roller a higher height is needed, you can act on the connecting-rod of the third tie-down point by loosening. (this adjustment must be done with caution because it produces a back inclination of the machine. The best position of work is always when the machine has the arms in vertical position).



6 - ADJUSTMENT OF THROAT DEPTH

To obtain the max throat of the Reach Mower, put the hydraulic jack of the arm in the hole "B" (see the picture); In order to draw it, put the hydraulic ram in the hole "A".

WARNING : THIS OPERATION MUST BE DONE ONLY AFTER PUTTING THE REACH MOWER ON THE GROUND .



7 - TRANSPORT POSITION ON THE ROAD

The machine is provided with special piston pins of safety; they prevent the movements during transport on the road (see the picture)

NEVER TRAVEL WITHOUT PUTTING THE PISTON PINS OF SAFETY; THIS WARNING PROTECTS THE MACHINE AND AVOIDS THE POSSIBILITY OF ACCIDENTS.

IN THE CASE OF DAMAGES TO THE REACH MOWER CAUSED BY INOBSERVANCE OF THE ABOVE MENTIONED INSTRUCTION OF SAFETY, THE MANUFACTURING FIRM DOES NOT RECOGNISE ANY WARRANTY.

IN THE CASE OF DAMAGES TO A THIRD PARTY BECAUSE OF INOBSERVANCE OF THE ABOVE MENTIONED INSTRUCTION, ALL THE RESPONSIBILITIES ARE OF THE DRIVER OF THE VEHICLE.

**DO NOT MAKE UNSKILLED STAFF DRIVE THE TRACTOR
NEITHER DURING THE TRANSFERS!**

TAKING THE REACH MOWER OFF THE TRACTOR

1. Choose a level and firm surface with good access.
2. **VERY IMPORTANT.** Using the hydraulic system, close the head angling ram, then the hedge and the reach rams to bring the machine into the rest position. Fit the parking stands.
3. **Stop the PTO shaft and TURN OFF THE ENGINE OF THE TRACTOR.**
4. **REMOVE THE STABILIZERS.** Lower the hedge mower to the ground (by lowering the linkage of the tractor). If necessary adjust the linkage so that the machine is resting completely on the ground. Make sure that the hedge mower is in a correct rest position and well placed on its feet.
5. Remove the chains holding the PTO guard and then remove the PTO shaft.
6. Disconnect the top link and then the bottom links.
7. Remove the hedge mower controls from the tractor and store them in their parking place on the machine.
8. Drive forward very slowly checking that all connections to the tractor are free. Remove the cab protection is necessary.

WORKING OF THE REACH MOWER

The driver must fully understand the controls and the capacity of the tractor. It is always recommended that the driver practice the controls and the working of the Reach Mower in a safe location **BEFORE** beginning work.

The forward speed that can be achieved will be different depending on the type and the quantity of the material that has to be cut. Choose a speed suitable for the job to be done. Make sure that the P.T.O speed of the tractor is 540 r.p.m. for general use. This speed will give the best cut.

VERY IMPORTANT: THE P.T.O. MUST NEVER EXCEED 540 R.P.M.

WARNING DANGER

ALWAYS keep the cutting head as close to the tractor as possible to maintain the greatest stability.

NEVER direct the cutting head and the flails towards the operator when the machine is in motion.

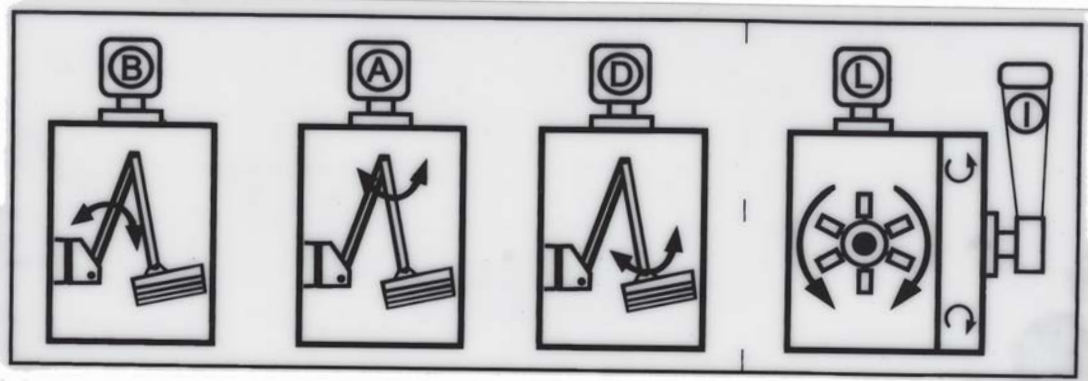
MAXIMUM CUTTING THICKNESS:

Hard wood	Ø 3 cm. [1.18"]
Soft wood	Ø 6 cm. [2.36"]

ALWAYS adjust your forward speed according to the type of the material to be cut

ARM CONTROL

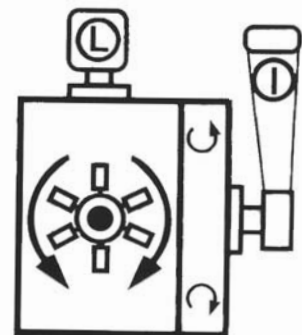
FIX THE SET OF LEVEL CONTROL TO THE TRACTOR IN A HANDY POSITION.



