

INDICE : A

OPERATOR'S MANUAL



DXRV-HD & DXRVL-HD 2004

HEAVY-DUTY TRAILED TANDEM DISC HARROW
WITH VERTICAL FOLDING SYSTEM

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INTRODUCTION

CAREFULLY READ THESE INSTRUCTIONS

For the start and optimal use of your disc harrow, respect the following instructions.

These instructions must be considered an integral part of the disc harrow and handed over in case of reselling.

The left or right side of the disc harrow is determined by looking from the rear of the disc harrow towards the drawbar.

All the information, drawings and specifications indicated in these instructions are the newest at the time of publication.

We reserve the right to bring modifications at any time without previous notice.

Arbitrary modifications made on the disc harrow exclude the manufacturer's responsibility if any damage should result from these modifications.

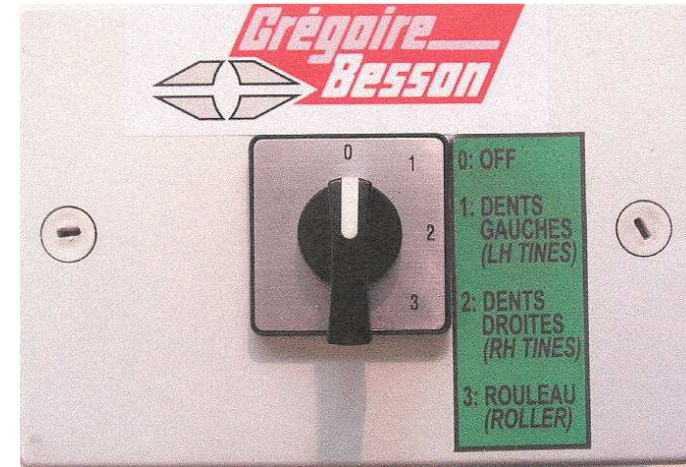


This sign is used throughout the leaflet to call your attention to the instructions regarding your safety.

Respect them at all times.

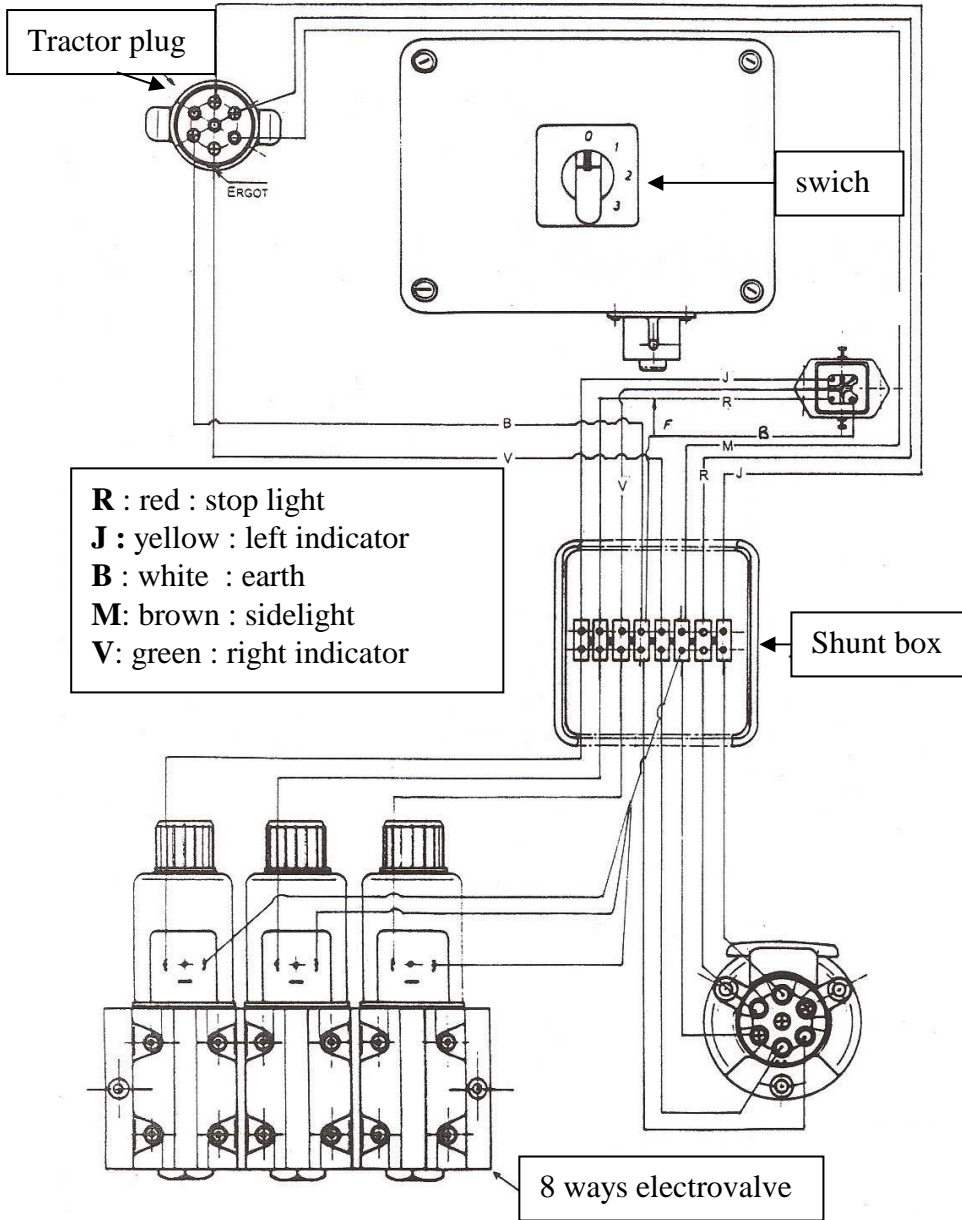
HYDRAULICS

SWITCH WITH 3 POSITIONS

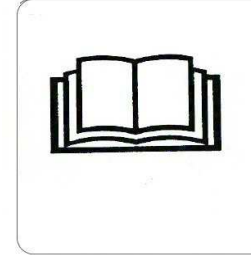


The hydraulic functions are divided on the 8-ways electrovalve through the 3-position-button placed on the switch.