LEGEND ON LEVERS	LEVER	
	Forward	Backward
I Reversal of rotor rotation	Rotor rotation up at the front	Rotor rotation down at the front
L Rotor start/stop		
B Main arm up/down	Main arm down	Main arm up
A Reach in/out	Reach out	Reach in
D Head angling	Clockwise	Anti-clockwise

REVERSE THE ROTOR ROTATION (LEVER I AND L) ONLY WHEN THE ROTOR IS COMPLETELY STOPPED: CARRYING OUT THIS OPERATION WHEN THE ROTOR IS IN MOTION CAN DAMAGE THE HYDRAULIC MOTOR

Fix the set of **CABLE CONTROLS** or the **ELECTRIC MONOLEVER** to the tractor in a convenient position for their use, making sure that they do not obstruct the entry or exit of the tractor cab



LEGEND OF LEVERS	LEVER	
	Forward	Backward
I Reversal rotor rotation	Rotation up at the front	Rotation down at the front
L Rotor start/stop		

VERY IMPORTANT

REVERSE THE ROTOR ROTATION (LEVER I AND L) ONLY WHEN THE ROTOR IS COMPLETELY STOPPED: CARRYING OUT THIS OPERATION WHEN THE ROTOR IS IN MOTION CAN DAMAGE THE HYDRAULIC MOTOR

USE OF THE MACHINE ON THE ROAD

Before using the hedge cutters on the roadside, the operator must consult the authorities that control the upkeep of the roads, as the rules can be different from one area to another.

The rules concerning the upkeep of the roads must always be respected.

ATTENTION

IN GENERAL THE TRACTOR OR ANY OTHER PRIME MOVER MUST WORK IN THE DIRECTION OF THE TRAFFIC; THIS MUST BE CONFIRMED BY CONSULTING THE LOCAL LAWS CONCERNING THE UPKEEP OF THE ROADS.

ALWAYS use the traffic signs, or any other systems recommended by the maintenance services and make sure that they are in a correct position in relation to the work being carried out.

Respect the movement of the traffic and try to ensure that it flows freely. Give enough time for pedestrians and cyclists to get clear of the working area.

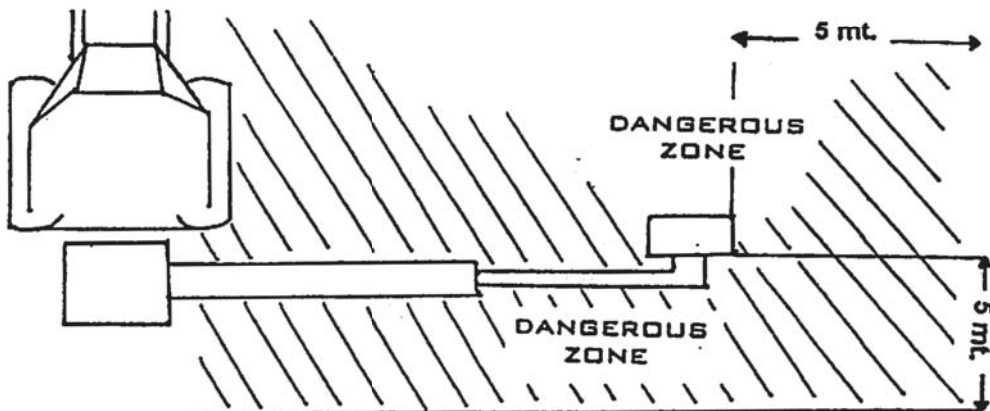
Obey the laws on the lighting to be used on the tractor during work on the highway.

VERY IMPORTANT

**NEVER TRANSPORT PASSENGERS ON THE TRACTOR OR ON THE MACHINE.
MAKE SURE THAT "ONLOOKERS" ARE CLEAR OF THE WORKING ZONE OF THE MACHINE.**

NEVER ALLOW ANYONE IN FRONT OF THE CUTTING HEAD, OR IN THE EJECTION RADIUS OF THE CUT MATERIAL.

You must always maintain a **SAFETY** zones around the machine:



VERY IMPORTANT

NEVER start the cutting head with the flails facing the operator or any other people.
ALWAYS work the machine with the cutting head addressed towards the material to be cut.

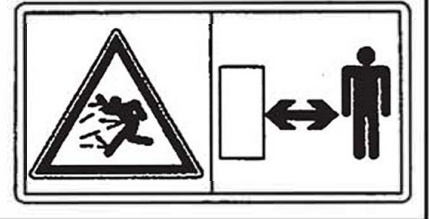
Never pass under the hedge cutters particularly if it is on the road.

WORKING WITH THE REACH MOWER

1. Remove or disconnect the transport locks.
2. Using the level R and making absolutely sure that the area is clear of people and obstacles, power the arm to its working position.
3. Angle the head so that it can be lowered close to the ground. Keep the rotor clear of the material to be cut.
4. Start the rotor by engaging the lever L and increase the PTO speed to 540 r.p.m.
5. Lower the head into the work and move forward at a suitable speed for the type and quantity of material to be cut

WARNING DANGER

Even with all the guards fitted some material may be ejected from the mower.
It is **ESSENTIAL** that all persons and animals are kept out of the working area described below.



Keeping the flail head horizontal to ground level allows the machine to be used with the greatest safety. **ALWAYS KEEP A CLEAR SAFE WORK ZONE OF AT LEAST 10 METRES [33 FT]**

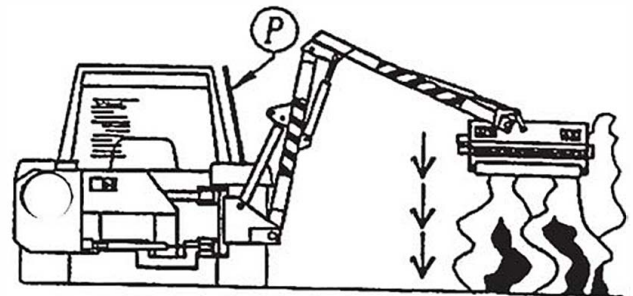
CHECK OFTEN THAT NO ONE HAS ENTERED THIS WORK ZONE AND CAUSED A DANGEROUS SITUATION

When working on the roadside which is open to traffic, always place warning signs at the correct distance from your work to alert passing traffic. **BE AWARE OF PASSING TRAFFIC AND BE PREPARED TO STOP IMMEDIATELY**

When working in areas where there are stones, raise the machine so that it does not come into contact with the stones and **INCREASE THE SAFE WORK ZONE TO AT LEAST 20 METRES [66 FEET]**.