ELECTRICAL CONNECTION OF AN 8-WAYS ELECTROVALVE WITH REAR LIGHTS.

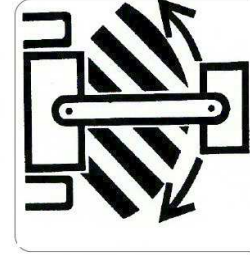


READ THE INSTRUCTIONS. BOOKLET.



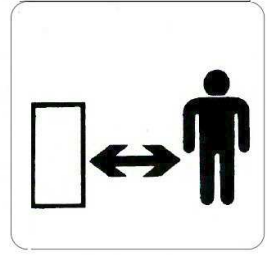
Read the instructions booklet and the safety instructions before the machine start. Respect them during work.

SAFETY ZONE



Stay in the background of the safety zone when the machine is unfolding.

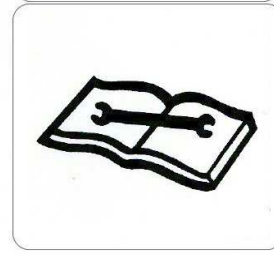
MOVE AWAY FROM THE MACHINE.



Danger in the working zone : stay in the background.



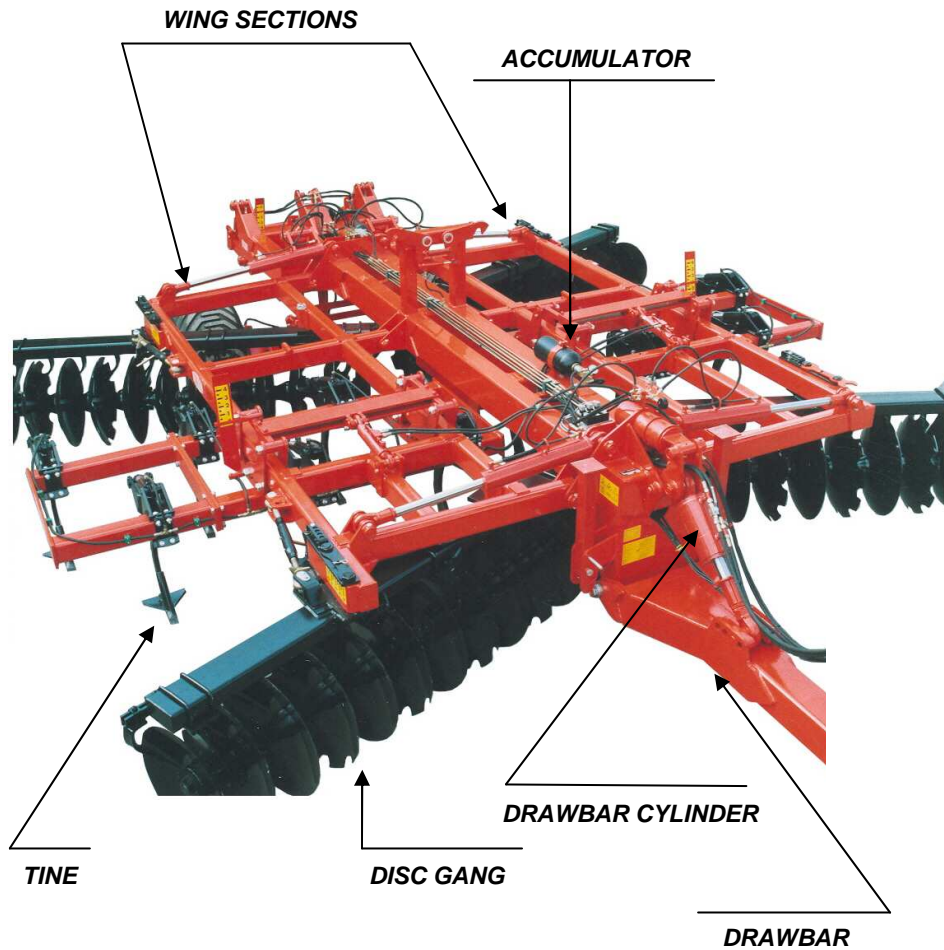
LOCKING BEFORE ACTION.
Install the locking system before any intervention on the machine.



LEAK AND MAINTENANCE.
Be careful of the leaks of fluids under pressure. Refer to the instructions of this booklet for the maintenance.

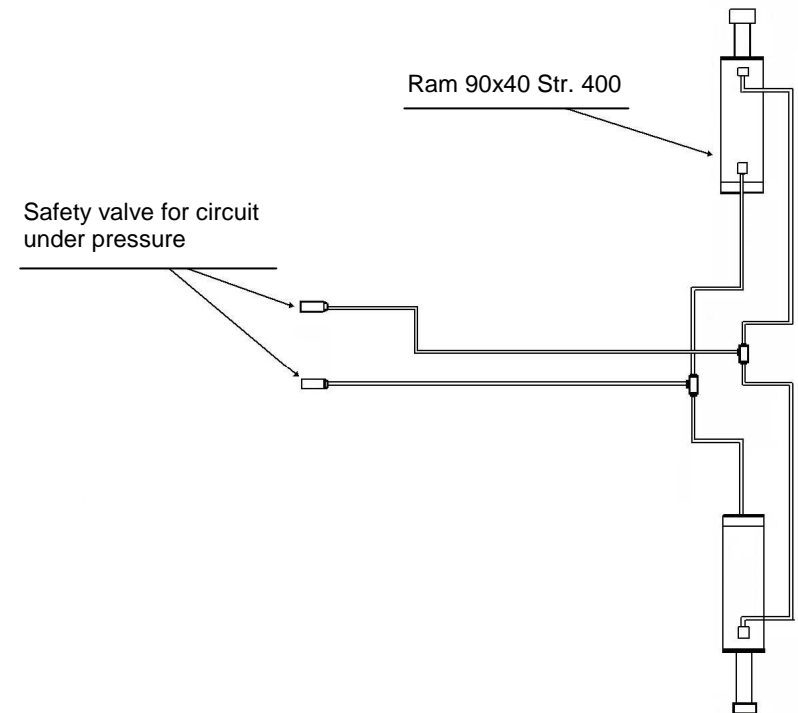
IDENTIFICATION OF THE IMPLEMENT

GENERAL VIEW



HYDRAULICS

HYDRAULIC SUPPLY OF EMOPAK ROLLER (IN 3 PARTS).

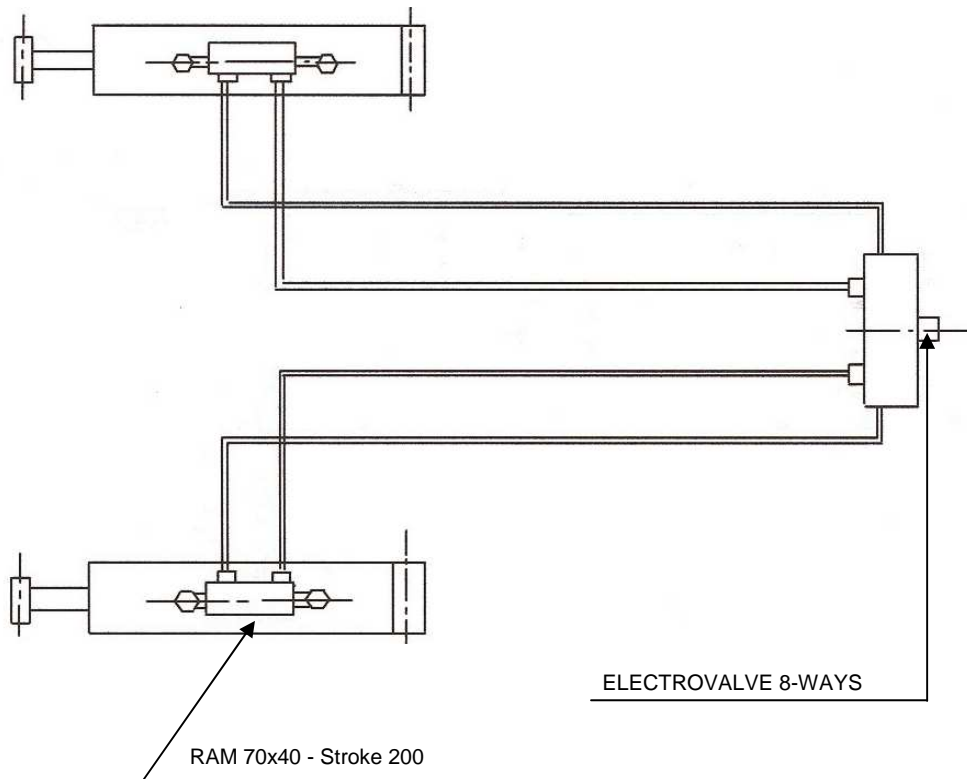


HYDRAULICS

HYDRAULIC SUPPLY for TINES DEPTH ADJUSTMENT.

Note : To adjust the tines depth, a double-acting spool-valve is necessary for each group of tines (right or left).

The adjusting position of right or left tines is shown on the switch with position 1 or 2 (see page 33)



IDENTIFICATION OF THE IMPLEMENT

The heavy-duty Discordons are multi-purpose implements equipped with a folding system making possible a transport width less than 3.00 m.

They can be used to clear stubble and mix crop residues or to prepare soil for seeding.

COMPONENTS :

- 1- Central chassis
- 2- Folding wing sections, comprising 4 disc gangs in X-shape, between which 7 tines (on Discordon 4.20 m), 9 tines (on Discordon 4.70 m), 11 tines (on Discordon 5.70 m), 13 tines (on Discordon 6.20 m) are mounted at regular intervals on two parallelograms, whose depth can be hydraulically or mechanically adjusted.

Tines safety is ensured by means of shearbolts or through rams and accumulators for the hydraulic non-stop protection.

When lifting the machine in transport position, the drawbar ram ensures good ground clearance.

The heavy-duty Discordon can be equipped with a rear roller, which can be folded in transport position.

GENERAL SAFETY INSTRUCTIONS

SAFETY INSTRUCTIONS



Disc harrows "GREGOIRE-BESSON" are manufactured to be used only for usual agricultural work.

The operator is responsible for every use out of this context.

Carry out adjustment and maintenance work only when the disc harrow is not in operation.

Wear appropriate safety clothes when doing maintenance work.

Ensure a safety zone for other people.

Do not carry out any adjustment and maintenance work without perfectly understanding the procedure.

For all maintenance work, use the appropriate tools and equipment.



RECOMMENDATIONS

Get used to the disc harrow functioning and disc harrow controls. Do not let anybody use the disc harrow without previous training.

Only the operator is allowed to be in the tractor cab. He must not leave the seat while working.