CUTTING HEDGES, REEDS AND SHRUBS

When the material to be cut exceeds 70-80 cm [28" – 32"] in height, take more than one pass to complete the job, cutting 20-30 cm [8" – 12"] each pass.



WARNING

The use of the flail head off the ground or at an angle other than horizontal to the ground can cause danger to the driver. **IN THIS CASE THE CAB GUARDS P MUST BE FITTED TO THE SIDE WINDOW OF THE TRACTOR.**

THE MANUFACTURER DECLINES ALL RESPONSIBILITY FOR ANY ACCIDENT CAUSED BY NO-OBSEVANCE OF THIS INSTRUCTION.

The guard must be made of a strong steel mesh with a mesh size of no more than 2cm [0.75"]

STORING OF THE MACHINE

When storing the machine, it is very important to find a level and firm parking surface.

VERY IMPORTANT

To make sure that the machine is safely parked, **ALWAYS** place the machine on its support feet. Make sure that the support feet of the machine are locked in a correct position.

NEVER allow children to play above or around the machine in its parking position.

NEVER wear large or torn clothes because they could get entangled in the mechanism or in the controls.

ALWAYS be sure that the guards are in the correct position to protect the operator from the flying material.

Be sure that the visibility through the cab screens is **ALWAYS** good.

Be sure that the controls, joysticks, levers etc. are in a correct position, so that the operator can use them without difficulty and at the same time they do not prevent the other driving functions. The controls **MUST NOT** hamper the entrance and the exit of the cab.

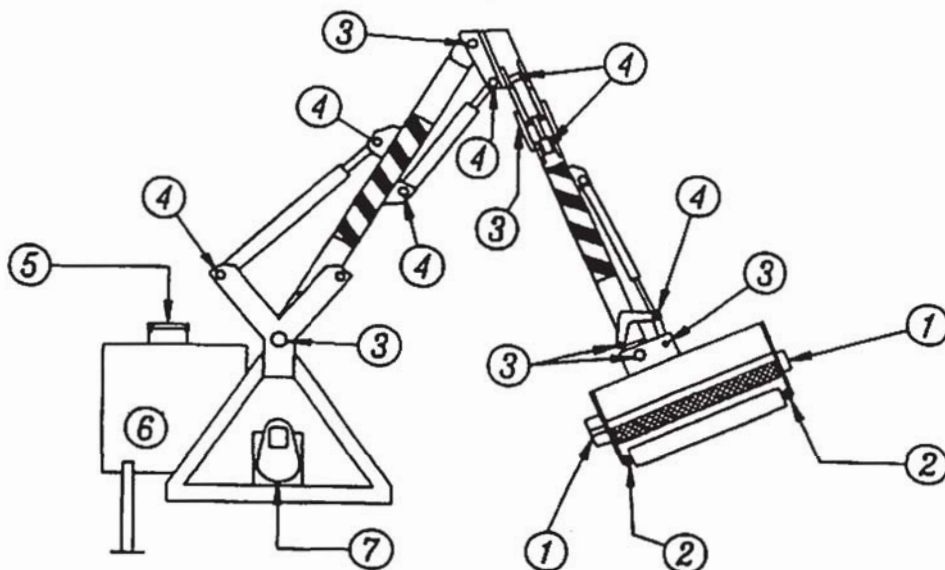
The exhausted oil and the other noxious products must be always thrown in special waste containers, legally certified and suitable for containing the product in question.
ALWAYS DISPOSE OF THE EXHAUSTED PRODUCTS IN SPECIAL AUTHORIZED DISPOSAL AREAS.

During transport of the hedge mower from one place to another, in particular when working, some passive movements of the arms can take place because of rough surfaces; so, it is **VERY IMPORTANT** to put the arms and the cutting head in the correct transport position **BEFORE** beginning transport. (See the respective paragraph).

LEVER AND JOYSTICK SAFETY

The control levers that set the hydraulic cylinders of the arms of all types of machines return to the neutral position when the lever is free. This system is important in order to avoid an involuntary movements or displacements of the arms.

MAINTENANCE OF THE MACHINE



- | | |
|------------------------------|--|
| 1) ROTOR HOUSINGS: | Grease every 4 working hours; grease IMMEDIATELY if the cutting head has worked into the water. |
| 2) ROLLER BRACKETS: | Grease every 8 working hours; grease IMMEDIATELY if the machine has worked into the water. |
| 3) MAIN ARTICULATION JOINTS: | Grease every 18 working hours; |
| 4) ARMS JOINTS: | Grease every 18 working hours; |
| 5) OIL FILTER: | Clean the filter cartridge after the first 30 working hours and then every 150 hours; |
| 6) HYDRAULIC OIL: | Replace the hydraulic oil (AGIP OSO 46) after the first 1200 working hours; |
| 7) GEARBOX GROUP: | Replace the oil (AGIP ROTRA 80W90) after the first 150 working hours and then every 600 hours; |
-
- a) After the first 20 working hours and then periodically, check the tightening of:
- All the bolts, also on gearbox and pumps;
 - Hoses connectors;
- b) If vibrations occurs, stop working **IMMEDIATELY**, disengage the PTO and check the conditions of the blades. Make sure that they swing free and, if necessary, replace those broken or worn out. **BEFORE PROCEEDING WITH OPERATIONS, THE MACHINE MUST BE CLOSED IN TRANSPORT POSITION.**
- c) Keep always the rotor clean. If necessary, remove foreign material that might be kinked inside the cutting head and/or around the rotor.