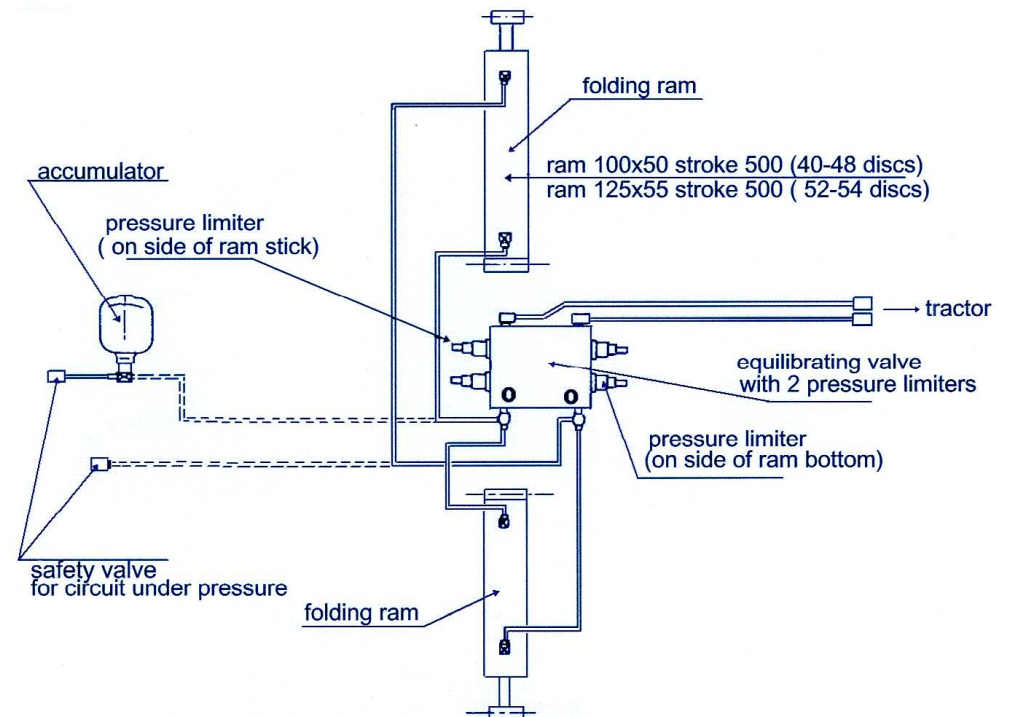
Nobody is allowed to climb onto the machine during work.

Before each sequence, be sure that nobody is standing in the unfolding area of the disc gangs or the roller.

In case of a machine fitted with hydraulic folding, operate folding system from the tractor cab !

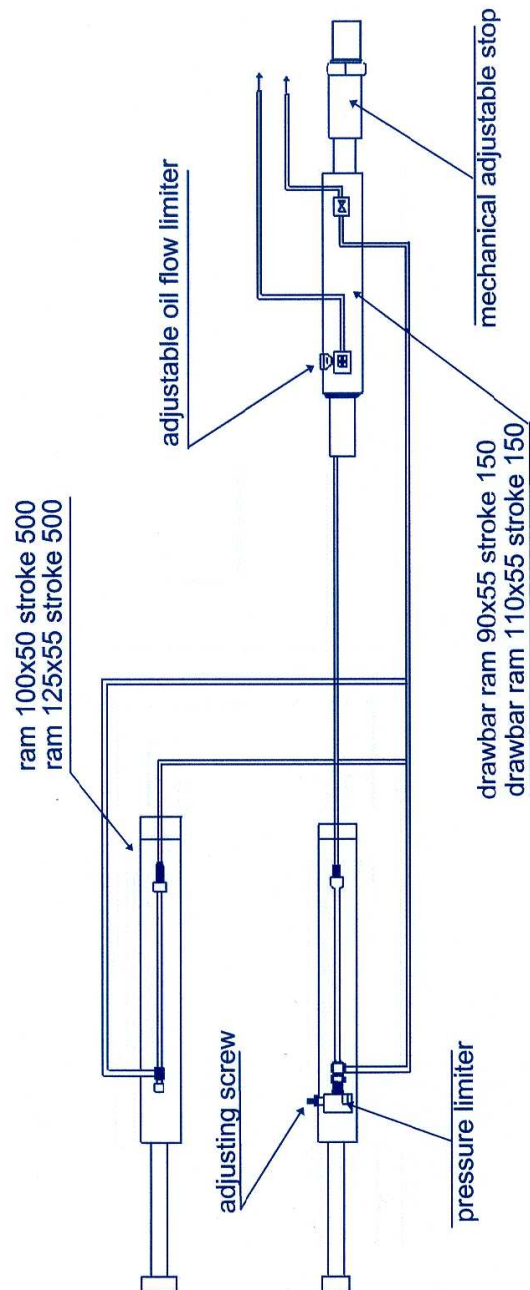
HYDRAULICS

HYDRAULIC SUPPLY FOR DISC GANGS FOLDING.



HYDRAULICS

HYDRAULIC SUPPLY for WHEELED CARRIAGE - DRAWBAR



MAINTENANCE

During maintenance, be sure that the safety instructions are respected.

Maintenance zone must be clean, dry and well-lit.

In case of maintenance work or dismantling of a disc gang with the machine lifted, shore the gangs systematically.

After maintenance work, make sure that all the tools and equipment are out of the maintenance area.

All the articulations must be greased at regular intervals with quality grease.

Check regularly tightening of nuts and bolts.

Keep a correct tyre inflation pressure. Do not exceed recommended inflation pressure.

Wheel 15 R 22.5 steel carcass	⇒	6,0 bars
Wheel 500x45-22.5	⇒	3,3 bars
Wheel 600x50-22.5	⇒	2,7 bars



ATTENTION !!

Explosion of the tyre with the rim can provoke serious injuries. Only experienced people are allowed to repair tyres and rims with the appropriate tools.

Always use genuine GREGOIRE-BESSON parts; these parts only correspond to the manufacturer's technical particularities.

**THE GOOD MAINTENANCE OF YOUR MACHINE GUARANTEES
ITS LONG LIFE.**

STORAGE OF THE DISC HARROW

If the machine is unused after season, clean the disc harrow carefully to prevent from every risk of corrosion and dampness.

If necessary, carry out paint touchings up.

Check that there are no worn or broken parts on the disc harrow.
If the case arises, order the parts and ensure maintenance work.

Park your disc harrow under cover from bad weather.



HYDRAULIC CONNECTION

The hydraulic connection can be subjected to high pressures.

When the machine is fitted with several oil plugs, respect the oil flow direction of each one.

Before assembling oil plugs, check that the pressure is a nil draw on the tractor and the disc harrow.

If you notice hoses in bad condition, do not hesitate to change it. Respect its dimensions.

Never search for a leak with your hand. Leaking fluids (oil) can come through the skin and provoke serious injuries.

In case of injury, consult a doctor immediately.

In case of an intervention on the hydraulic system, lower the machine onto the ground, stop the pressure by stopping the tractor engine and then releasing the pressure by operating the spool-valves into float position.

HYDRAULICS

HYDRAULIC FUNCTION	COLORED INDICATOR	NUMBER DOUBLE-ACTING SPOOL-VALVES	FUNCTION SELECTOR
Lift of implement and drawbar	RED	1 Double-acting spool-valve	
Folding of wing sections	GREEN	1 Double-acting spool-valve	
Tines depth adjustment	YELLOW	2 Double-acting spool-valves	
Rear roller depth adjustment		1 Double-acting spool-valve	1 Selector 8-ways

The above table indicates the number of necessary spool-valves for the hydraulic supply of the implement according to its equipment. The hydraulic selector (6 ways with 2 inlets and 4 outlets) (8 ways with 2 inlets and 6 outlets) makes it possible to complement the insufficient number of tractor spool-valves.

MAINTENANCE

General joints of the different machines need a regular maintenance.

Grease the general moving device every 14 hours.

The bearings of the disc gangs will be greased every day, according to the use frequency. (Do not grease in an intensive way ; a few grease gun pumps are sufficient).

Use a grease recommended for ball bearings. When the soil is abrasive and sandy, greasings can be carried out more frequent.

Check the pressure and the tightening of the wheels which equip the wheeled carriage.

In case of dismantling of a complete disc gang with carrying tube, steady it correctly before taking it apart from the chassis.

Before loosening the disc gang, remove the breaking nut. Note the assembling order.

When you reassemble discs, bearings, spacers and ½ spacers, check that the support sides on the discs are correct.

Grease the worm and the inner side of the nut. Tighten the nut at the end of the shaft with a power of about 150 Kg/m.

ROAD TRANSPORTATION



FOR YOUR SAFETY AND THE SAFETY OF OTHERS, RESPECT THE FOLLOWING SAFETY INSTRUCTIONS.

When you hitch the machine to the tractor, check the drawbar height and also the fixation which locks the drawbar ring to the tractor hook. When folded for transport, insert the transport locks !

The use of the GREGOIRE-BESSON machines must always be made in accordance with the current directives and rules regarding road safety.

Drive at a reasonable speed in conformity with the laws to be able at any time to control both tractor and machine.

Do not drive when somebody is standing near the tractor or the machine.

Comply with all the safety rules when driving, particularly on bends or on narrow roads.

During road transport, the machine must be fitted with warning lights, which are to be removed during work to prevent them from damage.

Take all the precautionary measures when you leave the tractor : stopped motor, removed ignition key, apply hand brake on some models.

During road transport, nobody is allowed to climb onto the machine or between the tractor and the machine.

Check regularly the state and fixation of the hitching rings. Change the wearing parts when necessary.

ASSEMBLY AND START

The Discordons DXRV-HD and DXRVL-HD is composed of a central chassis and two lateral frames. The wing sections are equipped with a hydraulic folding system for the setting in transport position.

ATTACHMENT OF THE MACHINE TO THE TRACTOR.

- Ensure that all hydraulic couplings are clean before connecting to the tractor.
- For the correct use, the hydraulic couplings are to be connected according to the different following functions :

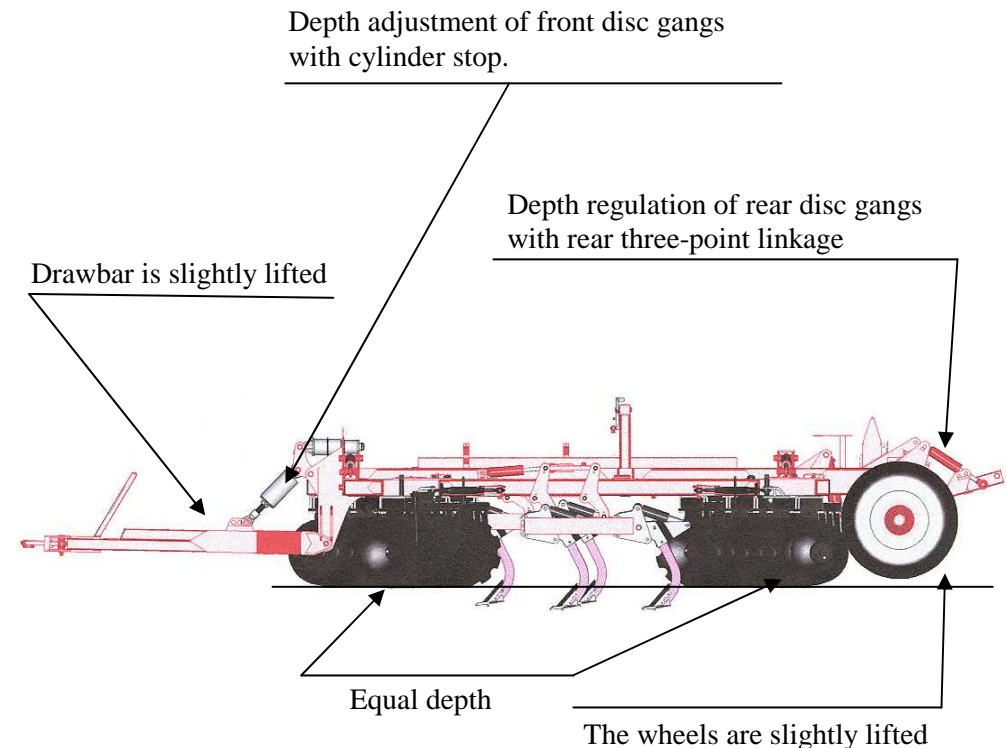
Function A : Hoses with red marker are used for the hydraulic supply of the lift rams and drawbar cylinder.