ROTOR ROTATION

The rotor of the machine can be operated in either direction

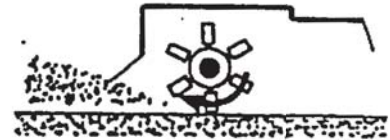
WORKING DIRECTION →



Rotor turning up at the front

Use for grass mowing, ditch mowing and light hedge cutting

WORKING DIRECTION →



Rotor turning down at the front

Use in stoney ground and for heavy growth.

WARNING - WARNING

DO NOT REVERSE THE ROTATION OF THE ROTOR WHEN THE ROTOR IS IN MOTION

DANGER SIGNALS

WARNING: DANGER TO THE HANDS

Before attempting any manual operations wait for the rotor to stop completely. Switch off the PTO and stop the engine of the tractor

WARNING: DANGER TO THE FEET

Never approach the mower when it is working and keep feet hand and clothing well clear at all times



HYDRAULIC CONTROLS – CUTTING POSITION

The cutting head must be lowered slowly until it is in work position. **NEVER** drop the cutting head. When you have to cut at ground level (grass etc.), the cutting head must be lowered slowly until the roller is just exerting a small pressure on the ground.

IMPORTANT: Keep the rotor and roller clear of rocks, stones, stumps etc.

Keep the rotor free from wire, as this can be very dangerous if it wraps round the rotor.

If you meet a large obstacles or you see wire twist around the rotor, you **MUST STOP IMMEDIATELY**. Remove the obstacle or the wire before starting again.

The operator can circumnavigate normal obstacles by slowing down and moving the position of the head. Some degree of float can be achieved by the use of an optional float system. This will allow the head to follow the contours of the ground within the limits of the system.

CUTTING HEAD

The rotor of cutting head is balanced before it is assembled into the head: this makes for vibration free operation. If the rotor should vibrate or loose one or more blades, **STOP THE MACHINE IMMEDIATELY**, because if you continue there could be some serious consequences, like damages to the bearings and weakening of the structure.

When you stop the machine, clean the rotor and check that no flails or bolts are missing; if they are, replace them immediately with only genuine spare parts.

Vibration can also be the consequence of a shock against a solid object; in this case the rotor must be rebalanced, repaired or even replaced.

TRANSIT

1. Reduce the reach of the machine by operation the reach ram.
2. Turn the flailhead until it is nearly perpendicular to the angling arm.
3. Using the breakaway ram swing the dipper arm to the rear.
4. Operate the reach ram until the ram is completely closed.
5. The hedge mower is ready for the transport on the road.

ADJUSTMENT OF THE WORKING POSITION

The work position (distance 4 – 5 cm. [1 1/2" – 2"] from ground) is obtained by adjusting the back roller: if, after lowering the roller completely a higher cut is still needed, the top link can be lengthened. This must be done with care, making sure that the top link does not become completely unthreaded. The machine must not be leaning back too much as the breakaway will operate too easily. The machine works best when it is set in the vertical position. When mowing high beware of material being ejected from the mower and **INCREASE THE SAFE WORKING ZONE TO AT LEAST 20M [66 FT]**

IN THE CASE OF DAMAGE TO THE REACH MOWER, CAUSED BY NOT OBSERVING THE ABOVE MENTIONED INSTRUCTION OF SAFETY, THE MANUFACTURER DECLINES ANY WARRANTY.

IN THE CASE OF DAMAGE TO A THIRD PARTY BECAUSE BY NOT OBSERVING THE ABOVE MENTIONED INSTRUCTION. ALL THE RESPONSIBILITIES ARE BOURNE BY THE DRIVER OF THE VEHICLE.

**DO NOT ALLOW UNSKILLED STAFF TO DRIVE THE TRACTOR
EVEN DURING TRANSPORT!**

MAINTENANCE OF THE MACHINE (B)

LUBRICATION POINTS

A label that indicates the grease points and shows the picture of a grease gun is placed on every pivot pin of the arms and the rams. These points must be lubricated every day. The roller and the rotor bearings must be lubricated twice a day.

P.T.O. SHAFT

You must check the P.T.O. shaft every week, in particular, the mechanical slide and the plastic guard. Any damage to the guard must be repaired and you **MUST** use the anti-rotation chains. The universal joints must be lubricated in accordance with the instructions provided by the shaft manufacturer. Every fifteen days, the internal shaft must be lubricated over all its length in order to assure that it slides correctly.

HYDRAULIC OIL

Before delivering the machine, the Manufacturer tests and adjusts the hydraulic circuit. The oil tank contains AGIP OSO 46 oil.

NOTE: The oil tank is fitted with two filters: one filter is on the oil tank and the other one is inside - to filter the oil on entry and exit.

It is advised that different types of hydraulic oil should **NEVER BE MIXED**; but, if you have to use a type of oil different from the oil that is in the oil tank, it must be compatible. (Check with your oil supplier). If the return filter is very dirty, clean it. This should be considered as a temporary measure, in most cases, it is better to change the filter.