Function B : Hoses with green marker are used for the hydraulic supply of the folding and unfolding system of the wing sections.

Function C : Hoses with yellow marker are used for the hydraulic supply of the depth adjusting system of the left and right tines, and for the depth of the rear roller (see page 27 and page 33).

If the implement is equipped with an electro spool-valve, the hydraulic supply is effected through the hoses with yellow marker. By operating the switch on the box, you can select an additional hydraulic function, which enables the hydraulic adjustment of the right and left tines, and the depth of the rear roller.

BASIC ADJUSTMENT OF THE IMPLEMENT.



PRACTICAL RECOMMENDATIONS FOR ADJUSTMENTS

EFFECTS	POSSIBLE CAUSES	ANSWERS
Insufficient working depth	<ul style="list-style-type: none"> . Opening angle not large enough. . Wheel-train tresses. 	<ul style="list-style-type: none"> . Increase opening angle. . Lift the wheels.
Work is too deep	<ul style="list-style-type: none"> . Opening angle too large. . Wheel-train touches. 	<ul style="list-style-type: none"> . Reduce opening angle. . Lower the wheels.
Machine offsets from traction axis of the tractor	<ul style="list-style-type: none"> . Opening relative to left or right gang is not correct. 	<ul style="list-style-type: none"> . Balance opening of disc gangs.
Trash between discs	<ul style="list-style-type: none"> . Scrapers badly adjusted. . Unfavourable working conditions. 	<ul style="list-style-type: none"> . Adjust scrapers. . Reduce the attack angle.

The connection of the switch is made through a 12V-plug located at the rear part of the tractor.

The hydraulic tines depth adjustment (2 double-acting spool-valves) and folding of the rear roller connected with folding of the disc gangs is possible without electro spool-valve only if the tractor is fitted with five double-acting spool-valves.

- Hitch the machine to the tractor by operating the spool-valve which supplies the lift system of the machine. Lock then the coupling system.
- Lift the machine, and turn the leg located at front part of the chassis. Lock it by means of the pin.
- Unfold the machine ; the wing sections must be horizontal in comparison with the ground.
- For the assembly of the disc gangs, the wing sections must stand around 1.10 m above the ground.



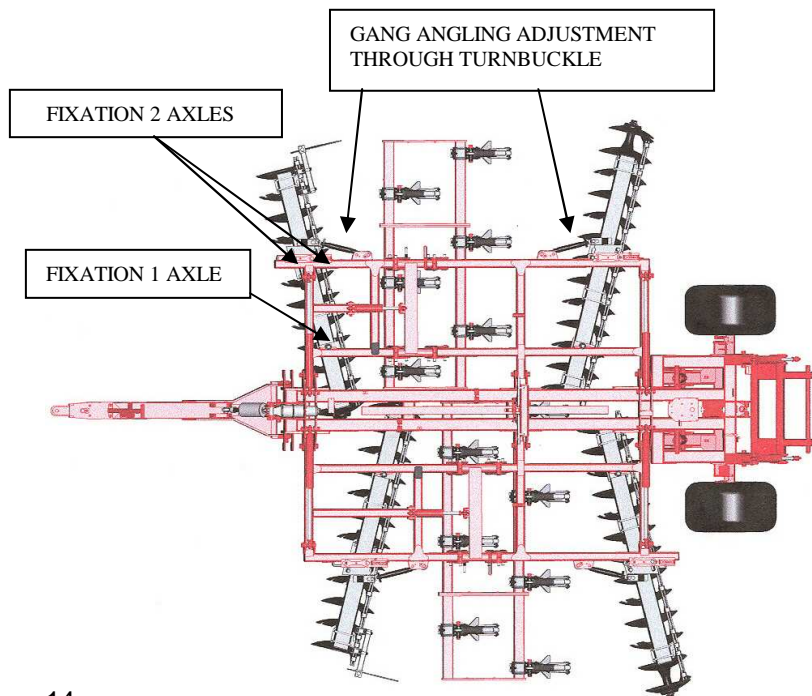
ASSEMBLING THE DISC GANGS UNDER THE CHASSIS.



ATTENTION : Because of the weight (weight of the disc gangs : between 350 and 1000 Kg), and the difficult access to the fixation points, this work can only be made by experienced people.

A forklift or an elevator able to lift the load of a disc gang is necessary for the assembly.

The fixation of the disc gangs on the lateral frame is made by means of three bolts with nuts. The spanner for the nuts is located on the drawbar of the implement.



ATTACHMENT AND ADJUSTMENT OF REAR ROLLER.

Hydraulic depth adjustment of rear roller.

The rear lift system can be equipped with two hydraulic rams (option). Then, the working depth can be hydraulically adjusted during work.

The working depth is shown on an indicator marker located on the three-point linkage.

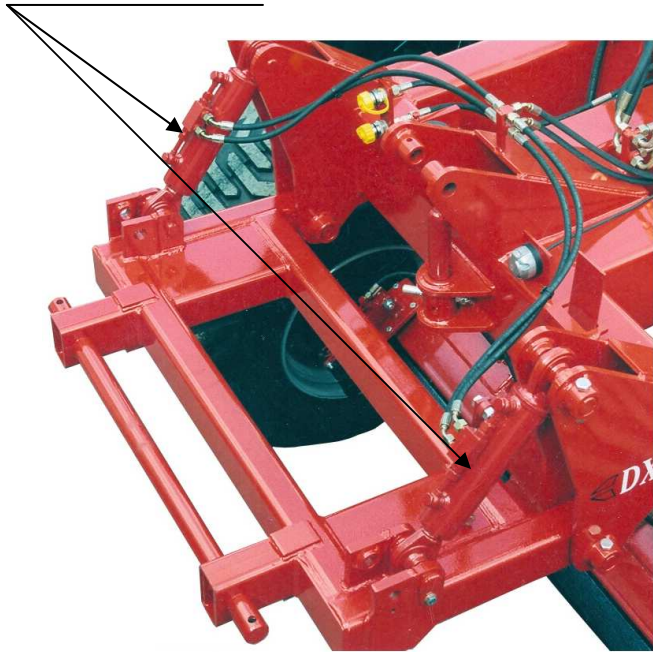
To obtain a regular work, following instructions have to be observed :

- Adjust the attack angle of the disc gangs according to the soil nature. In difficult soil conditions, the angle has to be increased.
- If the worked land is left with a ridge in the middle, reduce the attack angle of rear gangs. In the case of a hollow, increase the angle.
- Check that the implement is parallel to the ground (equal working depth of front and rear disc gangs). If it is not the case, operate the stop screw placed on the drawbar ram.
- Check that the rear roller works in a regular way. For that, operate the top link of the three-point linkage so that the roller elements are parallel to the ground.

If the side elements of the rear roller don't remain in working position, the double pressure limiter located at front of the implement has to be adjusted. Slightly tighten the screw but not too hard in order that the roller elements are kept in horizontal working position.

ATTACHMENT AND ADJUSTMENT OF REAR ROLLER.

HYDRAULIC LIFT RAMS



INDICATOR MARKER



GANG ANGLING ADJUSTMENT.

Adjustment

The adjustment depends on the soil nature and on the wished working depth.

Increase the angle in heavy and dry soil conditions. Reduce it in light soils.

The good work of the machine depends on the correct adjustment of the disc gangs. A proper balance between the opening of front and rear disc gangs is necessary. If the worked land is left with a ridge in the middle, reduce the attack angle of rear gangs. In the case of a hollow, increase the angle.

To adjust the angle :

- Loosen the two nuts (A),
- Operate the bar (B).



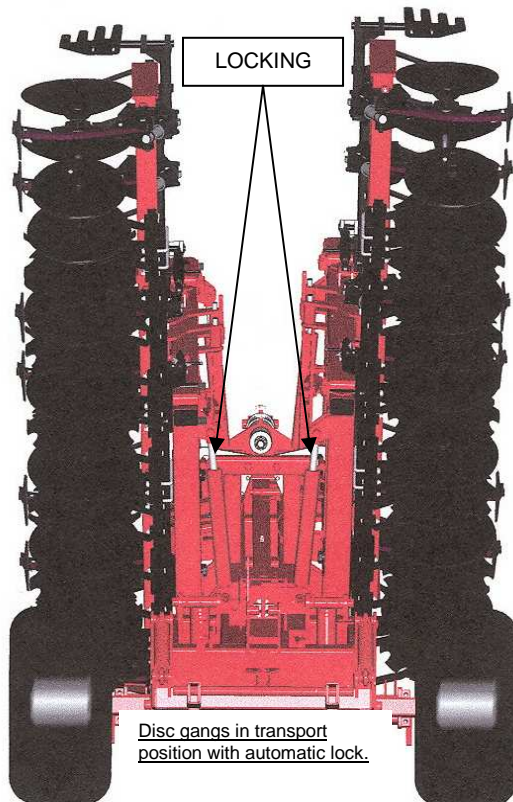
TRANSPORT POSITION.



ATTENTION : Make sure that nobody is standing near the machine when it is folded or unfolded !

Operate the tractor spool-valve which supplies the circuit for setting the implement in transport position. When the disc gang carriers are in vertical position during transportation, a locking system combined with the hydraulic feeding, keeps the frames in position. To carry out this lock, the handle of the hydraulic tractor spool-valve has to be maintained a few seconds.

To put the implement in working position, operate the spool-valve in reverse direction. The system will be then unlocked, and the lowering of the disc gangs will be possible.



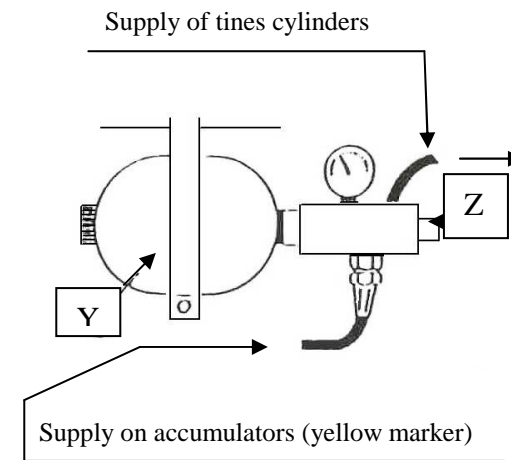
Disc gangs in transport position with automatic lock.

CALIBRATION OF THE HYDRAULIC SAFETY ON TINES..

When the implement is equipped with tines with hydraulic protection, the hydraulic circuit of the tines cylinders is linked with the circuit of the implement lift ram.