VERY IMPORTANT

THE OIL FILTER MUST BE CHANGED AFTER THE FIRST 50 WORKING HOURS AND EVERY 250 WORKING HOURS THEREAFTER

The oil level should be checked every day by looking at the gauge near the return filter. Contamination of the oil will necessitate a complete oil change: Contamination may show as darkness of colour and/or a smell of burning.

Clean the area around the oil filling cap (In particular before you open it), replace the filter in good time and use clean receptacles to reduce the danger of contamination of the oil.

Clear the fins of the oil-cooler periodically with a jet of air.

GEARBOX

The gearbox of the hydraulic pump is pre-filled with 0,5 litre of AGIP ROTRA 80W90 oil. When you top up the oil use this type of oil. Check the level regularly by means of the glass indicator on the gearbox. Change the oil every season.

PIPES & HOSES

You must check all pipes & hoses regularly to make sure that the metal braiding is not damaged. If there is damage, the damaged pipes/hoses should to be replaced because their pressure capacity will be reduced and this will increase the risk of a burst. When you replace a hose it is important **TO TAKE A LOT OF CARE** because every new pipe has to be assembled in the same position as the one substituted. The direction of the pipe run must also be the same. Check the hydraulic connections every day to make sure that there is no leaks.

CABLES AND CONTROL HANDLE

No maintenance of the cables and the controls is needed and they must not be greased. If the controls are hard, check that there are no twists in the cable and that there are no broken or loose internal component.

CUTTING HEAD

Check the flails every day and make sure that they are always in **GOOD CONDITION**. Check the nuts & bolts every day; they must be always be tight. A missing or broken flail must be replaced **IMMEDIATELY** because the loss of the balance causes damage to the bearings and to the structure. As regards the replacement of the flails, it is important to remember that you must **REPLACE THEM IN PAIRS** in order to maintain the balance - that is replace flails on opposite sides of the rotor.

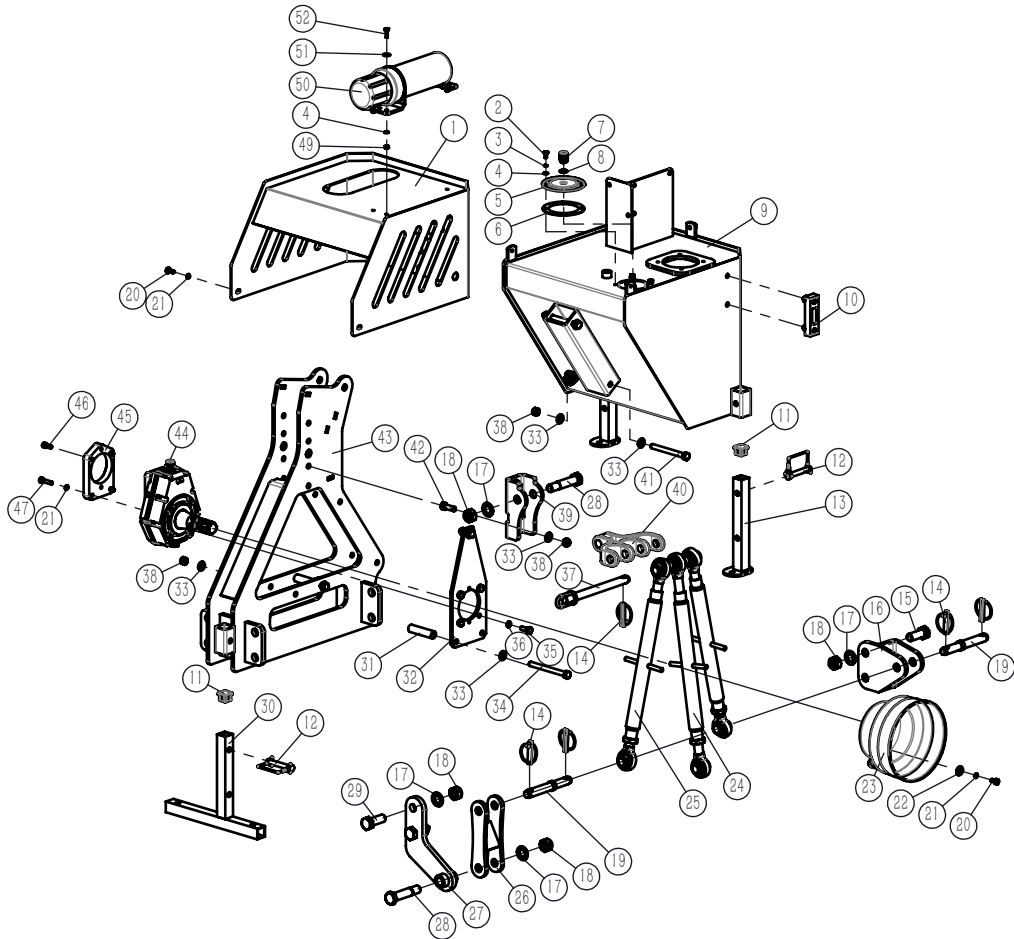
INDIRECT TRANSMISSION ROTOR: Check the tension of the drive belts on the cutting head every day; a load of 5 kg. [11 lb] must give a deflection of 9 mm [0.35"]. when applied to the belts in the centre between the pulleys. The access to the belts is gained by lifting the protection panel on the side of the belt casing. You can adjust the tension of the belts by loosening the screws that fix the motor and then by adjusting the special internal adjuster screw. Re-tighten the motor screws and the screws securing the panel.

BEFORE STORAGE

Clean the hedge mower and check for any damage or necessary repairs. Obtain the spare parts and complete the repairs in good time of the next season. Grease the machine well, **IN PARTICULAR** the rods of the hydraulic cylinders. Do not expose the machine to inclement weather; if it is possible keep the machine covered.

INDIRECT TRANSMISSION ROTOR: The tension of the drive belts of the cutting head must be loosened to protect the belts.

Hydraulic Reach Mower Assembly 1

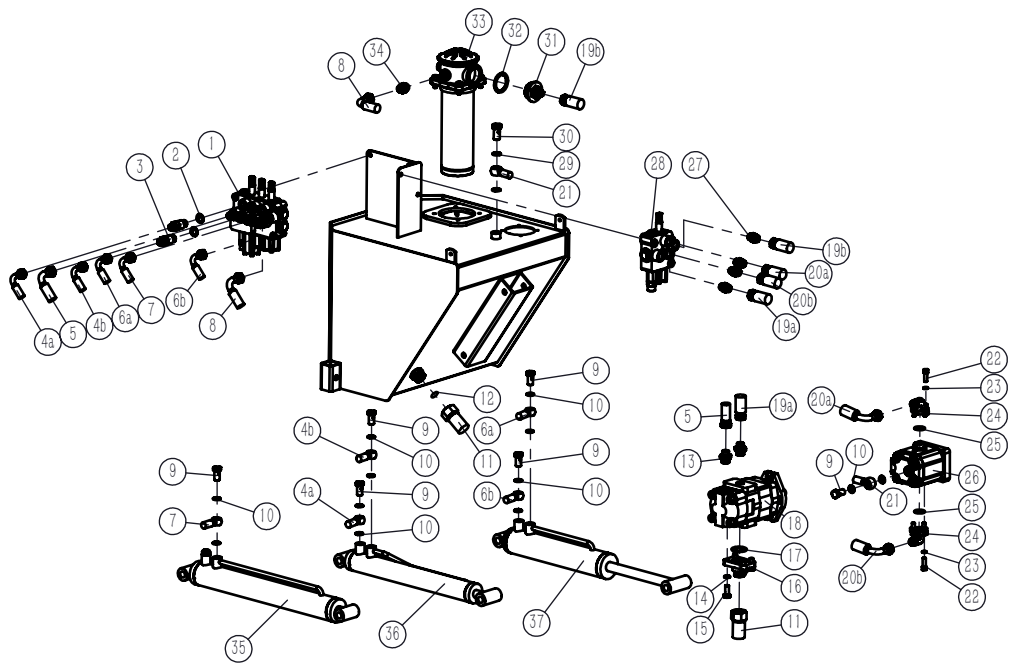


Hydraulic Reach Mower 1

Part	Code	Name	Quantity
1	HRM220-0013	Oil tank shell	1
2	GB5783-86	Bolt M 6x12	4
3	GB93-87	Spring washer 6	4
4	GB97.1-85	Washer 6	7
5	BHM225-0121	Oil tank cover	1
6	BHM225-0120	Rubber gasket	1
7	WG-0003	Air plug G $\frac{3}{8}$	1
8	JB/T 982-1977	bonded washer 14	1
9	HRM220-0012	Oil tank	1
10	JB7941.3-1995	oil leveler B80	1
11	HRM220-0101	Plug	3
12	WG-0006	D-square cotter 12x70	3
13	HRM220-0011	Supporting leg	2
14	TY-SXZJ-12	Lock pin Φ 12	5
15	GB5783-86	Bolt M20x50	1
16	HRM220-0018	Pedestal low linkage pin	1
17	GB97.1-85	Washer20	5
18	DIN985-87	Nut M20	5
19	HRM220-0107	Lower link pin	2
20	GB5783-86	Bolt M8x16	5
21	GB93-87	Spring wahse 8	7
22	GB96.2-2002	Washer 8	2
23	FM120.00.401	PTO protecion cover	1
24	HRM220-0022-1	Upper link assembly	1
25	HRM220-0022	Lower link assembly	1
26	HRM220-0020	lifting eye	1
27	HRM220-0019	Connecting arm	1
28	GB27-88	Bolt M20x100	2
29	GB5783-86	Bolt M20x55	2
30	HRM220-0017	Supporting ler 2	1
31	HRM220-0102	Sleeve	2
32	HRM220-0103	Gearbox fixing plate	1
33	GB97.1-85	Washer 12	12
34	GB5782-86	Bolt M12x130	2
35	GB5783-86	Bolt M10x25	4
36	GB93-87	Spring waher10	4
37	HRM220-0021	Upper link pin shaft	1
38	DIN985-87	Nut M12	8
39	HRM220-0108	Upper hitching frame	1
40	HRM220-0109	rod yoke	1
41	GB5782-86	Bolt M12x120	2

42	GB5783-86	Bolt M12x35	4
43	HRM220-0015	Rack	1
44	HRM220-0016	Oil pump gearbox	1
45	HRM220-0104	Transition flange	1
46	GB70.1-2000	Screw M8x20	2
47	GB5783-86	Bolt M8x35	2
48	GB97.1-85	Washer 8	3
49	DIN985-87	Nut M6	3
50	WG-0004	Manual box	1
51	GB96.2-2002	Washer 6	3
52	GB5783-86	Bolt M6x20	3