Calibration :

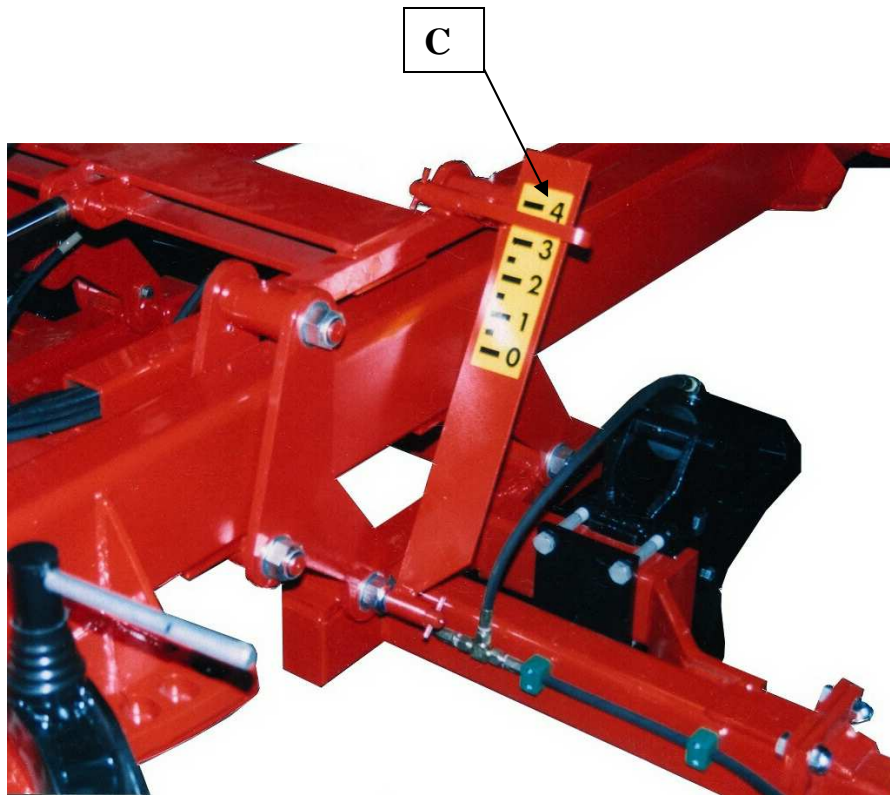
- Loosen the locking screw (Z) by 2 or 3 turns.
- Put the hydraulic system under pressure by adjusting manometer between 100 and 150 bars.
- Re-tighten locking screw (Z). The implement lift circuit is independent again.



The *nitrogen inflation pressure* in the accumulator is originally defined and cannot be modified (**standard pressure : 100 to 150 bars**).

TINES DEPTH ADJUSTMENT.

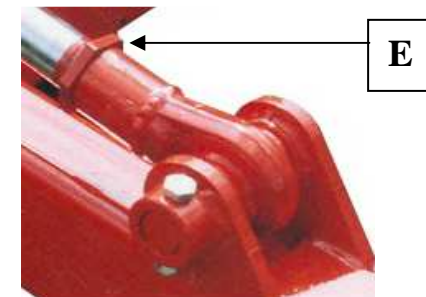
Operate the spool-valves which transmit the raising or lowering movement of the tines (yellow marker).
Observe the indicator marker (C) near each lift ram.



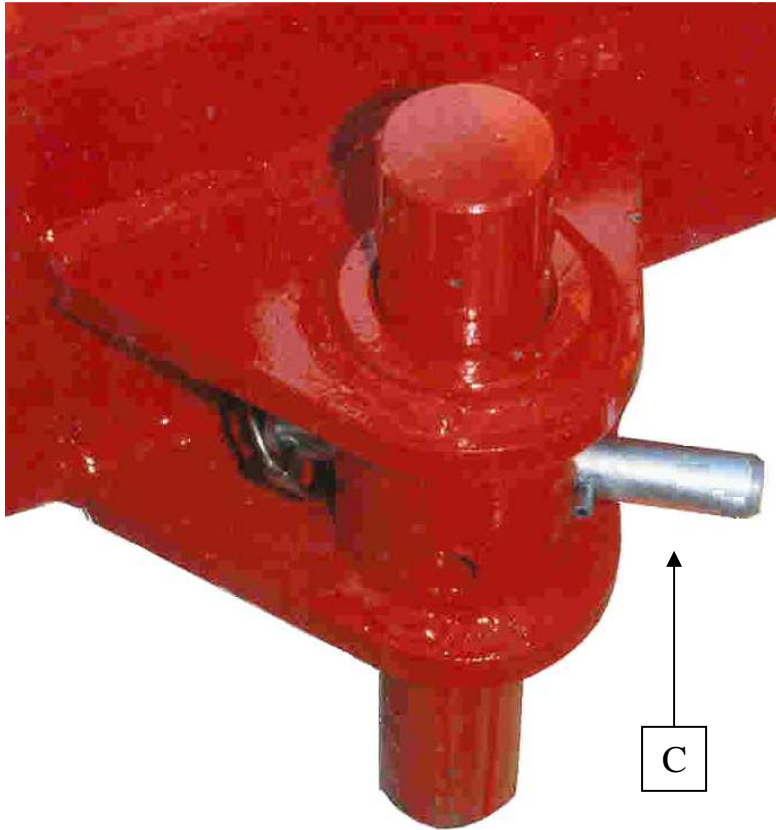
ADJUSTMENT OF HORIZONTALITY OF THE DISC GANGS SUPPORTS.

To carry out this adjustment :

- Unfold the implement and put it in working position.
- Put the implement on its discs.
- Remove the pressure contained in the ram, operating the spool-valve.
- Loosen the lock-nut (E).
- Operate the folding ram sticks by means of the corresponding spanner.
- Re-tighten the lock-nut.



WORKING DEPTH ADJUSTMENT BY MEANS OF CARRYING WHEELS.



The adjustment is made through the stop located under the chassis.

After removing the pin (C), adjust the wished depth by selecting the corresponding hole.

When the implement is equipped with a rear roller, slightly raise the wheels from the ground so that the roller regulates the depth of the disc gangs.

WORKING DEPTH ADJUSTMENT BY MEANS OF HYDRAULIC RAM.

The working depth of the front discs is adjusted by operating the stop (B) of the ram (V).

To increase the working depth, loosen the stop (B) located under the ram stick so as the ram gets in more.

To obtain a correct working depth adjustment of front and rear disc gangs, adjust the outlet of the two rams for rear lift (see page 22).