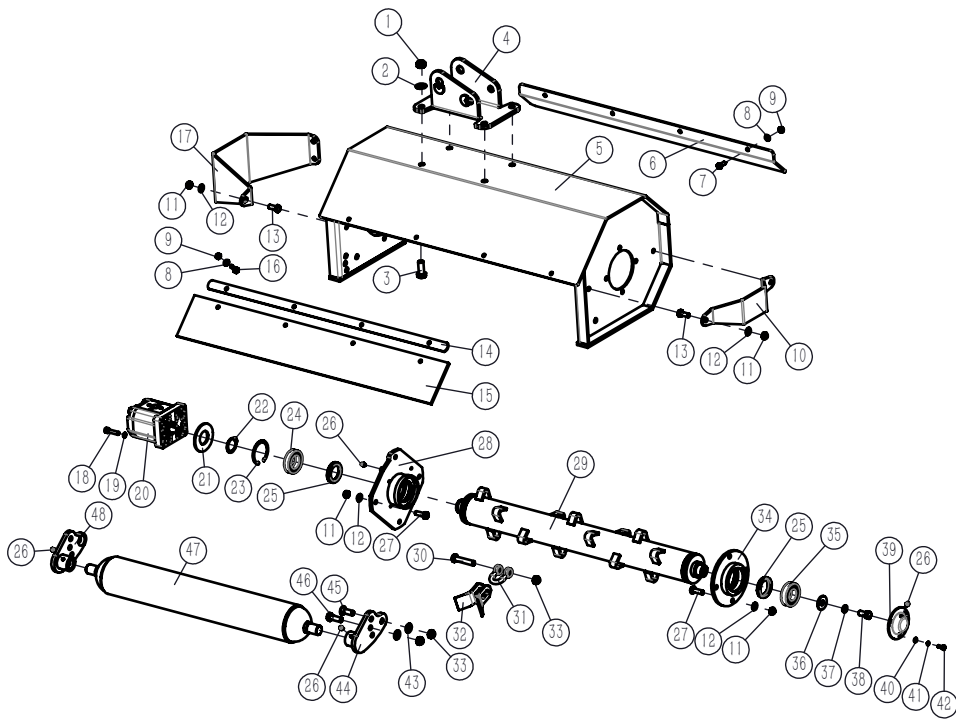
Hydraulic Reach Mower Assembly 2



Hydraulic Reach Mower 2

Part	Code	Name	Quantity
1	HRM220-0042	Triple valve	1
2	JB/T 982-1977	bonded washer 17	4
3	BHM225-0153	lengthening joint	2
4	HRM220-0058	Swing arm cylinder tube	1
5	HRM220-0055	Tube(Oil pump to triple valve)	1
6	HRM220-0057	Tube(small arm cylinder)	1
7	HRM220-0056	Tube(big arm cylinder)	1
8	HRM220-0059	Tube(triple valve to filter)	1
9	GB3541-83	link bolt M14x1.5	6
10	JB/T 982-1977	bonded washer 14	12
11	HRM220-0051	Tube(oil tank to pump)	1
12	GB3452.1-82	O ring 14x2.65	1
13	1CG-18-08	Tube connector	2
14	GB93-87	Spring washer 10	4
15	GB5786-86	Bolt M10x1.25x2	4
16	HRM220-0105	fuel inlet connector	1
17	GB3452.1-82	O ring 33.5x3.55	1
18	CBHY-G25/F4.5-ATP	Gear pump	1
19	HRM220-0052	Tube(gear pump to single valve)	2
20	HRM220-0053	Tube(single valve to hydraulic motor)	2
21	HRM220-0054	Tube(hydraulic motor to oil tank)	1
22	GB70.1-2000	Screw M8x25	6
23	GB93-87	Spring washer 8	6
24	C60-0102	oil in-out connector	2
25	GB3452.1-82	O ring 23.6x2.65	2
26	HPLMA220BMLE5E5B00	Hydraulic motor	1
27	1CB-18-06WD	Tube connector	6
28	HRM220-0041	Single valve	1
29	JB/T 982-1977	bonded washer 16	2
30	GB3541-83	link bolt M16x1.5	1
31	HRM220-0116	Oil filter connector	1
32	JB/T 982-1977	bonded washer 42	1
33	RFA-100x30L	Return oil filter	1
34	1CM-18WD	Tube connector	1
35	HRM220-0031	Big arm cylinder	1
36	HRM220-0033	Swing arm cylinder	1
37	HRM220-0032	Small arm cylinder	1

Hydraulic Reach Mower Assembly 3

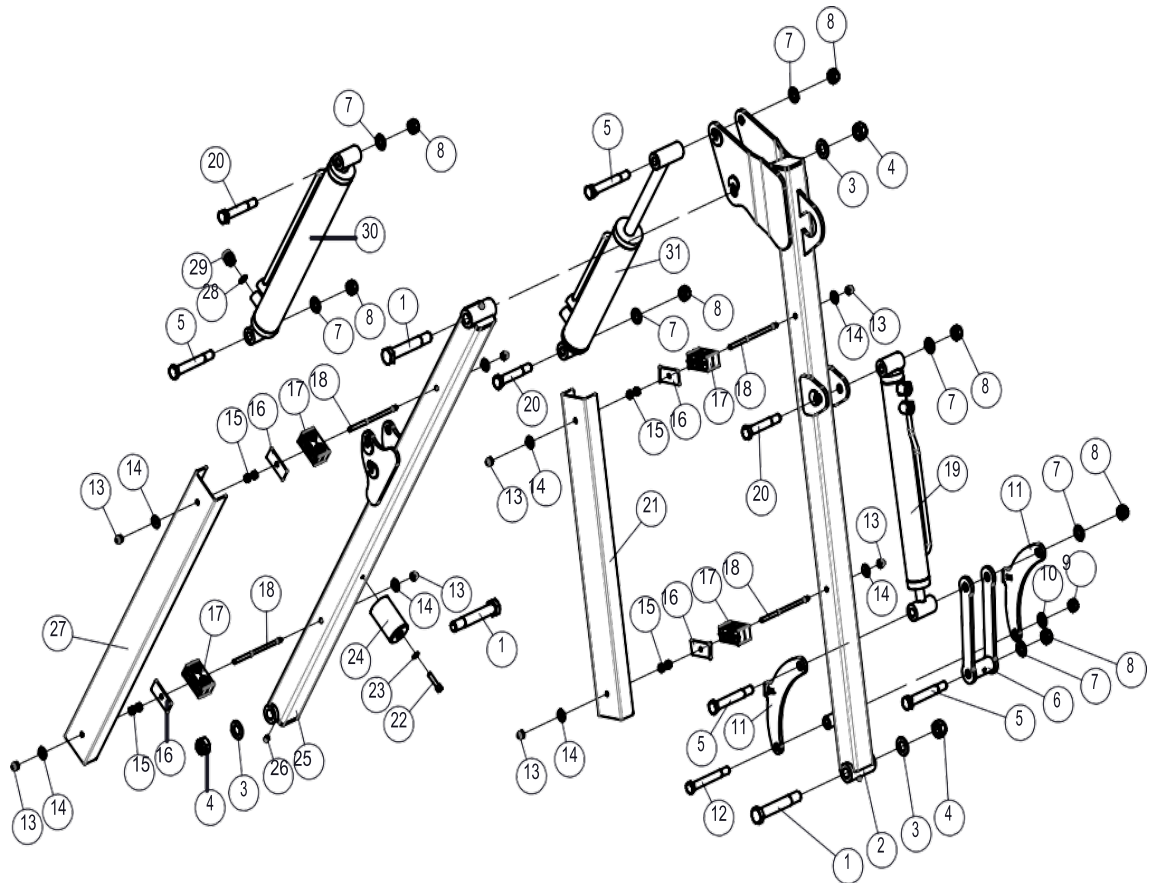


Hydraulic Reach Mower 3

Part	Code	Name	Quantity
1	DIN985-87	Nut M14	4
2	GB97.1-85	Washer 14	4
3	GB5783-86	Bolt M14x35	4
4	C60-0010	Hitch frame	1
5	C80-0011	Hood	1
6	C80-0109	Front protection plate	1
7	GB5783-86	Bolt M 8x20	4
8	GB97.1-85	Washer 8	8
9	DIN985-87	Nut M8	8
10	C60-0108	Shaft end protection plate	1
11	DIN985-87	Nut M10	13
12	GB97.1-85	Washer10	13
13	GB5783-86	Bolt M10x25	5
14	C80-0111	Mound layer	1
15	C80-0110	Rubber protection plate	1
16	GB5783-86	Bolt M8x25	4
17	C60-0101	Motor protection plate	1
18	GB70.1-2000	Screw M8x35	4
19	GB93-87	Spring 8	4
20	HPLMA220BMLE5E5B00	Hydraulic motor	1
21	C60-0103	Motor positioning plate	1
22	GB894.1-86	Circlip 35	1
23	GB893.1-86	Circlip 62	1
24	GB276-94	Bearing 6007	1
25	GB9877.1-88	Oil seal FB-	2
26	GB1152-89	Grease cup M6	4
27	GB5783-86	Bolt M10x30	8
28	C60-0012	Main bearing seat	1
29	C80-0013	Blade shaft	1
30	GB5782-86	Bolt M12x60	16
31	C60-0105	Ring for blade	16
32	C60-0106	Blade	32
33	DIN985-87	Nut M12	20
34	C60-0014	Second bearing seat	1
35	GB281-94	Bearing 1206	1
36	GB96.2-2002	Washer12	1
37	GB93-87	Spring washer 12	1
38	GB5783-86	Bolt M12x25	1
39	C60-0107	End cover	1
40	GB97.1-85	Washer 6	3
41	GB93-87	Spring washer 6	3

42	GB5783-86	Bolt M6x16	3
43	GB97.1-85	Washer 12	4
44	C60-0015	Roller shaft seat 1	1
45	GB70.3-2000	Screw M12x35	2
46	GB5783-86	Bolt M12x35	2
47	EFG120.012	Roller (C80)	1
48	C60-0017	Roller shaft seat 2	1

Hydraulic Reach Mower Assembly 4



Hydraulic Reach Mower 4

Part	Code	Name	Quantity
1	GB27-88	Bolt M20x130	3
2	HRM220-0024	Small arm	1
3	GB97.1-85	Washer 20	3
4	DIN985-87	Nut M20	3
5	GB27-88	Bolt M60x120	4
6	HRM220-0025	Push-pull rod	1
7	GB97.1-85	Washer 16	7
8	DIN985-87	Nut M16	7
9	DIN985-87	Nut M14	1
10	GB97.1-85	Washer 14	1
11	HRM220-0114	Swing arm	2
12	GB27-88	Bolt M14x120	1
13	GB923-1988	Cap nut M8	8
14	GB96.2-2002	Washer 8	8
15	GB6170-86	Nut M8	8
16	QH TT-G3	Pressing plate	4
17	QH TTPG-325	Double pipe clamp	4
18	HRM220-0111	Screw	4
19	HRM220-0033	Swing arm cylinder	1
20	GB27-88	Bolt M16x100	3
21	HRM220-0113	Oil hose cover for small arm	1
22	GB70.1-2000	Screw M 8x35	1
23	GB97.1-85	Washer 8	1
24	HRM220-0110	Shock Rubber Stop	1
25	HRM220-0023	Big arm	1
26	GB1152-89	Grease cup M6	4
27	HRM220-0112	Oil hose cover for big arm	1
28	JB/T 982-1977	bonded washer 14	1
29	WG-0003	Air plug G $\frac{3}{8}$	1
30	HRM220-0031	Big arm cylinder	1
31	HRM220-0032	Small arm cylinder	1